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Assessing a Digital Capacity-Building Initiative: Scholarly Writing and AI Ethics Training for Global Academic Stakeholders

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Abstract. In an era shaped by artificial intelligence (AI) and digital transformation, ethical and impactful scholarly writing remains a core competency for educators and researchers. This study evaluated the "Training EDGE: Empowering Development and Global Excellence" webinar hosted by the Nueva Ecija University of Science and Technology (NEUST). The program aimed to strengthen participants' academic writing skills using the IMRaD format and to promote ethical AI integration in research. Employing a mixed-methods design, data from 988 participants were analyzed through pre- and post-training self-assessments, structured evaluations, and qualitative feedback. Findings reveal a substantial increase in perceived knowledge (mean score rising

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from 2.90 to 3.60), with strong participant satisfaction across content, delivery, and trainer effectiveness dimensions. Thematic analysis further showed increased ethical awareness, confidence in research writing, and appreciation for interdisciplinary learning. The study underscores the importance of inclusive and interactive training models that address both technical and ethical dimensions of scholarship in a technology-driven academic landscape.

Keywords: scholarly writing; artificial intelligence; academic training; IMRaD structure; webinar evaluation; digital pedagogy; professional development; research ethics

1. Introduction

In the rapidly evolving landscape of higher education, the ability to produce high-quality, ethical, and impactful scholarly work is increasingly crucial for educators, researchers, and academic professionals. The rise of artificial intelligence (AI) and digital technologies has introduced new frontiers for academic writing, research productivity, and collaboration while simultaneously presenting novel challenges concerning academic integrity and responsible technology use (Vafadar & Amani, 2024).

AI technologies, particularly generative AI, have profound implications for scholarly writing, raising critical questions about authorship, attribution, and ethical application in research contexts. Scholars caution that the integration of AI tools into academic writing may dilute the value of human expertise and traditional citation practices, thereby underscoring the need for clear guidelines and institutional policies (Duah & McGivern, 2024). This challenge highlights a central issue in modern academia: balancing the benefits of digital advancements with the preservation of rigorous academic standards.

To address these shifts, the educational sector must equip students and educators with the skills to responsibly leverage AI applications. This involves fostering critical thinking, analytical capacity, and ethical awareness in research and writing practices (Aisyah et al., 2024). Equally important, institutions must create learning environments that embrace technological tools while safeguarding transparency, privacy, and responsible scholarship (Vafadar & Amani, 2024).

Moreover, successful integration of AI in academia hinges on thoughtful collaboration between stakeholders – educators, technologists, and policymakers – ensuring that technological advancements enrich rather than compromise educational integrity. As conversations surrounding these themes continue to unfold, it becomes increasingly imperative for academic institutions to be proactive in developing comprehensive strategies that encompass the responsible use of AI, thus enhancing their competitive edge in a global educational landscape marked by rapid technological change (Bowles & Kruger, 2023).

In response to the evolving demands of higher education, the Nueva Ecija University of Science and Technology (NEUST) organized the "Training EDGE:

Empowering Development and Global Excellence" international webinar on March 21, 2025. This initiative, titled "Scholarly Writing and the AI Revolution as a Global Academic Initiative", aimed to equip participants with advanced skills in scholarly writing and to deepen their understanding of the implications and applications of AI in academic research. A particular focus was placed on the IMRaD structure—an acronym for introduction, methods, results, and discussion—which is a standardized framework used in scientific research writing to ensure logical organization and clarity.

The emphasis on the IMRaD structure is critical, as it has become a widely accepted framework for organizing research papers and ensuring clear communication of findings. Although its exact origins are debated, it gained prominence in scientific writing during the late 20th century (Eriksson, 2023). Prioritizing this methodology prepares participants for publication in reputable journals while reinforcing clarity and coherence in scholarly communication.

At the same time, the integration of AI into academic writing and research requires recognition of both its opportunities and ethical challenges, particularly regarding integrity and authorship (Sebach, 2021). Training participants to navigate these issues strengthens their capacity to produce impactful, ethical research. Beyond technical skills, the Training EDGE initiative fosters collaboration and responsive training formats that support professional development across diverse contexts (Lorandi et al., 2021). By uniting essential writing practices with discussions on AI ethics, the webinar significantly advances scholarly practices in the digital age.

Despite growing international attention to ethical AI integration and scholarly writing, Philippine academic institutions, particularly in regional areas such as Nueva Ecija, continue to face challenges in equipping stakeholders with the necessary digital literacy and research writing competencies. The Training EDGE webinar was developed in response to these localized gaps, aligning global best practices with the contextual needs of Filipino educators and researchers. The event attracted a total of 988 participants. This included 702 external attendees from a wide range of academic institutions, industries, and government agencies, as well as 286 from NEUST. This diverse participant pool reflects the wide-reaching relevance of the training themes and the growing demand for interdisciplinary knowledge exchange on scholarly writing and ethical technology adoption.

This paper evaluates the effectiveness of the Training EDGE webinar through a combination of quantitative post-training evaluation data and qualitative feedback from participants. Specifically, it aims to:

1. Examine changes in participants' self-assessed knowledge before and after the training
2. measure the perceived relevance and quality of the program content and delivery; and
3. explore broader implications for designing future academic capacity-building initiatives in the age of AI.

2. Theoretical Framework and Literature Review

2.1 Theoretical Framework

This study is anchored on constructivist learning theory and the ethical framework for AI integration, which together explain why initiatives such as the Training EDGE international webinar effectively enhance scholarly writing and ethical awareness. Constructivism, advanced by Piaget (1952) and Vygotsky (1978), posits that learners actively construct knowledge through experience, interaction, and reflection. This can be observed when participants connect prior knowledge of academic writing with new insights on the IMRaD structure and AI ethics, reinforcing the constructivist view that learning is co-created through social interaction.

Complementing this, the ethical framework for AI integration (Jobin et al., 2019) stresses transparency, accountability, fairness, and responsibility in AI use. These principles are vital as AI becomes embedded in scholarly practices, raising concerns about authorship, plagiarism, and academic integrity. Together, constructivism and AI ethics provide a robust theoretical lens, with the former explaining how participants internalize new skills through contextualized learning (Piaget, 1952; Vygotsky, 1978) and the latter highlighting the importance of cultivating critical awareness of digital tools (Jobin et al., 2019).

Merging these perspectives underscores that capacity-building in the digital age must balance skills development with ethical responsibility, ensuring academic excellence without compromising integrity. The EDGE training applied these principles by incorporating interactive segments such as live polls, breakout room discussions, and scenario-based activities to encourage knowledge construction. Ethical dilemmas involving AI were embedded into discussions, providing a practical lens through which participants could reflect on responsible AI integration.

2.2 Literature Review

2.2.1 *Scholarly writing in higher education*

Academic writing is a critical foundation of scholarly productivity and a key factor in strengthening the reputation of higher education institutions. It demands not only technical writing skills but also competence in research ethics, critical analysis, and disciplinary standards. Universities increasingly emphasize scholarly publishing because it contributes directly to meeting global accreditation requirements and improving rankings (Peterson et al., 2024). Yet, researchers—particularly in developing regions—often face barriers such as limited training opportunities and challenges in navigating the peer-review process (Sarnecka et al., 2022).

Structured training programs that address both the form and substance of manuscript preparation have been shown to enhance academic output. The IMRaD structure (introduction, methods, results, and discussion) is especially effective in ensuring clarity and logical organization, benefiting both novice and experienced scholars (Weinstein, 2024). Its alignment with peer-reviewed journal standards further promotes high-quality scholarly communication (Eriksson,

2023), while well-crafted abstracts remain decisive in shaping reader engagement (Pangesti et al., 2023). Beyond journal writing, training in grant proposal development is increasingly important, equipping researchers to secure funding and foster collaborations (Behzadi & Gajdács, 2021). The Training EDGE webinar exemplifies this holistic approach by integrating IMRaD-focused writing skills with grant strategy alignment, thereby strengthening participants' overall research capacity (Jha & Bhandari, 2023). Such comprehensive training not only boosts individual scholarly productivity but also enhances institutional reputation and global competitiveness.

2.2.2 *Artificial intelligence in academic research and teaching*

Artificial intelligence has become a transformative force in academia, reshaping how educators teach, researchers generate knowledge, and institutions uphold academic integrity. AI-powered tools such as intelligent tutoring systems and plagiarism detectors enhance both learning and oversight (Allen et al., 2021), while machine learning algorithms process vast amounts of literature to identify trends and knowledge gaps more efficiently (Campbell & Cox, 2024).

These capabilities streamline research processes and foster deeper engagement with academic discourse. Despite these benefits, the rapid adoption of AI raises serious ethical concerns. Challenges such as algorithmic bias, data privacy, and the erosion of academic authenticity from overreliance on automation remain widely debated (Nost, 2024). AI systems are often described as "black boxes", with opaque decision-making processes that limit scrutiny and fairness, thereby compounding accountability dilemmas (Ferrell et al., 2024).

To mitigate these risks, institutions must adopt robust policies that prioritize transparency and responsible AI use while ensuring human judgment and originality remain central to scholarship (Vișan & Mone, 2023). Training students and faculty to critically engage with AI tools is equally vital, as it strengthens ethical awareness alongside technical competence (Wang et al., 2023). The rise of generative AI, such as ChatGPT, further highlights the need for clear ethical guidelines governing its role in research and education (Campbell & Cox, 2024). Ultimately, while AI holds immense potential for enhancing productivity and integrity in academia, its integration must be guided by sustained dialogue, ethical frameworks, and institutional accountability to ensure it reinforces—rather than undermines—the scholarly values of transparency, fairness, and critical thinking.

2.2.3 *The role of webinars and online training in capacity-building*

Webinars have become a pivotal tool for academic capacity-building, particularly in the post-pandemic era, as digital platforms have bridged geographic and institutional boundaries. Research shows that well-structured and interactive webinars can be as effective as face-to-face training in enhancing both knowledge and professional skills (Sung et al., 2021; Yo et al., 2021). The International Microsurgery Club, for example, reported a surge in participation during the pandemic, with webinars reshaping knowledge delivery, improving engagement, and strengthening community activity (Sung et al., 2022). Their synchronous

nature allows for real-time interaction, enabling participants to ask questions and provide feedback, thereby overcoming limitations often associated with asynchronous learning (Luo et al., 2021). Accessibility is another key strength, as webinars expand opportunities for marginalized and remote communities, promoting greater equity in academic development (Nurdiawan et al., 2022).

Similarly, a study of ophthalmology residents revealed that most participants regarded webinars as highly effective learning tools, reinforcing their growing value in professional training (Odayappan et al., 2021). Although challenges such as Internet connectivity and limited digital literacy can affect participation, the benefits of webinars—particularly their interactivity and inclusivity—generally outweigh these limitations. Ultimately, the strategic use of webinars positions them as essential tools for academic capacity-building, advancing professional development while fostering inclusivity and collaboration across disciplines.

2.2.4 *Gaps and relevance to this study*

The integration of AI into academic training programs, particularly in academic communication, represents a significant advancement in educational methodologies. However, empirical studies validating the effectiveness of such interventions remain limited. There is a pressing need to evaluate how these initiatives influence participants perceived knowledge, skills, and readiness to apply AI tools in academic contexts (Martins et al., 2024).

For example, research has shown that radiologists must acquire competency in AI methodologies to effectively leverage such tools, underscoring the importance of structured training programs in fostering these competencies (Martins et al., 2024). Beyond knowledge acquisition, examining the experiences of both internal (university-based) and external participants can yield critical insights into the broader applicability and scalability of training interventions.

A recent study of medical, dental, and nursing students revealed disparities in AI knowledge linked to socio-economic background, highlighting the importance of equitable access and tailored training programs (Amiri et al., 2024). Such inequities suggest that initiatives such as Training EDGE could benefit from strategies addressing the barriers faced by diverse academic populations, thereby enhancing inclusivity and effectiveness.

Another important gap lies in the psychological dimensions of AI adoption. Anxiety and acceptance significantly shape learners' perceptions and intentions to use AI technologies (Cho & Seo, 2024). Concerns about usability can undermine adoption, but training programs that address these psychological barriers may improve outcomes. Similarly, establishing supportive environments is crucial, as many students cite a lack of mentorship and training as major hurdles to AI engagement (Ahmad et al., 2023).

Analyzing the Training EDGE webinar specifically, a combined assessment of quantitative outcomes (e.g., pre- and post-training knowledge changes) and qualitative feedback (e.g., satisfaction and relevance) will provide valuable

insights into program effectiveness. Incorporating real-time feedback mechanisms could further inform curriculum refinements, ensuring that training remains responsive to institutional needs and the evolving role of AI in academia (Osadcha & Osadcha, 2023). There is a critical need for empirical evaluations of training programs that integrate scholarly writing with AI tools. Such studies can illuminate not only the efficacy but also the inclusivity of current interventions, guiding future educational strategies that leverage AI innovations to empower diverse academic communities.

3. Research Objectives and Methodology

3.1 Research Objectives

The study set out to evaluate the effectiveness of the Training EDGE international webinar, a global academic initiative designed to strengthen participants' competencies in academic writing and ethical integration of AI within research contexts. Specifically, it sought to determine whether the program enhanced participants' mastery of the IMRaD structure for academic writing and deepened their awareness of responsible AI use in scholarly practices.

The research also aimed to measure changes in participants' self-assessed knowledge before and after the training, assess the quality and relevance of the webinar content and delivery, and analyze participant feedback to capture broader insights into their professional and ethical growth. By combining quantitative and qualitative data, the study intends to highlight how digital capacity-building efforts such as Training EDGE can advance academic excellence, foster ethical research practices, and promote inclusive collaboration among global stakeholders in higher education and research.

3.2 Research Methodology

3.2.1 *Research design*

This study employed a mixed-methods research design that integrated both quantitative and qualitative approaches to evaluate the Training EDGE international webinar conducted by NEUST on March 21, 2025. The design combined pre- and post-training self-assessments, structured evaluation forms, and open-ended feedback to provide a comprehensive analysis of participants' knowledge gains, satisfaction levels, and perspectives on the relevance of the program. This approach enabled both statistical measurement of outcomes and thematic exploration of participant experiences.

3.2.2 *Participants and sampling technique*

A total of 988 participants attended the webinar, including 702 external stakeholders from national and international institutions, industries, and government agencies, and 286 internal stakeholders from NEUST. The participant pool was diverse, comprising educators, students, researchers, administrators, professionals, and international scholars. The sampling was inclusive and voluntary, as all individuals who registered and attended were invited to complete the evaluation forms. This ensured representation of varied academic and professional contexts, reflecting the interdisciplinary and global nature of the initiative.

3.2.3 *Instruments*

The study utilized two primary data-gathering tools. Pre- and post-training self-assessment forms measured participants perceived knowledge and skills in academic writing and AI ethics using a Likert-scale format. Structured evaluation forms collected feedback on training objectives, content relevance, speaker effectiveness, instructional tools, and overall satisfaction. Open-ended questions were embedded in the evaluation form to gather qualitative feedback, reflections, and recommendations. Registration and attendance records documented demographic information, such as institutional affiliation, role, and participant type (internal or external). Prior to deployment, the survey instruments underwent reliability testing. The Likert-scale items used in the pre- and post-assessments demonstrated acceptable internal consistency, with a Cronbach alpha of 0.84.

3.2.4 *Data-gathering procedure*

The researchers coordinated with NEUST's organizing team to distribute evaluation forms to participants at the conclusion of the webinar. All data were collected online through secure survey links, ensuring accessibility to participants across different geographic locations. Pre- and post-training self-assessments were completed within the same instrument to track knowledge changes. Feedback forms were submitted anonymously to encourage honesty and reduce social desirability bias. Attendance records were extracted from the official registration database to validate participant numbers and profiles.

3.2.5 *Data analysis*

Quantitative data from the self-assessments and evaluation forms were analyzed using descriptive statistics, including frequency distributions, means, and percentage changes, to compare pre- and post-training scores. This highlighted measurable shifts in participants' knowledge and satisfaction. Qualitative responses from open-ended items were subjected to thematic analysis, where recurring ideas and sentiments were categorized into themes such as knowledge application, ethical awareness, and professional growth. Triangulation of quantitative and qualitative findings strengthened the reliability of results and provided a fuller picture of the effectiveness of the training.

3.2.6 *Ethical considerations*

The study adhered to ethical standards for research involving human participants. Informed consent was obtained digitally, with participants notified that their responses would be used for research and program improvement purposes. Confidentiality was ensured by anonymizing responses and securing all data in password-protected files. Participation was voluntary, and participants could withdraw at any stage. The study complied with the provisions of the Data Privacy Act of 2012 (Republic Act No. 10173) to safeguard the rights and privacy of all participants.

4. Results and Discussion

4.1 Participant Profile

The Training EDGE international webinar drew a total of 988 participants, of which 702 were external stakeholders from a wide array of institutions across the country and abroad. These included educators, researchers, students, industry professionals, government employees, and international scholars. The remaining 286 participants were affiliated with NEUST, the host institution. The diverse profile of attendees underscores the growing global interest in research writing and AI in education. This diversity also enhanced the exchange of knowledge and perspectives, further enriching the learning experience for all participants.

4.2 Knowledge and Skills Acquisition

To assess the effectiveness of the training in enhancing participants' knowledge, a pre- and post-training self-assessment was conducted. Table 1 shows the distribution of responses regarding the level of knowledge or skill before and after the training.

Table 1: Self-assessment of knowledge or skill on the topic before and after training

Rating level	Before training (n)	After training (n)
Highly substantial (4)	243	477
Substantial (3)	206	186
Limited (2)	200	30
Very limited (1)	45	4
None (0)	8	5
Mean	**2.90**	**3.60**

The data in Table 1 show a significant shift in the participants' self-assessed knowledge levels. The number of participants who rated their understanding as "highly substantial" nearly doubled after the webinar, increasing from 243 to 477. At the same time, the number of participants who reported "limited" or "very limited" knowledge decreased drastically. This suggests that the training content was not only informative but also successful in elevating participants' confidence and understanding of research writing and AI integration. The increase in mean score from 2.90 to 3.60 reflects an overall positive learning outcome for the majority of attendees.

4.3 Evaluation of Training Components

Participants evaluated the quality and effectiveness of the training across four major areas: learning content, instructional tools and activities, resource persons, and organizational aspects. The mean scores for each indicator are presented in Table 2. The data reveal consistently high levels of participant satisfaction across all aspects of the training. The highest-rated element was "Courtesy of the service provider", at 4.74, followed closely by "Mastery of the topics" (M = 4.72) and "Overall quality and relevance of the service provided" (M = 4.72). These figures reflect a strong appreciation for the professionalism and expertise of the speakers. The high ratings for "Relevance and usefulness of the knowledge gained"

(M = 4.68) and "Completeness of the topics" (M = 4.66) suggest that the webinar content was comprehensive and aligned with participants' current academic or professional needs. Meanwhile, scores above 4.60 for instructional materials and learning activities demonstrate that the webinar was engaging, interactive, and well-structured. The uniform excellence across categories supports the conclusion that the webinar met and, in many cases, exceeded participant expectations. These outcomes directly align with the study's objectives by demonstrating improved mastery of the IMRaD structure and increased awareness of ethical AI usage. The high satisfaction scores validate the relevance and applicability of content to participants' academic roles.

Table 2: Participant evaluation of training components

Evaluation criteria	Mean score
1. Objectives and learning content	
a. Attainment of the objectives	4.65
b. Completeness of the topics/information provided	4.66
c. Relevance and usefulness of the knowledge gained	4.68
2. Learning tools, materials, and activities	
a. Learning tools and materials used	4.62
b. Activities conducted to impart learning	4.64
3. Resource person/trainer	
a. Mastery of the topics	4.72
b. Clarity of discussion	4.70
c. Teaching methodologies/strategies used	4.69
d. Courtesy of the service provider	4.74
4. Others	
a. Effectiveness in meeting personal objectives	4.70
b. Timeliness of delivery	4.70
c. Overall quality and relevance of the service provided	4.72

4.4 Training Impact and Relevance

The impact of the training extended beyond knowledge acquisition to personal and professional development. Participants rated the webinar's effectiveness in meeting their personal learning goals at 4.70, which indicates that the program successfully addressed their individual motivations for attending. The same score was given to the delivery timeliness, suggesting that the flow and pacing of the webinar were effective in maintaining engagement throughout the eight-hour session. A high rating for overall service quality (M = 4.72) reinforces the impression that the training was not only informative but also thoughtfully executed.

Thematic analysis of qualitative feedback revealed three dominant themes: (1) increased confidence in academic writing, (2) heightened ethical awareness regarding AI use, and (3) the value of cross-institutional exchange. One participant noted: *"The training clarified many misconceptions I had about AI in academic contexts."* Another wrote: *"I now feel more capable of preparing manuscripts for international journals."*

The Training EDGE international webinar effectively improved participants' knowledge and skills in research writing and the responsible use of AI in academic contexts. High evaluation scores across multiple dimensions reflect both the quality of the content and the competence of the facilitators. The participation of nearly 1,000 attendees from a wide range of institutions and disciplines further emphasizes the webinar's broad appeal and significance. The results provide strong evidence of the training's relevance, educational value, and impact on the academic and professional readiness of its participants.

4.5 Discussion

The Training EDGE webinar demonstrated broad engagement across disciplines and sectors, drawing 988 participants, including 702 external stakeholders. This strong turnout reflects growing interest in scholarly writing and AI, as well as the organizers' effectiveness in reaching a diverse academic and professional audience. Such diversity enriches discourse through cross-disciplinary perspectives and institutional insights, reinforcing the need for transnational and cross-sector collaboration in higher education and research (Al-Naabi, 2023).

Webinars are well-documented as accessible and effective platforms for enhancing knowledge (Tripathy et al., 2022) and, in some contexts, such as medical training, have even surpassed traditional methods (Raj et al., 2022). Their value has been amplified in the post-pandemic era, where conventional interactions were disrupted (Bhattarai et al., 2021). They are also recognized for cost-effectiveness and continuous pedagogical support, equipping educators with essential skills (Al-Naabi, 2023). In this sense, the Training EDGE webinar exemplifies how inclusive academic initiatives can foster collaborative innovation while addressing contemporary educational challenges. Feedback from both internal and external participants provides useful insights for refining future programs and strengthening the role of the webinar in capacity-building and sustainable partnerships.

The success of the Training EDGE webinar in enhancing participants' self-perceived competencies underscores its effectiveness in addressing knowledge gaps and delivering actionable learning experiences. The notable increase in attendees reporting "highly substantial" knowledge post-training indicates that the content was both accessible and transformative. These results suggest that the program not only facilitated knowledge transfer but also boosted learner confidence, a key factor for meaningful engagement and retention of learning, consistent with evidence that structured job-related training improves self-efficacy (Fadaeinia et al., 2022). Its design accommodated diverse baseline knowledge levels, aligning with educational frameworks that support varied learner experiences and strengthen overall confidence (Bergquist et al., 2022).

While self-reported competencies are valuable, they require further assessment to align with performance-based outcomes, underscoring the need for robust feedback mechanisms. The positive shift in perceived knowledge also reflects broader evidence that training interventions cultivate essential skills and promote professional development, particularly in intensive online programs in fields such as nursing and education (Moore et al., 2022).

Taken together, the Training EDGE webinar demonstrates a strong instructional design that emphasizes engagement, confidence-building, and skills acquisition, setting a benchmark for future initiatives. Although this study primarily used descriptive statistics, future iterations may incorporate inferential analyses (e.g., regression, correlation) to explore relationships between participant profiles and knowledge gains, enabling deeper insights and greater generalizability. Interestingly, while the majority showed knowledge improvement, a small number of participants reported no significant change in self-assessed scores. This suggests that prior familiarity with the topics or limited engagement during the session may have affected individual learning outcomes. Future programs may consider pre-screening participant readiness and incorporating adaptive content levels.

The evaluation of the Training EDGE webinar confirms its overall quality, with consistently high ratings across indicators, particularly in speaker effectiveness, content relevance, and completeness. These findings highlight its well-curated and professionally delivered content. Strong evaluations of trainers' mastery and courtesy indicate a learning environment that was both rigorous and supportive—crucial for sustaining engagement in virtual formats (Obi-Jeff et al., 2024). This aligns with educational frameworks such as Kirkpatrick's model, which emphasizes satisfaction and knowledge acquisition as core measures of training effectiveness (Oh & Yoon, 2024).

Interactive elements and varied learning tools further helped maintain attention and promote active participation (Luo et al., 2021). Studies also show that inclusive and responsive webinars enhance knowledge transfer and skills acquisition (Birowo et al., 2023), with active engagement strengthening both competence and self-efficacy (Orlando et al., 2021). The positive outcomes of the Training EDGE webinar reinforce this evidence, demonstrating that interactive, participant-centered formats can drive substantial learning gains and confidence.

The overall impact and relevance of the Training EDGE webinar highlight its role in advancing professional development. Participants rated it highly in areas such as personal goal achievement and session timing, showing that its structure was well aligned with their needs (Yo et al., 2021). This alignment indicates that the program went beyond technical instruction, empowering attendees to apply new insights within their academic and institutional contexts. Such depth of impact reflects its function not only as a learning opportunity but also as a catalyst for scholarly engagement and innovation, consistent with studies showing that tailored training fosters stronger engagement and empowerment (Gould et al., 2024).

The personal relevance of the program further supports evidence that professional development is most effective when aligned with learners' aspirations and goals (Devji et al., 2023). Favorable feedback also underscores the value of meaningful webinar interactions, which sustain interest and encourage long-term engagement (O'Brien Pott et al., 2021). Within the rapidly evolving higher education landscape, such training programs are essential for stimulating both knowledge transfer and professional growth (Tanıdır et al., 2021).

As participants expressed intentions to integrate newly acquired skills into their roles, the Training EDGE webinar emerges as a model for cultivating continuous learning and interdisciplinary collaboration among academic stakeholders (Liu et al., 2024). Future research should examine whether these gains translate into tangible outputs such as manuscript submissions or improved peer-review outcomes.

The Training EDGE webinar serves as a compelling model of how well-executed virtual academic initiatives can generate meaningful, measurable learning outcomes across a broad and diverse participant base. It also sets a precedent for how institutions can effectively merge traditional academic skills such as scholarly writing with emerging technologies such as AI to build capacity and relevance in an evolving global education landscape.

5. Conclusion

The Training EDGE international webinar successfully addressed the urgent and evolving needs of academic professionals in the realms of scholarly writing and responsible AI integration. By attracting a diverse and global participant base, the program demonstrated the high demand for targeted, interdisciplinary training that aligns with the digital transformation of higher education. The substantial improvement in participants' self-assessed knowledge, alongside consistently high-satisfaction scores across key training components, affirms the effectiveness of the design, content, and delivery of the webinar.

The initiative clearly fulfilled its objective of not only equipping participants with technical writing competencies aligned with international standards such as the IMRaD format but also deepening their understanding of the implications of AI in academic contexts. More importantly, the training created a supportive environment for professional growth, personal reflection, and ethical discourse—critical elements for fostering academic excellence in the 21st century.

The Training EDGE webinar stands as a model for how institutions can leverage virtual platforms to deliver impactful training that meets the complex demands of contemporary academia. Its success illustrates the potential of blending scholarly rigor with technological innovation to empower educators, researchers, and students alike preparing them to thrive in a future where academic productivity and ethical technology use are increasingly intertwined.

6. Recommendations

In light of the research outcomes, several recommendations are proposed to strengthen future training initiatives. High-quality, accessible, and globally inclusive webinars should be sustained and regularly updated to reflect evolving digital tools, AI applications, and publishing norms. Interactive features such as breakout sessions, AI tool demonstrations, and peer-review workshops can enhance engagement, while follow-up mentoring and asynchronous modules help sustain long-term skills development. Inclusivity must also be prioritized by involving underrepresented institutions and regions to bridge equity gaps, particularly in low-resource contexts.

Finally, robust evaluation frameworks combining quantitative and qualitative measures are recommended to ensure responsiveness and continuous improvement. Institutional policymakers are encouraged to integrate digital capacity-building webinars into professional development frameworks. Embedding AI ethics within research methodology courses can promote sustained ethical awareness, while periodic training assessments should be institutionalized to track long-term application of acquired skills.

This study was limited to participants of the Training EDGE international webinar and may not represent the broader population of academic professionals. Findings are based on self-reported data, which may involve bias or overestimation, and the cross-sectional design captures only immediate outcomes, not long-term retention or scholarly impact. Differences in institutional context, digital access, and prior exposure to scholarly writing or AI tools may also have shaped experiences. Future research should adopt longitudinal designs, performance-based assessments, and cross-institutional comparisons to better evaluate the effectiveness and scalability of digital capacity-building initiatives.

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