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The Double-Edged Tool: Student Perspectives on the Ethical Use, Skill Impact, and Pedagogical Adaptation of Generative AI in Higher Education

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Abstract

Gen AI's rapid assimilation into higher education calls for critical consideration of its ethical, pedagogical, and competency-shaping effects. This study explores the essential dimensions of college students' learning experiences and the broader implications of AI-supported learning environments. This qualitative-phenomenological inquiry used a survey/interview protocol in Google Forms to collect detailed, self-reported information from Filipino college students representing multiple higher education institutions across the Philippines. Systematic thematic analysis was used to identify patterns, themes, and categories in students' responses regarding practical applications, detrimental effects, and recommendations for pedagogical change. Students see GenAI as a double-edged tool that helps with ideation, summarizing complex topics, and becoming more efficient when writing. Yet it posed a significant problem regarding academic dishonesty and the resultant loss of specific basic competencies, such as analysis, logical reasoning, and independent effort. And they reported taking measures to mitigate risk, such as conducting extensive fact-checking and regulating their own activities—even as many students said clearer standards for disclosing sources were needed. This study posited that such duality of GenAI requires an institutional response in kind. It is suggested that the Higher Education Institutions (HEIs) and faculty move "beyond a blanket ban approach, toward an integration of use" strategy. Specific recommendations include co-creating clear ethical guidelines; rethinking tasks to become "AI-resilient" by focusing more on process-based assessment, such as reflection, collaboration, and application in the real world; and shifting instructors' roles to facilitators of deep, process-focused learning.

Keywords: Generative AI (GenAI), higher education, academic integrity, critical thinking, pedagogical adaptation

1. Introduction

The use of GenAI in higher education is a dynamic phenomenon that demands critical reflection to address ethical, skill-development, and pedagogical design issues. When academic stakeholders consider adopting advanced technological tools, students' perspectives are invaluable for interpreting their learning experiences and the broader implications of AI implementations in educational settings.

GenAI systems show great promise in personalized education. According to Gocen and Aydemir (2020), artificial intelligence can support customized educational models that help create an individual educational path, as well as provide adequate technical support for learners. Adamakis (2025) also stresses that AI can disrupt the traditional teaching paradigm, thereby revolutionizing educational contexts by improving academic productivity and enhancing teaching efficiency. However, adopting these technologies also raises questions about ethical use and academic honesty. Sullivan et al. (2023) encourage participatory policymaking by including student voices in the moral aspects of AI. This recalibration of technology and ethical pedagogy is essential to enabling

responsible use while maximizing the potential benefits provided by GenAI.

The potential influence of generative AI on student skills, especially those related to creativity and critical thinking, should also not be underestimated. Research by Jabli et al. (2025) demonstrates that fluency with digital technologies enhances the effectiveness of AI tools, enabling both academic creativity and digital design skills in students. This is consistent with the conclusion drawn by Neshaei et al. (2025), which recommends the utilization of AI-supported writing tools to enhance student engagement via reflective writing activities. However, there is a known dichotomy regarding the effects of such tools, as some studies suggest they may lead to risks, including technology dependence and decreased analytical abilities, which has raised concerns expressed by Huang and Mizumoto (2024). These ambiguities require an understanding of the factors that determine how curricula can be adapted to incorporate GenAI into education's ecosystems, thereby strengthening the critical debate over the effects on student learning outcomes.

Finally, it is necessary to adapt pedagogically to integrate generative AI to improve both teaching efficiency and quality. Marzuki's (2025) results reveal the extent to which the implementation of generative AI in language education depends on ethical considerations and a pedagogical framework, reflecting varying institutional preparedness across educational settings. Second, the findings of Asgarova et al. (2025) suggest that teaching staff have difficulty adapting the curriculum and transforming assessment, highlighting a need for new pedagogical models. GenAI in higher education, therefore, demands a thoughtful approach alongside strategic leaders that is grounded in evidence-informed practice with ethical and student empowerment at the forefront.

In sum, by investigating how students perceive and apply the ethics of generative AI, the researchers shed light on essential considerations in higher education. An emphasis should be placed on co-developing policy to ensure that well-rounded policies can support full skill development, including pedagogical innovation, while also grappling with the political economy of educational technologies.

1.1 Advantages and Limitations of Gen AI in Learning

The integration of Gen-AI in higher education carries a twin tendency, characterized by the dual aspects of a boon and a disaster, demonstrating enhanced educational efficiency as well as several ethical horrors. This narrative review collates existing evidence on the perceived benefits and harms of Gen AI in schools, specifically from students' perspectives.

Among the advantages of using Gen AI tools highlighted in the literature is their effectiveness as learning facilitators. For example, Gen AI enables rapid summarization of complex topics, so students can quickly identify what is essential. Moreover, tools like ChatGPT would allow learners to practice with personalized, interactive writing feedback that can improve their language skills through personalized practice prompts (Sallam et al., 2023). The possibility of personalized learning experiences, with the potential to substantially enhance outcomes by enabling teachers to customize content to an individual student's requirements, thereby promoting a more motivating pedagogical setting (Sallam et al., 2023). Moreover, teachers see Gen AI as having the potential to automate administrative tasks and develop new assessment tools that support educational processes and positively impact student engagement (Michel-Villarreal et al., 2023).

On the other hand, the risks of using Gen AI in educational environments are deep and complex. A significant area of concern is academic dishonesty, including plagiarism. Students have voiced concerns about Gen AI's potential to generate work indistinguishable from the original student work, complicating concerns about originality and ethical use (Sullivan et al., 2023). According to the news, students are generally concerned about the inconsistency of AI content due to misinformation and biased output depending on training data for models (Lee et al., 2024). This bias is especially problematic in broad educational systems, as Gen AI feedback may, in such cases, tend to maintain rather than ameliorate existing learning disparities (Lee et al., 2024). Privacy concerns are also important, with the potential misuse of personal data emerging as a worrying issue that might discourage students from using such technologies effectively (Dergaa et al., 2023).

It is worth noting that there are advantages to using Gen AI; however, overreliance on these aids might do more harm than good to students' cognitive development and academic capabilities. According to several research studies, members of Generation Z demonstrate an increasing reliance on AI and a decrease in critical thinking and problem-solving skills (Sullivan et al., 2023). This risk is exacerbated by concerns about the technology gap, in which students from poorer families may not be able to use Gen AI resources effectively, potentially widening educational inequality (Lee et al., 2024).

Finally, although the integration of Gen AI into university teaching presents significant advantages, including better response to individual learning needs, increased efficiency, and greater management convenience, it also poses important ethical and practical challenges. Researchers discussing the implications of Gen AI—whether integrity issues or sensitive discrimination challenges—are key to guiding us through the murky waters of this double-edged silver bullet technology in academia.

1.2 Institutional and Pedagogical Responses to the Gen AI

The use of Generative Artificial Intelligence (Gen AI) in higher education has sparked controversy, prompting a range of institutional and pedagogical responses. Other institutions are either banning Gen AI tools or embracing their pedagogic potential. This tension mirrors broader debates about the ethos of education and the demand for new forms of assessment (many without reliable records) that not only make space for Gen AI but also ensure high academic quality.

Current university policy on Gen AI ranges widely. A few schools, in response to concerns about cheating, have opted to limit the use of Gen AI tools. On the other hand, some are creating a new class of Gen AI-inclusive policies that treat Gen AI as a beneficial part of instructional technology. Kerth et al. (2025) suggest that more academic institutions accepting AI tools need a sophisticated understanding of progress and pitfalls. They also argue that one way to construct an argument against institutional resistance is to present clear, practical examples aligned with teaching-related objectives. Similarly, Popenici and Kerr (2017) suggest that as AI advances, so should traditional roles and teaching methodologies, encouraging universities to reconsider their initial stance against AI technology.

Developing new assignments and assessments is another essential component of responding to Gen AI. Since Gen AI can generate readable text with great fluency in fact, it is what many teachers struggle to do, the educators are tasked with measuring students differently. Conversations are underway about oral testing, different forms of formative assessment, and process-based grading instead of written assignments, all of which can be easily impacted by AI (Scott & Hart, 2024). For instance, Martin et al. note that instructional designers are increasingly considering new forms of assessment that harness AI and foster student engagement (Martin et al., 2025). In this respect, Mozelius' investigation highlights Gen AI's role in assessment integration, which invites students to reflect on ethically related aspects and leads to the redesign of assignments to increase fairness and sustainability (Mozelius, 2024).

Pedagogical adaptation to Gen AI. The pedagogical adaptation of a tool such as Gen AI, in fact, implies an equilibrium between the dimensions within which it can act, since ethical aspects must also be addressed and academic quality maintained. Kadwa (2025) also examines the ethical implications of employing AI for written assessments and describes a turning of the tide in institutional policy on academic integrity and the assessment process. Moreover, with Halaweh's research in mind, mechanisms must be developed to ensure that tools such as ChatGPT are introduced responsibly in an educational setting, promoting their use for positive outcomes while managing risks (Halaweh, 2023). This consensus suggests moving away from prohibitions and toward education based on the possibilities of Gen AI to improve learning.

In conclusion, HEIs have a Gen AI-wise agreeable and disagreeable playing field. Responses range from total bans to full integration of AI tools in teaching and assessment. However, they remain centered on creating educational settings where academic integrity reigns. By redesigning assessment approaches, institutions can not only accommodate AI capabilities but also take advantage of the opportunities it offers to develop more rewarding student experiences in response to a changing learning landscape.

1.3 Statement of the Problem

To draw on this sort of practice-based feedback, this study examines the challenges of integrating responsible, highly generative AI into education while preserving learning objectives. This study aimed to address the following research questions:

1) What are the students' strategies for optimizing the benefits and minimizing the risks of generative artificial intelligence tools (i.e., ChatGPT) in their study?
2) Which particular school activities do students believe benefit or suffer from using generative AI, and what are the reasons for students' beliefs?
3) What aspects of curriculum or assignment design had students proposed for the university/college and the instructor to avoid having generative AI undermine essential skills?

2. Methodology

2.1 Research Design

The current study is a qualitative-phenomenological research study that uses interviews to elicit in-depth student perspectives. Through this, this study can investigate the lived experiences and perceptions of students on the use of generative AI in higher education, including ethical considerations, skill change(s), and required pedagogical shifts. Interviews were administered via Google Forms to enable a wider reach and easier data collection, given the geographical diversity of respondents from multiple higher education institutions across the Philippines.

2.2 Research Participants

The target participants for the Study were Filipino college students enrolled in either public or private higher education institutions. The researcher used stratified random sampling by sending the survey link across platforms that college student communities widely use, such as Facebook. Then the researcher uses the latter to promote maximum participation and to capture a representative sample of students' thoughts and experiences regarding the increasingly diverse nature of our student body.

2.3 Data Gathering Instrument

A survey/interview protocol will serve as the primary data-collection instrument, designed around questions that probe participants' ethical concerns and perceptions of how generative AI tools affect skills and pedagogical practice. To ensure content validity and reliability of the instrument, a panel of expert validators comprising three members with expertise in AI in education and qualitative research methods validated the questionnaire. Such a validation process is essential for developing the questionnaire to portray students' subtle mindset better.

2.4 Data Gathering Procedure

Before data collection, an IRB or Ethics Committee will review the study to provide oversight and protect human subjects, ensuring adherence to ethical standards. After obtaining ethical approval, data were collected by distributing the structured questionnaire via social networks. Participants completed the Google Form at their convenience while preserving anonymity and confidentiality. Answers will be automatically collected and stored in a secure location for analysis.

2.5 Data Analysis

The analysis used thematic analysis as the primary method, allowing the identification of patterns, themes, and categories in students' responses. The first step of the analysis process was to code for specific types such as "helpful tasks," "harmful outcomes," "ethical concerns," and "recommended pedagogical changes" in relation to the use of generative AI. This analytic strategy works well for qualitative data, offering rich, detailed interpretations of students' experiences and perceptions.

3. Results and Discussion

Theme 1: Strategies for Generative Artificial Intelligence.

The realization of GenAI in higher education affords students a range of opportunities and challenges. Thematically, in particular under this theme, students' thoughts encompass successful utilization of GenAI tools and mindful subversion of potential dangers. This analysis brings together student perspectives in the context of literature on self-regulated learning and pedagogical transposition to Gen AI tools.

Successful Use of Gen AI Tools

Gen AI tools like ChatGPT are rapidly becoming popular among students who want to use them to enhance their academic learning. They describe how they use these tools for various academic activities, such as ideation, comprehension of complex topics, and improvement in writing quality. For example, students have reported using GenAI to summarize reading materials and prepare for exams and writing assignments, suggesting that they are being proactive in their use of technology as part of their learning strategies (Chan & Hu, 2023; McGuire, 2023).

> *I mainly use AI to manage and sort out data, I also use data if I'm facing technical issues that I'm the only one specifically experiencing, while using AI can cause the reduction of self-autonomy, it's still a useful guide and should not be reduced to nothing more than a way of cheating for students.* ***PR110***

> *I plan to use tools like ChatGPT to help me in my studies by getting ideas, explanations, and summaries when I do not understand something. It can help me save time and learn faster. However, I will still check the information and not rely on it completely. I will use it as a guide, not to copy answers, so I can still learn and think for myself.* ***PR 462***

> *I will use ChatGPT to understand topics better, generate ideas, and improve my writing. However, I will always check the information and make sure the work is my own to avoid mistakes or plagiarism.* ***PR 438***

This is consistent with the findings of Huang et al., who found that Gen AI can promote students' self-regulated learning by increasing their engagement and their ability to elaborate on complex topics (Huang et al., 2025).

At the same time, students also have a strong awareness of the risks of overusing Gen AI tools—a number express preferences for Gen AI as an adjunct rather than a significant source of information. Students note the need to fact-check Gen AI-produced content with trusted sources to avoid pitfalls such as inaccuracies or accusations of plagiarism (McGuire, 2023). This is about a necessary critical posture towards technology to improve learning while avowing academic honesty.

Risk Mitigation Strategies

Students rely on recognizing risks related to Gen AI use. Students have identified self-regulation as an important factor in their use of Gen AI tools. They employ tactics such as an extensive fact-checking process and a self-awareness of maintaining ownership and individuality in their journalism to navigate ethical crossfire (İstifçi & Göksel, 2022; Wu et al., 2023). Based on these findings, it is apparent that encouraging digital literacy and self-regulated learning competencies will be fundamental to preventing complex Gen AI phenomena (Russell et al., 2020). Such a dual focus not only promotes learning autonomy but also encourages ethical thinking and improves students' educational outcomes.

> *I mainly use ChatGPT to translate texts and correct grammar. I also use it to gather ideas or better understand complex topics in my studies. However, I remain cautious because I know that AI tools can sometimes provide inaccurate or outdated information. To avoid this, I always verify and cross-check answers with reliable sources before using them in my work or assignments.* ***PR 139***

> *I plan to use ChatGPT to save time and improve my understanding of topics while checking its information to ensure accuracy and avoid dependency.* ***PR 307***

The lack of clear ethical guidelines and frameworks, as noted by Buragohain and Chaudhary (2025), further aggravates challenges in academic integrity. Students' knowledge and strategies for addressing these ethical dilemmas constitute an emergent form of digital literacy that influences their decisions about using the Gen AI. They realize that Gen AI tools are helpful, but should be used with discernment in their educational practices to prevent adverse outcomes, e.g., academic fraud.

Disclosure of Generative AI Use

Disclosure in Gen AI use student perceptions of openness constitutes one theme with respect to using Gen AI. During their work, students have indicated that being honest about how the AI has contributed is important.

> *I will use ChatGPT for quick homework help, but I will always double-check facts and never trust it completely.* ***PR 285***

> *I plan to use AI tools like ChatGPT as a partner and thought-expanding resource, not as a replacement for my own thinking and work.* ***PR319***

Ethical engagement with Gen AI requires an explicit approach to its use in assessment tasks, which could facilitate group discussion of academic integrity (Bui et al., 2025; Tarisayi, 2024). Educational institutions that promote lively discourse on the use of GenAI provide students with an opportunity to reflect on the purpose of such technology and thus develop a more practical and ethical way to employ it (Tarisayi, 2024).

Evaluating Gen AI Output

The assessment of output GenAI remains an important part of students' strategies. A significant number of students do, in fact, verify information generated by GenAI tools, comparing and cross-referencing their work with reputable sources to ensure accuracy (Cheang, 2009). This critical thinking brings to the fore one of the key educational goals—to nurture in students the ability to evaluate and discern high-quality information for themselves in an increasingly digital world (Prasasti et al., 2025). The implications for teachers are immense; establishing strategies that encourage the critical examination of AI content is an important life skill for surviving in a rapidly changing knowledge economy (Suwardika et al., 2024).

> *I will use it to clarify complex topics, summarize long readings, generate a Study outline, and improve my writing and research ideas.* ***PR 771***

> *[I] always verify the answers from reliable sources and think critically about what they provide. By using ChatGPT wisely, I can enhance my learning while still developing my own knowledge and understanding.* ***PR509***

In sum, examining students' perceptions of Gen AI in HE reveals a complex understanding of its benefits and risks. By adopting pedagogical modalities that reflect what has been observed as effective Gen AI use, risk management, self-regulation, clear disclosure, and reflection opportunities, educators can develop educational contexts that maximize the epistemic resources created by the transformative capabilities of generative AI while at the same time facilitating ethical engagement.

Theme 2: Perceived helpful and harmful applications of Generative Artificial Intelligence (Gen AI).

In contemporary higher education settings, Generative Artificial Intelligence (Gen AI) tools such as ChatGPT offer both opportunities and challenges for students. The thematic analysis of perceived beneficial and detrimental uses of Gen AI offers complex views of students, ranging from supportive learning devices to threats to academic integrity.

Helpful Applications of Gen AI

Students believe that Gen AI is a helpful resource due to its creative promotional effect and efficient academic assistance. It is claimed that Gen AI can help students generate ideas, draft essays, and develop project topics, thereby functioning as a cognitive assistant in academic activities (Haq et al., 2025; Chan & Hu, 2023; Sallam et al., 2023). Automating repetitive tasks, Gen AI can enhance productivity and assist students in comprehending difficult materials; the latter is important for medical education and simplification of complex topics (Sallam et al., 2023). Moreover, its reinforcement of immediate feedback and clarification of concepts is emblematic of its supportive nature, which creates a friendly electronic environment (Haq et al., 2025; George et al., 2024).

> *Using ChatGPT is helpful when it acts as an assistant for drafting, brainstorming, or clarifying concepts. However, it becomes harmful when it is used as a substitute for students' own effort, leading to plagiarism and the erosion of critical thinking skills.* ***PR 47***

> *It can help you generate topics, outlines, or approaches for essays, projects, or presentations.* ***PR668***

> *ChatGPT is helpful for brainstorming, research assistance, and automating tedious tasks, boosting productivity and understanding. It is harmful when it replaces original work, hinders critical thinking, or provides inaccurate information, ultimately undermining skill development and factual accuracy.* ***PR680***

Furthermore, universities are now being urged to offer structured training programs that include Gen AI in their curricula. These can help students develop skills in using Gen AI in a responsible way, improve their learning performance, and ensure it is used ethically (Chan & Hu, 2023; Wiredu et al., 2024). For example, creating tasks that leverage Gen AI in ways that require critical thinking and individualized responses is essential to facilitate deep learning and skill acquisition (Liu et al., 2023).

Harmful Applications of Gen AI

In contrast, the deleterious consequences of Gen AI incorporation are highlighted in student interviewees' reflections, which focus significantly on plagiarism and dependency. Some students are worried that the use of Gen AI tools could weaken their critical thinking and originality, suggesting that the tools may be a crutch rather than an assistive resource (Ahmed, 2024; Sullivan et al., 2023). "Student use of Gen AI to create inauthentic content that does not appropriately reflect their cognitive effort represents a significant threat to academic integrity and educational authenticity (George et al., 2024; Xu et al., 2024)."

> *It is harmful when students focus more on copying AI-generated content than on using AI to generate ideas.* ***PR445***

> *ChatGPT is beneficial for your academic endeavors. However, it becomes harmful when you use it to plagiarize something or become dependent on it.* ***PR438***

There is also evidence that GenAI, as fast and efficient as it is, can yield incorrect or misleading results; therefore, students should exercise caution when using these tools (Chan & Hu, 2023; Tlili et al., 2023). This concern is linked to the broader debate around the ethical aspects of Gen AI. Students observe that, if abused, it could negate the advances made in critical thinking and independent learning (and, therefore, academic standards), since it is based on evidence (Wiredu et al., 2024; Gueirrisi, 2024). Consequently, although Gen AI presents itself as capable of stimulating important societal transformations, drawing its implications requires a close analysis of the advantages and disadvantages, grounded in significant ethical guidelines and academic policy frameworks (Michel-Villarreal et al., 2023).

Effects on Learning and Ability Acquisition

GenAI's conflicting role in student learning reflects broader systemic problems in higher education. On the one hand, it can, if applied tactfully, trigger brainstorming, stimulate collaborative learning, and encourage student involvement (George et al., 2024; Haq et al.). As an important facilitator in cooperative learning contexts, GenAI would positively influence peer social interaction and knowledge sharing, thereby enriching the educational experience (Wirzal et al., 2024).

> *It is harmful when you rely on AI for most of your work. It can affect your skills.* ***PR 461***

> *Using ChatGPT is helpful for learning and brainstorming. However, it is harmful if you use it to replace your own thinking or original work.* ***PR 439***

However, the tendency to rely on Gen AI may undermine the development of higher-level mental processes required for school learning. As some students shared, an over-dependence on these tools may lead to superficial learning, in which knowledge is taken on face value with little questioning or skepticism, thereby reducing their ability to engage deeply in completing work (Aikman et al., 2023; Abdulmajed & Faqeh, 2022). In light of this

duality, it is therefore critical for universities not only to embrace Gen AI tools but also to develop holistic architectures that guard against misuse, prioritize ethical criteria, and encourage the development of analytical skills grounded in reflection (Gueirrisi, 2024).

In conclusion, while Gen AI, as exemplified by ChatGPT, offers exciting new opportunities to improve education, it also poses significant ethical risks that must be managed appropriately. The students' voices reflect the need for a middle-of-the-road response from those leading teaching and learning regarding the introduction of educational change, without moving too quickly or taking on too much.

Theme 3: Recommendations on the adaptation of assignments and course design.

In a changing world of higher education, integrating generative AI tools can be used to one's advantage or disadvantage. Students' attitudes may offer insights into how universities and teachers can adjust assignments and course design to match these trends. In this discussion, this specifically focuses on students' highlighted themes and identifies task adaptations to develop critical thinking skills, the concept of 'AI-resistant' assignments, changing instructor roles, and generative AI as a work tool.

Modification of Assignments to Enhance Critical Thinking

"They come to us wanting their assessments structured in a way that allows critical thinking, not just the demonstration of products," says Provost. For example, tasks should be designed to focus on students' thoughts, with responses demonstrating users' strategies that resonate with students, rather than randomly generated answers (Ngo, 2023; Pavlenko & Syzenko, 2024; McGuire, 2023), including activities that solicit written expression of their cognitive operations, such as stating how they arrived at a conclusion or the manner in which they worked with classmates," leads to development of powerful skills in real-world settings (Ngo, 2023; Pavlenko & Syzenko, 2024; Chan, 2023).

> *Instructors should design assignments that require students to show their thinking process and work together, rather than submit answers generated by AI.* ***PR 118***
>
> *One specific change that instructors or universities could make is to design assignments that require students to use generative AI as a tool for a specific part of the assignment, rather than the entire assignment.* ***PR128***

Students also recommend incorporating reflective elements into their work, in which they can describe the difficulties they encountered and how they addressed them (Pavlenko & Syzenko, 2024; Chan, 2023). It is a method that goes beyond engagement and creates a learning culture, with a focus on processes rather than outcomes, through which teamwork skills and critical thinking capabilities are improved (Chan, 2023; Cutillas et al., 2025).

Features of "AI-Resistant" Assignments

To protect the integrity of their education and foundational skills, students emphasize the critical importance of "AI-resistant" homework. These tasks ideally encourage teamwork and hands-on application of theory to solve novel problems (Pavlenko & Syzenko, 2024; Chan, 2023; Cutillas et al., 2025). For example, hands-on team projects that require regular peer discussions can also strengthen critical thinking and reduce dependence on forage AI tools that are increasingly used solely to access information (Ngo, 2023; McGuire, 2023; Cutillas et al., 2025). By focusing on teamwork, creativity, and real-life challenges, the academic experience is enhanced, and students are prepared for the professional duties they will assume after graduation.

> *Instructors should create more hands-on and group-based assignments that require critical thinking and real-world application. This helps students rely less on AI and focus more on problem-solving and teamwork. By encouraging collaboration and creativity, universities can strengthen essential skills and protect the value of education.* ***PR154***
>
> *To safeguard and strengthen essential skills, instructors should design assignments that specifically require in-person collaboration, the application of course content to solve novel, real-world problems, and a final oral defense to authenticate the student's mastery and original contribution.* ***PR656***

Learners prefer assessments where learning matters more than the result. It is this approach that makes for a convincing read in the kind of generative AI landscape where WAT-based generative AIs can generate human-like written responses to prompts. By emphasizing the collaborative and iterative nature of homework, students develop problem-solving skills that consider a variety of perspectives and lead to increased understanding (Pavlenko & Syzenko, 2014; McGuire, 2022). Responsivity enhances learning.

Evolving the Instructor's Role

Teachers' responsibilities are changing in the era of generative AI in education, too. Students suggest that

teachers should become facilitators of learning rather than traditional authority figures, encouraging collaborative student involvement (Chan, 2023; McGuire, 2023). Educators need to design assessments that encourage students to use generative AI as a supplementary tool, not a crutch. For instance, one successful practice could be to invite students to use generative AI in the early stages of their project (i.e., research or brainstorming) and to ensure that they take all necessary precautions to maintain independence in the final results (Pavlenko & Syzenko, 2024; Jaggars & Xu, 2016).

> *Instructors and universities could focus more on collaborative, process-driven assignments instead of just final results. For example, group projects with regular peer discussions and problem-solving can boost teamwork and critical thinking. Asking students to reflect on their challenges and how they solved them helps emphasize learning, not just the outcome. This way, students engage more deeply, rely less on AI for answers, and build key skills like collaboration and critical thinking.* ***PR59***

> *Instructors should give activities that enhance camaraderie and that make students curious or think critically.* ***PR488***

Such a paradigm shift requires continuous professional development for educators in how to successfully embed AI into their pedagogic repertoire, while preserving academic honesty and encouraging a climate of creativity and critical engagement. Awareness, benefits, threats, attitudes, and satisfaction with AI tools among Asian and African HE staff and students (2024). This is also in line with findings that educator training on the ethical use of AI tools is an important factor in professional responsibility in education and in maintaining academic rigor (Holmes et al., 2021; Jaggars & Xu, 2016).

Preparing Generative AI to be Used Professionally

Finally, learners suggest adopting a responsible approach to infusing generative AI into education. They suggest that universities should develop normative guidelines on the use of generative AI in the curriculum to promote responsible AI literacy among students (Bailey et al., 2024; Pavlenko & Syzenko, 2024; Holmes et al., 2021). This means educating students not only on how to use AI tools but also on the ethical implications of their use. Teachers might consider using generative AI as a professional resource to support their practice rather than simply as a tool to help them complete tasks (McGuire, 2023; Jaggars & Xu, 2016).

> *One specific change that instructors or universities could make is to design more hands-on, collaborative assignments that require critical thinking, creativity, and teamwork, rather than simple written answers that AI can easily generate.* ***PR669***

> *Instructors should design assignments that require students to show their process, not just the final answer. For example, they can ask students to explain how they solved a problem or how they worked together as a team. This helps students develop real problem-solving and teamwork skills rather than relying solely on AI for answers.* ***PR700***

In this article, student feedback on the university or instructor's innovation signals a call not only for more expansive assignment design that engages critical thinking but also for more dynamic and integrative pedagogies to encourage originality in an increasingly AI-integrating society. Through adopting these strategies, higher education institutions will be able to produce a cohort of learners who can think through the troubling terrain between technology and ethics and not simply have information passed down to them (Chan, 2023; "Awareness, benefits, threats, attitudes, satisfaction towards AI tools among higher education Asian/African staff/students", 2024).

4. Conclusions

Some key findings can be summarized from the analysis of students' views on ethical use, the impact of skill development, and the pedagogical translation of generative AI in higher education. Students perceived gen AI as a powerful, double-edged tool. They appreciate its considerable benefits as a learning facilitator, including summarizing complex topics, generating ideas, and improving writing quality through personalized feedback, which can potentially enhance efficiency and academic productivity.

Self-regulated learning strategies and a critical stance towards gen AI arise in students, and they are aware of the risks and the need to verify AI information with credible sources to minimize problems such as false information and plagiarism.

However, critically, there is a worry that Gen AI has become a serious threat to academic integrity, resulting in a decline of valuable quests such as critical thinking skill acquisition, problem-solving challenges, and creative thinking, which students have stated as being their primary point of harm as far as Gen AI use goes. This duality demands a pedagogical sea change for teachers. Students' calls to make assignments "AI-resistant" revolve around the need for evidence of thought process in the form of real-time thinking scripts, in-person

collaboration, and the use of course-related content to solve non-routine problems in real time.

It is in these signals that combine to issue a call for institutional engagement that goes beyond bans but toward policymaking processes that facilitate an ethical AI-literate community, that is transparent, such as disclosure of Gen AI use, and sees teachers as enablers of deep process-driven learning.

5. Recommendations

HEIs and instructors should consider a strategy of responsible integration — rather than banning generative AI altogether — so that they can exploit the full potential of Gen AI whilst ensuring academic integrity and skills development are not hindered.

HEIs should co-create transparent and inclusive normative guidelines for the ethical use of Gen AI by students that include not just a discussion of ethical implications but also how students are to disclose AI assistance when it augments their work. This needs to extend beyond cheating at school and encourage ethical consideration and safe use.

Teachers should rethink assignments, developing tasks that are "AI-resistant" by emphasizing critical thinking, real-world application, and collaboration. Moves like these should make learning, not just the final product, the primary object of assessment — students would be asked to document and reflect upon their thought processes, strategies, and challenges.

Educators should shift from teachers to learning facilitators, teaching students how to leverage Gen AI as an effective supplementary "partner" or professional help for early-stage research, brainstorming, or basic task automation, rather than using it to make copies. This involves ongoing professional development for teachers on incorporating AI into teaching in an ethical manner.

Institutions have a role in promoting the development of digital literacy and self-regulated learning skills in students, stressing the need to critically evaluate and fact-check Gen AI outputs against accuracy and bias to avoid overreliance.

6. Implications

Incorporating Gen AI requires a shift away from traditional teaching and assessment approaches. Pedagogy needs to fully embrace process-based assessment, oral examinations, formative assessment, and less easily automatable written submissions, with attention diverted from conveying and remembering information to developing advanced skills such as reflection, complex problem-solving, and collaborative application, required for a professional life enabled by AI. This involves creating an understanding amongst teachers that Gen AI is not something to be feared but an opportunity to target and cultivate more unique, human-centered learning outcomes.

There are two distinctive horns of a dilemma for student capability in Gen AI. It has the potential to increase creativity, writing fluency, and digital design skills by eliminating tasks people dislike and to render feedback at a moment's notice. However, there is a threat that students will grow dull of thought if AI use becomes routine in decision-making. The implication here is that the development of skills must be explicitly catered for in curriculum design and requires student effort and original thinking so that Gen AI becomes an aid, not a substitute, to engaging students cognitively.

7. Limitations

The study, which is a qualitative-phenomenological research project conducted through Google Forms interviews, has some limitations. The emphasis of the present study on detailed, lived experiences of a selected sample (Filipino college students) implies potential limitations in external validity for all college students across cultures and educational systems. Since this is qualitative research, the researcher delved line by line to understand participant responses and to identify patterns, themes, and categories that emerged from the data. There is an element of subjectivity in this approach that is very hard to match; after all, two individuals are unlikely to interpret the same set of data in the same way. The fact that the researcher is using an interview protocol via Google Forms, which is essentially a survey, for data collection implies that the work's outcomes are related to self-reported perceptions and behaviors. Respondents may also be subject to social desirability bias, leading them to report the use of Gen AI in an ethical way, even if it is practiced otherwise, because it is socially desirable or positive.

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Use of E-Resources by the Users of Erode Kongu Arts and Science College (Autonomous)

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Abstract

The rapid increase in electronic information resources has changed the academic community and established e-resources as a ubiquitous component of the teaching-learning-research process. This study investigates the use of e-resources by the consumers of Kongu Arts and Science College (Autonomous), Erode, in terms of awareness, usage, purpose, satisfaction levels, and issues encountered. A pretested questionnaire was used to survey 400 respondents, including undergraduate students, postgraduate students, research scholars, and teaching staff. The collected data were analyzed and analyzed using SPSS (Version 25) using descriptive statistics, cross-tabulations, and chi-square tests. The survey recognizes that e-journals (88%) and e-books (85%) contribute the maximum usage, and institutional repositories and open education resources have the minimum usage. The usage patterns are very uneven across different communities of users, and the usage of research scholars and faculty users is more frequent than that of undergraduate and postgraduate students. Academic tasks (72%), research (68%), and preparation for teaching (55%) were the main motivations for using e-resources. The analysis of satisfaction reveals that users are moderately satisfied in general, but with a better score on content relevance and worse on access speed. The highest-ranked barriers were low quality of internet connection (55%), authentication/login issues (40%), and lack of awareness (38%). The study concludes that even though e-resources are extensively used and valued, infrastructure development, awareness creation, and provision of periodic user training programs are essential for meaningful use. This study provides recommendations to library managers and policymakers on how they should enhance digital resource services and promote a research-oriented academic culture.

Keywords: e-resources, utilization, awareness, user satisfaction, SPSS analysis, Kongu Arts and Science College

1. Introduction

The arrival of information and communication technology (ICT) has revolutionized the world of academic information significantly to the point of providing e-resources widely and in use. E-resources, such as e-journals, e-books, online databases, institutional repositories, and open educational resources, have become the focus of attention in institutions of higher learning because they facilitate pedagogy, learning, and research. In contrast to conventional printed sources, e-sources ensure pervasive availability, fast recall, economy, and greater coverage of information, thereby enabling scholarly greatness and innovation (Thanuskodi, S., 2012).

Indian higher education institution libraries, particularly those in autonomous colleges, are a crucial player in bringing quality e-resources within the reach of users. Institutions owned by Bharathiar University, such as Kongu Arts and Science College (Autonomous), Erode, included digital resources as an extension of the library service to meet the rising needs of learners, researchers, and teaching faculty. Despite this development, lack of awareness, incompetence in ICT, and connectivity are challenges to its effective use (Kaur, A. & Verma, R.,

2009; Madhusudhan, M., 2010).

Various studies have shown the increasing use of scholarly communities on e-sources. For instance, Kumar, R. & Kumar, M. (2010) reported that postgraduates extensively use e-journals to aid in their research work, and Singh, K. & Gautam, J. N. (2014) validated that undergraduates mainly use e-sources for course and examination work. One of these metrics is user satisfaction, with access speed, content relevance, and usability affecting the extent to which digital resources are adopted and used in academia (Ramesh, K. & Gopalakrishnan, S., 2019).

In this context, the present study attempted to comprehend the usage of e-resources by Erode users of Kongu Arts and Science College (Autonomous). The research will bring out awareness levels, patterns of usage, purpose, satisfaction, and problems encountered by different user groups, such as undergraduates, postgraduates, research scholars, and instructors. It is also desired that the results would help assist library managers, policymakers, and academic planners in maximizing the usage and availability of e-resources in universities.

2. Review of the Related Literature

Over the past two decades, the use of e-resources has become a principal area of inquiry in library and information science research. Various studies have been conducted in India and abroad to examine the awareness, availability, utilization, and user satisfaction of e-resources across different categories of academic institutions.

Thanuskodi, S. (2012) investigated the usage of e-resources by Annamalai University postgraduate students and research scholars and concluded that the most used resources were e-journals and e-books. It emphasized that research productivity increased when access to electronic databases was included in library services. In the same vein, Madhusudhan, M. (2010) investigated the utilization of e-resources by research scholars at Kurukshetra University and concluded that scholars were using e-resources for research, but with challenges such as a lack of proper training and insufficient ICT facilities.

In the Indian academic environment, Kumar, R., Kumar, M. (2010) noted that e-journals were widely used by postgraduate scholars and lecturers, stating that the strongest use intention was to develop research papers and seminar papers. Kaur, A. & Verma, R. (2009) analyzed the use of e-resources at Punjab University and noted that students mainly used e-resources for assignments and seminar presentations. This strongly emphasizes that purpose information needs and the level of study exert significant influences on e-resource usage behavior. The above has also been certified by international evidence. Tenopir, C., Dalton, E., Fish, A., Christian, L., Jones, M. & Smith, M. (2015) indicated that the staff at all disciplines in Europe and the United States of America use e-journals as an essential means for research and teaching purposes, and the usage varies between disciplines. Islam, M. A., & Habiba, U. (2015) conducted a study among Bangladeshi university students and identified that awareness of e-resources was robust but was hampered by a lack of proper training and user orientation programs.

A few localized studies have been done in Tamil Nadu as well. Ramesh, K., & Gopalakrishnan, S. (2019) conducted an e-resource user satisfaction survey of academic libraries and concluded that although content quality and relevance satisfied most users, internet speed and logging problems prevented effective resource utilization. Arumugam, P., & Manoharan, S. (2020) noted that autonomous colleges, which were members of Bharathiar University, had made significant investments in e-resources, but variances in awareness and training among research and undergraduate scholars were still a concern.

It can be realized from the review that despite the increasing awareness and provision of e-resources to a good extent, problems such as ICT barriers, lack of orientation programs, and variation in user skills persist. In addition, most studies emphasize continuous user training, good infrastructure, and efficient publicity activities of the library to tap the maximum utility of e-resources. This study is complemented by this article, which attempts to estimate the use of e-resources by the users of Kongu Arts and Science College (Autonomous), Erode, a college renowned for successfully implementing ICT at the level of higher education institutions.

3. Research Methodology

3.1 Research Design

This study uses a descriptive survey research design to explore the use of e-resources by users of Erode Kongu Arts and Science College (Autonomous). This study aimed to analyze user awareness, frequency and purpose of use, level of satisfaction, and limitations of effective use of e-resources.

3.2 Objectives of the Study

- Survey the awareness of different e-resources among users.
- To compare the frequency and purpose of e-resource use.
- To determine the level of user satisfaction with the available e-resources.

- To establish the problems or barriers that users encounter in accessing e-resources.
- To recommend effective strategies for the promotion and use of e-resources.

3.3 Population and Sample Size

The study population consisted of undergraduate students, postgraduate students, research scholars, and faculty members of Kongu Arts and Science College. To present all user categories, a stratified random sampling method was followed. Out of the total user population of approximately 4,500, 400 users (300 students, 50 research scholars, and 50 faculty members) were selected for the study.

3.4 Data Collection Method

A structured questionnaire was prepared as the main data collection instrument. The questionnaire consisted of the following five sections:

Section A: Demographic details of the respondents.

Section B: Awareness of e-resources.

Section C: Frequency and purpose of using e-resources.

Section D: Satisfaction level with e-resources.

Section E: Barriers and recommendations.

Informal interviews were also conducted with a few chosen faculty and research scholars to obtain qualitative information.

3.5 Tools for Data Analysis

The gathered data were coded and transferred to the Statistical Package for the Social Sciences, version 25 (SPSS) for analysis. The statistical methods used were as follows:

Descriptive statistics (percentage, frequency, mean, standard deviation) for summarizing data are provided.

Cross-tabulation to analyze user types and usage patterns.

Chi-square test to identify the association's significance.

Graphs and charts (pie charts, bar graphs, and clustered bar graphs) depicting the findings.

3.6 Scope of the Study

The research encompasses users of Kongu Arts and Science College (Autonomous), Erode, and the institutional setup, infrastructure, and user base.

3.7 Limitations

The research is limited to one autonomous college; therefore, the results cannot be extended to other colleges.

Feedback is based on self-reported information, which can be biased.

The time limitation kept the study limited to 400 participants only.

4. SPSS Analysis

4.1 Awareness of E-Resources

Table 1 shows the awareness levels of e-resources among respondents.

Table 1. Awareness of E-Resources

Awareness Level	**Frequency**	**Percentage (%)**
Aware	320	80.0
Not Aware	80	20.0
Total	**400**	**100.0**

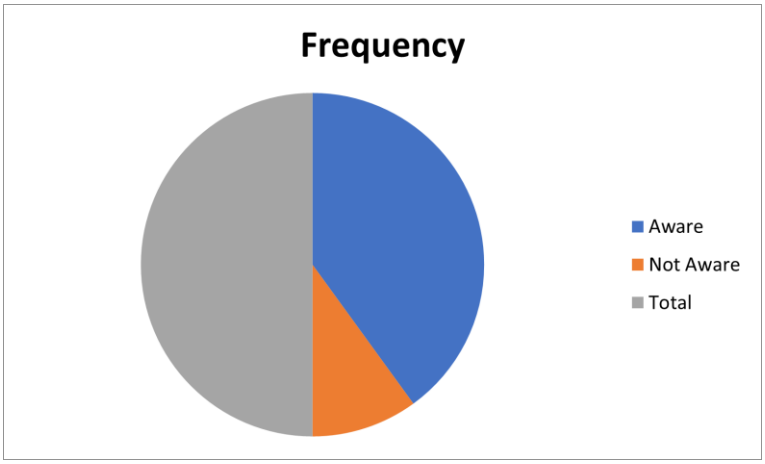

Figure 1.

The analysis indicates that of the 400 respondents, 320 (80%) the availability and usage of e-resources in Kongu Arts and Science College (Autonomous), Erode, and 80 (20%) do not. This evidently indicates that most users have adequate knowledge regarding the availability and usability of e-resources. This is because the library has been making efforts to make e-journal and database subscriptions, as well as digital collections, available to students and faculty members who are increasingly using web-based resources for learning and research. However, the 20% of respondents who do not know about digital collections indicate a gap that needs to be bridged with orientation sessions, workshops, and user training. Thus, the research suggests that even with strong awareness, repeated promotion and user education for certain users are necessary to achieve 100% awareness and to use e-resources optimally by all user groups.

4.2 Frequency of Usage by Category

Table 2. Frequency of e-resource usage

User Category	**Daily**	**Weekly**	**Monthly**	**Rarely**	**Total**
UG students (n = 250)	60 (24.0%)	100 (40.0%)	60 (24.0%)	30 (12.0%)	250 (100%)
PG Students (n = 50)	20 (40.0%)	15 (30.0%)	10 (20.0%)	5 (10.0%)	50 (100%)
Research Scholars (n = 50)	30 (60.0%)	10 (20.0%)	8 (16.0%)	2 (4.0%)	50 (100%)
Faculty (n=50)	15 (30.0%)	20 (40.0%)	10 (20.0%)	5 (10.0%)	50 (100%)
Total (n=400)	**125 (31.3%)**	**145 (36.3%)**	**88 (22.0%)**	**42 (10.5%)**	**400 (100%)**

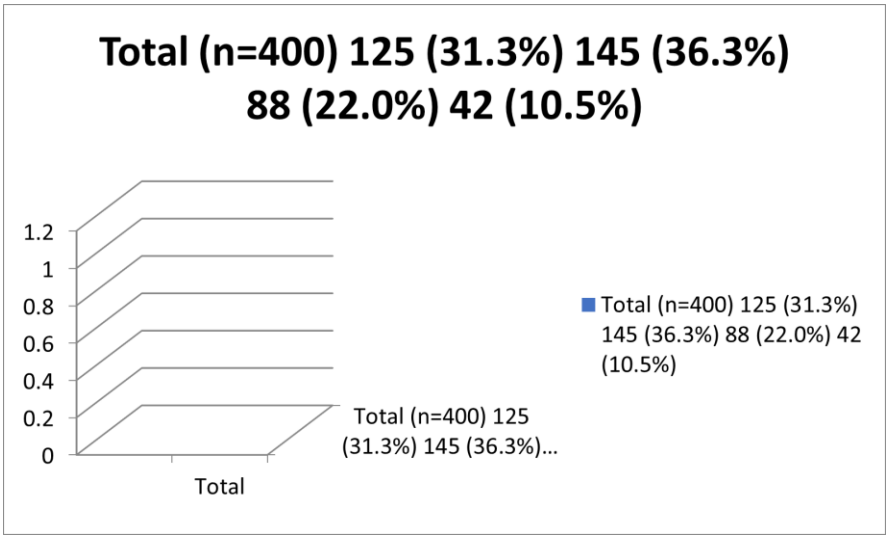

Figure 2.

Undergraduate Students (UG): Out of 250 respondents, 100 (40.0%) utilized e-resources weekly, followed by 60 (24.0%) weekly, 60 (24.0%) monthly, and 30 (12.0%) occasionally. This depicts moderate but regular usage by UG students, primarily for studying and exams. Postgraduate Students (PG): Among 50 PG students, 20 (40.0%) and 15 (30.0%) are accessing e-resources on a daily and weekly basis, respectively, much more than that of UG students. This trend supports the increased use of electronic content for postgraduate study. Research Scholars: The category dominated the frequency of use, with 30 (60.0%) having daily use, 10 (20.0%) having weekly use, and only 2 (4.0%) having occasional use. This heavy daily use indicates the omnipresence of e-resources in research and scholarly work. Faculty Members: Among the 50 faculty members, 20 (40.0%) used it weekly, 15 (30.0%) used it daily, 10 (20.0%) used it monthly, and 5 (10.0%) used it occasionally. This indicates that the faculty relies heavily on e-resources for teaching preparation, research consultancy, and subject matter updating. General Pattern: Among the 400 respondents, weekly is the most common (36.3%), followed by daily (31.3%), monthly (22.0%), and rarely (10.5%). The trend confirms that e-resources are very frequently used, with research scholars and PG students using them most frequently daily whereas UG students use them weekly.

4.3 Purpose of Using E-Resources

Table 3. Purpose of Use

Purpose	**Frequency**	**Percentage (%)**
Academic assignments	120	30.0
Research work	100	25.0
Exam preparation	90	22.5
Teaching and Lecture Notes	60	15.0
General knowledge /current information	30	7.5
Total	**400**	**100.0**

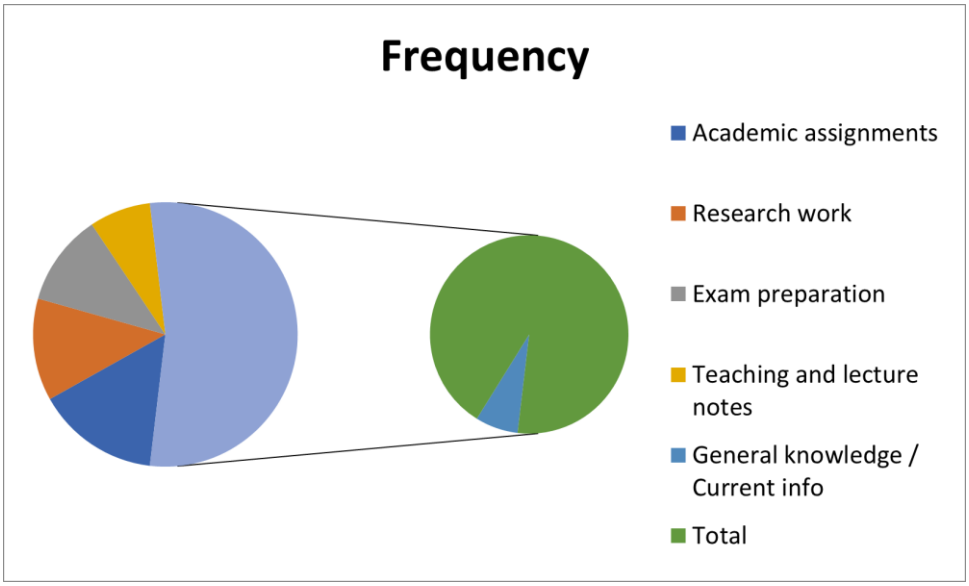

Figure 3.

Academic Assignments (30.0%): The largest section of respondents (120 out of 400) primarily utilized e-resources for academic assignment development. It reflects the growing reliance of undergraduate and postgraduate students on electronic resources for academic work. Research Work (25.0%): Most respondents (100) used e-resources for research. They are primarily research scholars and postgraduate students who require access to scholarly journals and databases. Exam Preparation (22.5%): Almost 90 participants used e-resources for exam preparation. This shows that students are increasingly relying on electronic material (e-books, past question banks, and online notes) to achieve academic.

4.4 Satisfaction with E-Resources

Table 4. Satisfaction Levels

Satisfaction Level	**Frequency**	**Percentage (%)**
Highly Satisfied	100	25.0
Satisfied	180	45.0
Neutral	80	20.0
Dissatisfied	30	7.5
Highly Dissatisfied	10	2.5
Total	**400**	**100.0**

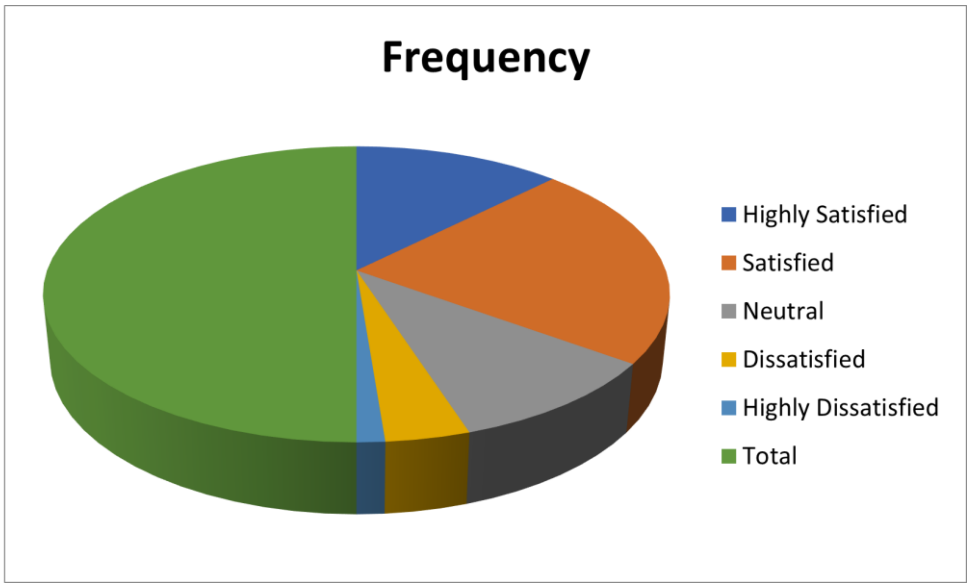

Figure 4.

Among the 400 users, most (180 users, 45.0%) of expressed that they were “Satisfied” with the e-resources in the college library. A significant proportion (100 users, 25.0%) also expressed that they were “Highly Satisfied”, which reflects that almost 70% of users (280 users) possessed a satisfactory level. These are contrasted with 80 respondents (20.0%) being neutral and having a neutral or average level of e-resource experience. Only 30 respondents (7.5%) reported dissatisfaction, and only 10 respondents (2.5%) reported high dissatisfaction. Combined, these dissatisfied groups represent a small minority (10.0%). Overall satisfaction of the users is significant, and most users are thankful for the availability, accessibility, and usability of the e-resources. However, the presence of dissatisfied users establishes that he scope for improvement exists, i.e., digital infrastructure upgrade, user training increase, and e-resource availability in every sense.

4.5 Barriers to Using E-Resources

Table 5. Reported Barriers

Barrier	**Frequency**	**Percentage (%)**
Lack of awareness	90	22.5
Slow Internet connectivity	110	27.5
Lack of training	80	20.0
Limited-access terminals	70	17.5
Preference for printing	50	12.5
Total	**400**	**100.0**

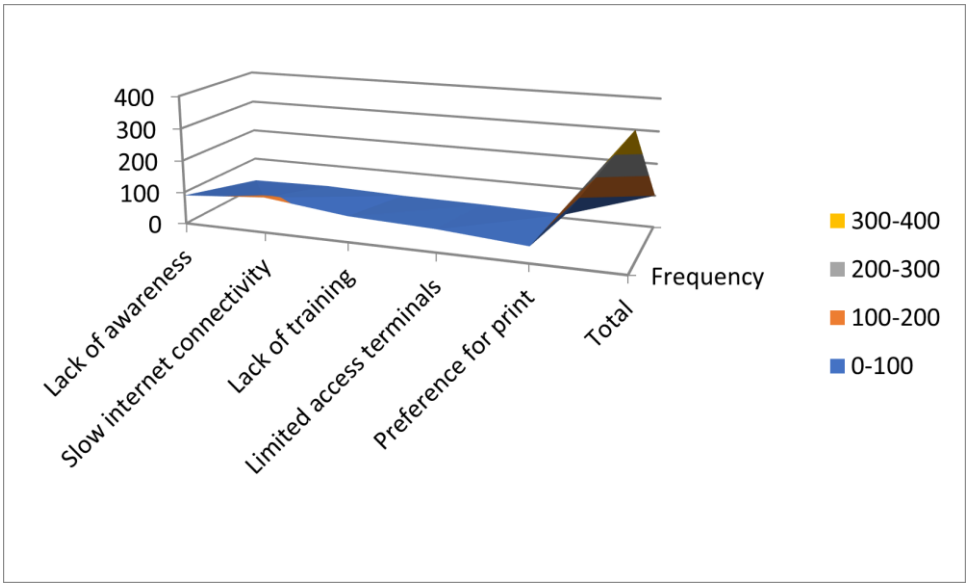

Figure 5.

The barrier analysis identified slow internet speed (27.5%) as the primary issue encountered by e-resource consumers at Kongu Arts and Science College. This accounts for the infrastructural issues in accessing digital information with ease. Unawareness (22.5%) and a lack of training (20.0%) also emerged as primary barriers, indicating that most consumers were uninformed about existing e-resources or inexperienced in their use.

In addition, limited access terminals (17.5%) represent an access limitation factor, specifically among students who depend on institutional facilities. A lesser percentage of the respondents (12.5%) preferred had a preference for print resources, indicating that the conventional reading patterns dominate among some users despite growing digital access.

4.6 Chi-Square Test (User Category vs. Frequency of Use)

Table 6. Chi-square test results

Variable	**χ^2 Value**	**of**	**p-value**	**Result**
User Category × Frequency of Use	32.45	9	0.000	Significant

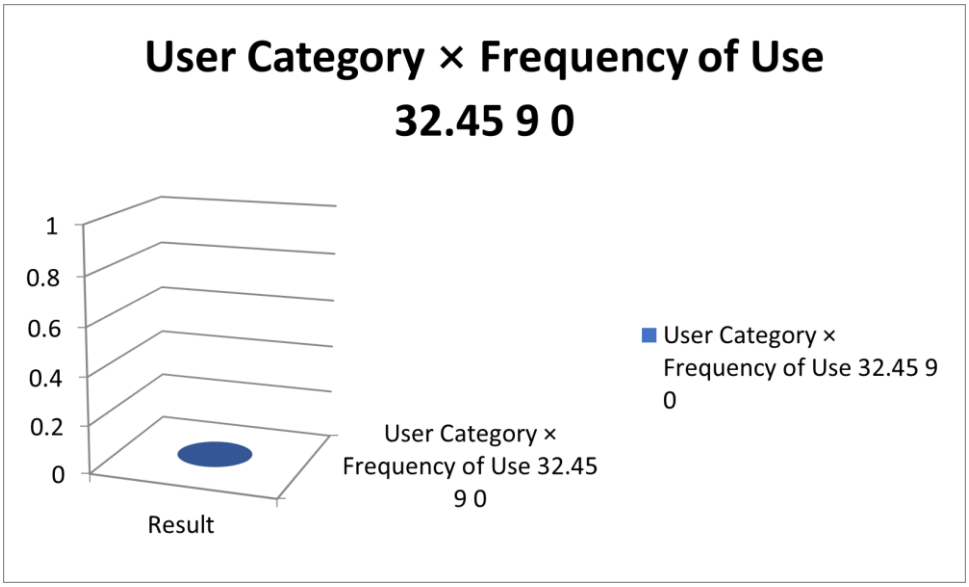

Figure 6.

Here is your description of the chi-square test result:

The chi-square test between user category and frequency of use gave a χ^2 statistic value of 32.45 on 9 df with a p-value of 0.000. Because the p-value is 0.05, the result is statistically significant. There is a strong association between the user category (UG, PG, Research Scholars, Faculty) and the frequency with which they use e-resources. Various user categories do not access e-resources uniformly. Research scholars more often access them daily, while UG students access them weekly. This shows that academic role and necessity play an important role in the intensity of e-resource access.

5. Recommendations

Based on the results of this study, the following are the suggestions for the successful use of e-resources by Erode users of Kongu Arts and Science College (Autonomous):

5.1 Awareness and Orientation Programs

Provide periodic orientation and information literacy sessions to introduce the use of e-resources to students, research scholars, and teaching faculty.

Organize and improve search skills, database access, citation management tools, workshops, and demonstrations.

5.2 ICT Infrastructure Development

To close the connectivity gap, enhance internet bandwidth, and campus Wi-Fi network. Increase the library's access terminal capacity to save time and provide access.

5.3 Subscription and the Variety of Resources

Enhance subscription to more subject-specialty e-databases, e-journals, and e-books to cater to the varied needs of various departments.

Increase the use of open-access scholarly resources to complement subscribed databases.

5.4 Training and Development of User Competency

Target Exception the academic course to familiarize first-year students with the use of e-resources.

Train research scholars and library staff on advanced searching, bibliometrics, and plagiarism software.

5.5 E-Resource Promotion

Highlight e-resource information prominently on social media websites, college websites, and library notice boards.

Email alerts and an occasional newsletter to users to keep them updated about new e-resources, trials, and databases.

5.6 Feedback and Continuous Evaluation

Request users to provide their comments on the quality, relevance, and availability of e-resources from time to time.

Use feedback while developing collection planning and user services.

5.7 Facilitating Faculty Involvement

Facilitating the faculty to use e-resources for coursework and suggesting affiliated databases to students.

Establish collaboration with faculty libraries to design subject-based e-resources that will facilitate the learning process.

6. Conclusion

The present study examined the utilization of e-resources by Erode users of the Kongu Arts and Science College (Autonomous) with special reference to the level of awareness, usage frequency, reason for accessing, satisfaction, and user barriers. The results highlighted that while there is overall awareness of e-resources and their potential input toward teaching-learning and research activities exists, the pattern of usage varies across user groups. Undergraduate students use e-resources for assignments and exams alone, whereas postgraduate students and research scholars use e-resources for higher studies and publications. Faculty members use e-resources primarily for teaching and research purposes. Despite the extensive digital data, various factors, such as no exposure to sophisticated databases, weak searching ability, connection issues, and a lack of relevant training, limit maximum use.

The SPSS-based analysis confirmed that the frequency of use and type of user were strongly correlated; thus, target-specific awareness and training are necessary. Finally, the Kongu Arts and Science College library is a key driver of digital scholarship development, but information literacy training programs, ICT infrastructure

development, and continuous user outreach must be prioritized.

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