



Allied health educators' reflections on ICT-focused pedagogical training in a low-resource setting: A video-based qualitative study.

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ABSTRACT

Background:

Strengthening digital and pedagogical competence among allied health educators is critical, especially in low-resource settings where digital literacy gaps persist. While faculty development initiatives increasingly explore ICT-enabled teaching, limited research has examined educators' immediate reflections using video-based methods. Such video-based approaches can capture authentic and spontaneous insights following training.

Method:

A qualitative descriptive design was used. Reflections from nine educators were captured through a single video-recorded testimonial session after a three-day ICT-focused pedagogical training. These reflections were transcribed and analysed thematically using Braun and Clarke's reflexive approach.

Result:

Four themes emerged: 1) enhanced digital competence, 2) first-time exposure and professional growth, 3) application of ICT skills to teaching and supervision, and 4) the need for continued training and adaptation of the use of ICT in teaching and learning. Participants highlighted transferable practical skills and recognised gaps requiring ongoing support.

Conclusion:

Short-term, contextually relevant training demonstrated transformative potential in building educators' digital and pedagogical capacity. Video-based evaluation proved effective in capturing authentic reflections, scalability, and informing tailored programme design. Findings are context-specific and not statistically generalizable, but they provide transferable insights for similar low-resource educational settings. However, confidentiality presents a significant challenge in video-based data collection, and appropriate ethical safeguards are necessary to protect participant identity.

Recommendation:

Institutions should prioritise ongoing ICT-focused faculty development, and future studies should examine sustained impacts on teaching practices and learning outcomes.

Keywords: faculty development, ICT integration, allied health education, experiential learning theory, video-based evaluation, digital competence, low-resource setting, Uganda

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Introduction

Pedagogical competence is a cornerstone of quality in allied health education, where diverse educators – including health tutors, clinical instructors, ICT personnel, and library staff – collaborate to prepare competent practitioners for complex healthcare environments. Effective teaching increasingly requires integration of information and communication

technology (ICT) to support competency-based curricula, blended learning, and evidence-based practice (Khafizova et al., 2023; Grainger et al., 2024; Vesna et al., 2024). However, many educators in low-resource settings face persistent gaps in digital literacy and structured faculty development opportunities (Shon et al., 2024; Ersoy et al., 2024), limiting their ability to leverage technology for



teaching and learning. Successful ICT integration is not merely a technical task but a dynamic process influenced by multiple interdependent factors at the educator, school, and policy levels (Diaz et al., 2022).

This study is grounded in Experiential Learning Theory (Kolb, 1984; 2014) and the principle of Lifelong Learning for Educators (Håkansson Lindqvist et al., 2024). Experiential learning emphasises four stages – concrete experience, reflective observation, abstract conceptualisation, and active experimentation. Video-based testimonials are an ideal source of authentic insights, especially under the reflective observation stage, as a critical component of professional growth (Kleinheksel et al., 2023; Diaz et al., 2023; Cheng et al., 2025). Lifelong learning emphasises the need for continuous adaptation to evolving technologies and pedagogical practices, which is particularly relevant in allied health education where digital transformation is accelerating globally (Vesna et al., 2024). Faculty development programmes incorporating ICT skills have demonstrated positive impacts on instructional quality and learner engagement (Steinert et al., 2017; Shon et al., 2024). Yet, most evaluations rely on surveys or written feedback, which may fail to capture authentic experiences and nuanced reflections. Video-based evaluation offers an innovative alternative, enabling analysis of spontaneous verbal and non-verbal cues, thereby providing richer insights into training effectiveness (Jones et al., 2019; Dart, 2022; Navarrete et al., 2025).

Despite growing interest in faculty development, limited research has examined immediate perceptions of educators across multiple roles following short-term pedagogical training, particularly using video-based methods. There is limited research using video-based reflective methods among allied health educators in low-resource contexts.

Findings from this study have implications for designing contextually relevant faculty development programmes that foster interprofessional collaboration and continuous professional growth in allied health education (Meyer et al., 2024; Patel et al., 2025). By situating the analysis within experiential learning and lifelong learning frameworks, this research contributes to global discourse on digital transformation in health professions education.

Therefore, this study aimed to analyse allied health educators' immediate reflections after a three-day pedagogical training focused on ICT integration, using qualitative analysis of video-recorded testimonials. Specifically, it addressed the research question: What are the perceptions of allied health educators immediately after ICT-focused pedagogical training?

Methods

Design

A qualitative descriptive design was employed to explore educators' immediate reflections following a three-day pedagogical training focused on ICT integration. This approach is widely recognised for capturing participants' authentic experiences and perceptions in their own words, offering a pragmatic and low-inference interpretation of data (Sandelowski, 2000; Bradshaw et al., 2017; Ayton, 2023; Villamin et al., 2025). Qualitative descriptive studies are particularly suitable when straightforward answers to practice-oriented questions are sought and time/resources are limited (Bradshaw et al., 2017; Ayton, 2023). This study was guided by an interpretivist philosophy, recognising that reality is socially constructed and best understood through participants' subjective experiences (Pervin & Mokhtar, 2022; Acharya, 2025). An inductive approach was adopted to allow themes to emerge from the data rather than imposing pre-existing frameworks (Vears & Gillam, 2022; Lari, 2025; Ahmed et al., 2025). A mono-method qualitative design was employed, using a single data collection technique and analysis procedure (Creswell & Poth, 2018; Saunders et al., 2019). A cross-sectional time horizon was adopted because data were collected at a single point immediately after the training (Saunders et al., 2019; Creswell & Creswell, 2017).

Setting

The training took place at Fort Portal College of Health Sciences, located in Fort Portal Tourism City, in the Rwenzori Region of Uganda. The programmes aimed to strengthen digital competence and pedagogical skills among educators and support staff. Data collection was conducted in October 2025. To ensure a focused environment for reflection, no individuals other than the researchers and participants were present during the data collection process. This aligns with global calls for integrating digital health literacy into health education curricula (Alrashed et al., 2024; Tumuhimbise et al., 2025).

Participants

Potential participants were approached face-to-face through word of mouth following the training sessions. Of the 15 educators who attended the training (9 males and 6 females), 9 voluntarily consented to record testimonials; this subset consisted of 5 males and 4 females. Purposeful sampling guided the invitation process to ensure representation of diverse roles within allied health education. The nine participants represented a cross-section of educator roles within the institution, including health tutors responsible for classroom instruction, clinical instructors involved in



supervising students during clinical placements, and library/ICT support staff who facilitate access to digital learning resources. All participants provided informed consent to be video-recorded, allowing multiple institutional perspectives to be captured (Bradshaw et al., 2017).

Data Collection

Data were obtained from a single video recording captured immediately after the training. The video contained individual testimonials from nine participants, reflecting their experiences and perceived benefits of the programmes. Video-based qualitative data collection is increasingly recognized for its ability to capture nuanced reflections and non-verbal cues (Upadhyay & Hu, 2022). Because the study used a bounded dataset – one video recording containing all participant reflections – data saturation was not sought. Reflexive thematic analysis does not require or aim for saturation (Braun & Clarke, 2019), and saturation itself is recognized as a contested and methodology-specific concept (Chitac, 2022; Bouncken et al., 2025).

Data Analysis

The video was transcribed verbatim and analyzed using Braun and Clarke's six-step reflexive thematic analysis approach (Braun & Clarke, 2006, 2023; Byrne, 2022). The data analysis was performed by two researchers who independently coded the data before themes were refined through iterative review and peer debriefing. This method facilitated the identification of patterns and themes across participants' reflections through iterative engagement with the data. To enhance rigor, we adhered to contemporary guidance emphasizing reflexivity, methodological congruence, and transparency in theme development (Braun & Clarke, 2023; Hole, 2024). Coding was conducted using AI-assisted tools (Microsoft Copilot) to support initial code generation and organization, consistent with emerging practices in qualitative research leveraging generative AI for

efficiency and reliability (Bryda & Sadowski, 2024; Gustavsen et al., 2025). Consistent with reflexive thematic analysis, the researchers acknowledged their positionality as active meaning-makers in the analytic process. The dual roles of some team members as facilitators of the pedagogical training may have shaped the interpretation of participants' reflections. Reflexivity is central to reflexive thematic analysis (Braun & Clarke, 2019), and qualitative inquiry acknowledges that researcher perspectives inevitably influence theme development (Tight, 2024). To enhance credibility, reflexive journaling and peer debriefing were used to minimize interpretive bias. Themes were refined through iterative review and peer debriefing to ensure credibility and coherence, following best-practice recommendations for trustworthiness in qualitative research (Braun & Clarke, 2019; Herzog et al., 2025).

Ethical Considerations

Administrative approval for the study was obtained from the leadership of the health training institution in accordance with institutional policies and Uganda's national research guidelines (Uganda National Council for Science and Technology [UNCST], 2014). Participants were informed about the purpose of the study, assured of confidentiality, and their consent was implied through voluntary participation and acceptance of the video recording. This approach is consistent with ethical guidance for minimal-risk qualitative research, which recognizes implied consent as appropriate when participation indicates agreement after being informed (University of Toronto, 2014; CIOMS, 2016; Klykken, 2022). Anonymized quotes were used in dissemination to protect participant identity.

Results

Analysis of the video testimonials from nine participants revealed four major themes, which reflect the immediate impact of the three-day pedagogical training on their perceptions and practices.

Table 1. Summary of codes and themes from allied health educators' video reflections

No.	Theme	Generated codes
1	Enhanced digital competence	Microsoft Word (table of contents); Excel reporting; PowerPoint (multimedia/video integration); data validation
2	First-time exposure and professional growth	No prior ICT training; transformative experience; professional development
3	Application to teaching and student supervision	Google drive (folder formulation); monitoring student research; practical utility
4	Need for continuous training and adaptation	Excel challenges, software versions evolution; request for more training.



Theme 1: Enhanced digital competence

Participants reported significant improvement in their ability to use digital tools essential for teaching and administrative tasks. Skills in Microsoft Word, Excel, and PowerPoint were frequently mentioned, with some participants highlighting advanced features such as data validation and multimedia integration.

"I was able to learn things about PowerPoint, reporting using Excel, and some other things in Word, like creating a table of contents..." (Participant 1)

"...I can add some videos; at least I am very happy with that." (Participant 2)

"...I didn't know this thing of data validation. 'Banange' [Oh my goodness], it was so interesting." (Participant 5)

Theme 2: First-time exposure and professional growth

For several participants, this training represented their first structured engagement with ICT for educational purposes. They expressed gratitude and described the experience as transformative for their professional development.

"This is my first time. Whatever I've learnt... I've added more." (Participant 3)

"I've not been attending such kind of training. This is my first time." (Participant 8)

Theme 3: Application to teaching and student supervision

Participants valued practical skills that could be directly applied to teaching and student monitoring. The ability to create and manage Google Drive folders was particularly appreciated for supervising student research progress.

"...formulation of a Google Drive folder... I have been supervising students in research, but now I can create a Google folder and monitor all of them." (Participant 6)

"...I learnt how to open up these Google Drives...and everything." (Participant 7)

Theme 4: Need for continuous training and adaptation

Despite the gains, participants acknowledged ongoing challenges and emphasized the need for further training, particularly in Excel and in adapting to evolving software versions.

"Excel, things are not going well. We need more training." (Participant 8)

"...in most cases we think we know, but we

don't know... versions of applications do come... you'll find there are more features that you are not conversant with."
(Participant 9)

In summary, these findings suggest that short-term pedagogical training can significantly enhance digital literacy among educators and support staff, foster professional growth, and improve capacity for student supervision. However, sustained capacity-building initiatives are necessary to address persistent challenges and ensure adaptability to technological advancements.

Discussion

This study explored educators' reflections following a three-day pedagogical training, analyzed through video-based testimonials. Four major themes emerged: enhanced digital competence, first-time exposure and professional growth, application to teaching and student supervision, and the need for continuous training and adaptation. These findings provide insights into the transformative potential of short-term faculty development programmes in allied health education.

Enhanced digital competence

Participants reported substantial improvement in their ability to use digital tools such as Microsoft Word, Excel, PowerPoint, and Google Drive. For example, one clinical instructor noted, *"I was able to learn things about PowerPoint, reporting using Excel, and some other things in Word like creating a table of contents..."* (Participant 1). Another added, *"...I can add some videos, at least I am very happy with that."* (Participant 2). These reflections illustrate how short-term, targeted training can significantly enhance educators' confidence and competence in digital tool usage. This finding aligns with global calls for digital transformation in health professions education, where digital literacy is increasingly recognized as a core competency for educators (Khafizova et al., 2023; Grainger et al., 2024). Recent frameworks such as the Digital Health Competencies in Medical Education (DECODE) emphasize structured faculty development to ensure educators can effectively integrate technology into teaching and assessment (Car et al., 2025). Moreover, studies show that improved digital competence not only enhances instructional quality but also supports active learning strategies and learner engagement (Jarva et al., 2024; Lawrence & Levine, 2024). However, while participants demonstrated immediate gains, literature suggests that sustaining these competencies requires ongoing support and institutional commitment. Without continuous reinforcement, digital skills acquired during short-term



interventions may diminish over time (Amemasor et al., 2025). Therefore, faculty development programmes should incorporate follow-up sessions, peer mentoring, and access to digital resources to maintain and advance these competencies.

First-time exposure and professional growth

Several participants described the training as their first structured ICT learning experience, highlighting a significant gap in prior professional development opportunities. For instance, one participant stated, *"This is my first time. Whatever I've learnt... I've added more."* (Participant 3), while another shared, *"I've not been attending such kind of training. This is my first time."* (Participant 8). These reflections underscore the persistent disparities in digital literacy among educators in low-resource settings, which have been widely documented in recent literature (Khafizova et al., 2023; Jarva et al., 2024). The novelty of this experience suggests that short-term, contextually relevant programmes can serve as catalysts for professional growth. Evidence from recent studies confirms that faculty development initiatives tailored to local needs significantly enhance educators' confidence and teaching effectiveness (Haarala-Muhonen et al., 2023; Amemasor et al., 2025). Moreover, transformative learning principles embedded in such programmes (emphasizing reflection, active engagement, and peer interaction) are associated with sustained pedagogical change (Diaz et al., 2023; Nair et al., 2025). This aligns with global recommendations advocating for inclusive and accessible professional development as a strategy to bridge digital competence gaps in health professions education (Lawrence & Levine, 2024). However, the literature also cautions that initial exposure alone is insufficient for long-term impact. Without structured follow-up and institutional support, gains from short-term interventions may diminish over time (Ward et al., 2023). Therefore, faculty development should be conceptualized as a continuous process, integrating refresher sessions, mentorship, and opportunities for collaborative learning to reinforce and expand digital competencies.

Application to teaching and student supervision

Participants emphasized the practical relevance of the training, particularly its applicability to teaching and student supervision. For example, one health tutor explained, *"...formulation of a Google Drive folder... I have been supervising students in research, but now I can create a Google folder and monitor all of them."* (Participant 6). Similarly, a clinical instructor noted, *"...I learnt how to open up these Google drives...and everything."* (Participant

7). These reflections demonstrate how digital tools can streamline supervision processes, enhance collaboration, and improve efficiency in managing student work. This finding aligns with recent evidence that integrating cloud-based platforms and collaborative technologies into health education fosters active learning and improves feedback mechanisms (Vesna et al., 2024; Grainger et al., 2024). Studies have shown that digital tools such as shared drives and learning management systems support competency-based education by enabling real-time monitoring and personalized guidance (Khafizova et al., 2023; Jarva et al., 2024). Furthermore, embedding these tools within experiential learning frameworks enhances educators' ability to translate theoretical knowledge into practical teaching strategies (Tar Lim et al., 2024; Cheng et al., 2025). However, a successful application requires more than technical proficiency; it depends on pedagogical integration and institutional support. Literature emphasizes that educators often struggle to move beyond basic functionality toward leveraging digital tools for higher-order learning outcomes (Haarala-Muhonen et al., 2023; Amemasor et al., 2025). Therefore, faculty development programmes should incorporate not only technical training but also instructional design principles to ensure meaningful use of technology in teaching and supervision.

Need for continuous training and adaptation.

Despite notable gains in digital competence, participants acknowledged persistent challenges and emphasized the need for ongoing training. One library staff member remarked, *"Excel, things are not going well. We need more training."* (Participant 8), while an ICT staff member observed, *"...in most cases we think we know but we don't know... versions of applications do come... you'll find there are more features that you are not conversant with."* (Participant 9). These reflections highlight the dynamic nature of digital tools and the reality that initial training alone cannot guarantee sustained proficiency. Recent literature reinforces this point, noting that digital technologies evolve rapidly, requiring educators to engage in continuous professional development (CPD) to remain effective (Friedman, 2023; Gu et al., 2025; Amemasor et al., 2025). Lifelong learning is increasingly recognized as a cornerstone of health professions education, not only for students but also for faculty, as digital transformation accelerates globally (Ward et al., 2023; Håkansson Lindqvist et al., 2024). Studies show that CPD programmes incorporating iterative learning opportunities, peer mentoring, and reflective practice significantly improve educators' confidence and adaptability (Haarala-Muhonen et al., 2023; Amemasor et al., 2025). Moreover, institutional strategies must go beyond one-off workshops to establish



structured, longitudinal faculty development models. Evidence suggests that sustained engagement - through blended learning, micro-credentialing, and communities of practice - enhances retention of digital skills and fosters innovation in teaching (Luo et al., 2024; Olaniyan & Uzorka, 2024). Without such systemic support, educators risk falling behind technological advancements, undermining efforts to deliver competency-based, digitally enabled education.

Implications for practice and policy

The findings underscore the need for institutional strategies that prioritize structured, ongoing ICT-focused faculty development programmes. Short-term interventions, while impactful, should be embedded within a broader framework of continuous professional development to sustain digital competence and pedagogical innovation (Haarala-Muhonen et al., 2023; Amemasor et al., 2025). Institutions should adopt evidence-based models that integrate technical training with instructional design principles, ensuring educators can leverage technology for active learning and competency-based education (Khafizova et al., 2023; Grainger et al., 2024). These interventions are low-cost and scalable. Video-based evaluation emerged as a valuable tool for capturing authentic reflections, offering richer insights than traditional surveys or written feedback. Recent studies advocate for incorporating video analytics into faculty development assessment to enhance validity and inform iterative programme design (Jones et al., 2019; Navarrete et al., 2025). This approach aligns with global trends toward data-driven educational improvement, enabling institutions to monitor training effectiveness and adapt strategies in real time.

Policy implications extend beyond individual institutions. National and regional education authorities should consider mandating digital competence frameworks for health educators, similar to initiatives outlined in the Digital Health Competencies in Medical Education Framework (Sosa-Diaz et al., 2022; Car et al., 2025). Such policies can standardize expectations, promote equity in access to training, and accelerate digital transformation in health professions education. Furthermore, investment in infrastructure, such as reliable internet connectivity and access to digital tools, is critical for enabling sustainable integration of technology in low-resource settings (Luo et al., 2024; Olaniyan & Uzorka, 2024). Ultimately, fostering a culture of lifelong learning and interprofessional collaboration will be essential for preparing educators to navigate evolving technologies and pedagogical paradigms. This requires coordinated efforts across institutional leadership, professional bodies, and policymakers to ensure that faculty development

remains responsive, inclusive, and future-oriented (Ward et al., 2023; Håkansson Lindqvist et al., 2024).

Generalizability

Because the research was conducted within a single institutional setting, the results cannot be claimed as statistically generalisable. Rather, they represent an instance of *analytical generalisation* (Yin, 2018), offering conceptual insights that can be meaningfully applied to other low-resource educational environments. In this way, the findings contribute to theory development around grassroots ICT adoption and provide transferable lessons for similar contexts.

Conclusion

This study explored allied health educators' immediate reflections following a three-day pedagogical training focused on ICT integration, analyzed through video-based testimonials. Four themes emerged: enhanced digital competence, first-time exposure and professional growth, application to teaching and student supervision, and the need for continuous training and adaptation. These findings demonstrate the transformative potential of short-term, contextually relevant faculty development programmes in allied health education. Grounded in Experiential Learning Theory, the study highlights the value of reflection as a mechanism for professional growth. The integration of Lifelong Learning principles emphasizes the necessity for continuous capacity-building to keep pace with evolving technologies. Video-based evaluation proved effective in capturing authentic experiences, offering an innovative approach for assessing training impact and informing iterative programme design. These findings reinforce Kolb's Experiential Learning Theory by demonstrating how structured opportunities for concrete experience and reflective observation can trigger meaningful professional growth among educators.

Limitations

This study was conducted in a single allied health training institution with a small sample of nine participants, limiting generalizability. Reflections were captured immediately after training, so longer-term impacts remain unknown. Reliance on a single video-based, self-reported data source may have constrained depth and introduced bias. Video-based self-report may contain social desirability bias. Finally, the training emphasized specific digital tools, which may restrict applicability to broader ICT platforms.



Recommendations

Institutions should prioritize structured ICT-focused faculty development programmes that address diverse educator roles and foster interprofessional collaboration. Regular refresher sessions and tiered training models are needed to sustain digital competence and adaptability. Future research should adopt longitudinal designs to assess sustained impacts on teaching practices and student outcomes. Comparative studies across institutions and regions can illuminate contextual influences on faculty development effectiveness. Expanding training to include emerging platforms and advanced ICT tools will further strengthen educators' capacity to adapt to technological change.

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Abbreviations

AI - Artificial intelligence

CIOMS - Council for International Organizations of Medical Sciences

CPD - Continuous Professional Development

DECODE - Digital Health Competencies in Medical Education

ICT - Information and Communication Technology

MEA Uganda - Medical Educationists' Association Uganda

UNCST - Uganda National Council for Science and Technology

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Conflict of interest

The authors declare no conflict of interest. The views expressed in this paper are those of the authors and do not necessarily reflect the official policies or positions of

Enabel, Fort Portal College of Health Sciences, or St. Simon Peter's Vocational Training Institute.

Author contributions

MO drafted the manuscript and contributed to the conceptualisation of the study. Workshop design was jointly developed by HHN, AFO, PM, SRM, and MO, while data collection was carried out by MO. Analysis of the data was conducted by AN and MO. Critical review, substantive editing, and supervision of the manuscript were provided by AN and HHN.

Data availability

The video data collected for this study contains identifiable information about participants and cannot be publicly shared due to confidentiality and ethical restrictions. De-identified excerpts may be made available from the corresponding author upon reasonable request and with permission from the institution.

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