Empowering the Role of Supervisors in Academic Environment

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Abstract

Capacity Building in Higher Education EU projects continue to serve as critical platforms for experimenting innovative teaching methods and producing open-access resources that benefit the entire academic community. Against this backdrop, this paper discusses three key resources designed to support the supervision of PhD students in Africa: a Compendium of Resources, a Toolkit, and Online Training Modules. These resources were developed based on an assessment of supervisors' needs through targeted surveys. The training materials were produced within the framework of the DigiGrad Africa Project with the aim of Strengthening Research Capacity and Postgraduate Training. The role of PhD supervisors, once assumed to be an intrinsic competency of every academic, has increasingly become a focal point for dedicated training and professional development. This need is particularly urgent in Africa, where universities face significant challenges in research and postgraduate training due to sector expansion, rising enrolments, funding shortages, and quality concerns.

Keywords: PhD supervisors; training; skills; digital tools; toolkit; compendium of resources.

1. Introduction

Training early-career researchers is becoming increasingly complex due to the diversity of doctoral degrees, rapid knowledge evolution, internationalisation, and the expectations of funders and employers (Lee, 2007). African universities face significant challenges in research and postgraduate training, including sector expansion, rising student numbers, funding constraints, and quality concerns. Despite their crucial role in addressing Africa's challenges, research productivity remains low due to limited research capacity (Lakati & Masibo, 2023; Sawyerr, 2004). The supervision process is a multifaceted teaching responsibility that requires a significant investment of time and energy from both supervisors and students. Supervisors play a key role in ensuring the quality of research, guiding candidates through the complexities of academic inquiry, and fostering an environment that supports intellectual growth and professional development (Almusaed & Almssad, 2020; Odularu & Akande, 2024). In this

context, the use of digital tools by both students and supervisors is essential for enhancing engagement in supervisory tasks, improving communication, increasing overall efficiency (Kigwilu & Nyonje, 2024), fostering collaboration, providing flexible learning opportunities, and ensuring the quality of postgraduate training (Díaz-García et al., 2022). International initiatives and structured training programmes are strategic in equipping supervisors with the necessary skills to adapt to evolving academic and professional landscapes.

DigiGrad Africa, an EU-funded project, aims to enhance the quality and relevance of postgraduate training and research by harnessing the opportunities provided by digitalisation and internationalisation in Africa. It also seeks to contribute to regional and Sustainable Development Goals, particularly Goal 4: Quality Education. Coordinated by ANIE and OBREAL Global, the project brings together 12 higher education institutions (HEIs), four from Europe and eight from Africa, promoting South-South-North cooperation. It aims to build HEI staff capacity in African universities to manage internationalisation, strengthening the integration of digital tools, and equipping young African researchers and PhD supervisors with the skills to effectively use these tools throughout research process (DigiGrad Africa, 2025).

Sapienza University of Rome and the University of Extremadura (UEx) lead a Work Package (WP) focused on building staff capacity, aligning their skills with institutional internationalisation strategies and equipping them with digital tools to enhance graduate and postgraduate training. They also contribute to the development of an online platform, Moodle, hosted by ANIE, which offers up-to-date resources and open-access training materials to ensure continuous support and knowledge sharing. Within this framework, Sapienza and UEx lead a dedicated task aimed at training PhD supervisors. As part of this effort, this paper discusses the methodology employed in the development of three closely interconnected resources, the *Compendium of Resources*, the *Toolkit for Supervisors*, and the *Online Training*, which are designed to support supervisor training and strengthen their skills and competencies.

2. Collecting needs of PhD supervisors

To assess the training needs and digital skills of PhD supervisors at African partner institutions, the Sapienza team designed a survey with 29 closed-ended questions, divided into three sections. The first section, *Use of Digital Skills* (17 questions), examines supervisors' confidence, critical thinking, and responsible use of digital technologies such Teams, Google Meet, Zoom, and Google Drive. The second section, *Moodle* (4 questions), focuses on the use of Moodle as a Learning Management System (LMS) for managing and supporting online and blended supervision activities and exchanging materials. The Final section, *PhD Supervisor Role and Activities* (8 questions), explores different supervisory approaches and practices.
The survey, created using Google Forms, was distributed in March 2024 to researchers and professors at DigiGrad partner universities, resulting in 46 responses. Among the respondents,

37 identified as PhD supervisors, and the data analysed above were drawn from this group. Of these 37, only 35 were considered valid for the sample, as two responses, one from Burundi and one from South Sudan, were not representative.

As a result, the analysis focuses on universities in Kenya and Ghana, which are relatively young institutions in terms of their foundation. These include Moi University in Kenya, founded in 1984 as a public university; Africa Nazarene University in Kenya, a private university founded in 1994; the University of Cape Coast in Ghana, founded in 1962 as a public institution; and Laweh Open University College in Ghana, a private institution established in 2015.
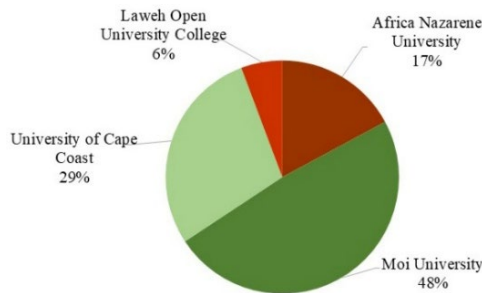
Figure 1. Breakdown of the results: Participation.

The highest participation came from Moi University, Kenya (48%), followed by the University of Cape Coast, Ghana (29%), and Africa Nazarene University, Kenya (17%) (Figure 1). All respondents were over 35 years old, with the majority (48%) aged 51 and above, followed by those aged 46–50 (23%). Respondents affiliated with Kenyan universities tended to belong to older age groups compared to their Ghanaian counterparts (Figure 2). As expected, all participants involved in supervisory roles held a PhD.
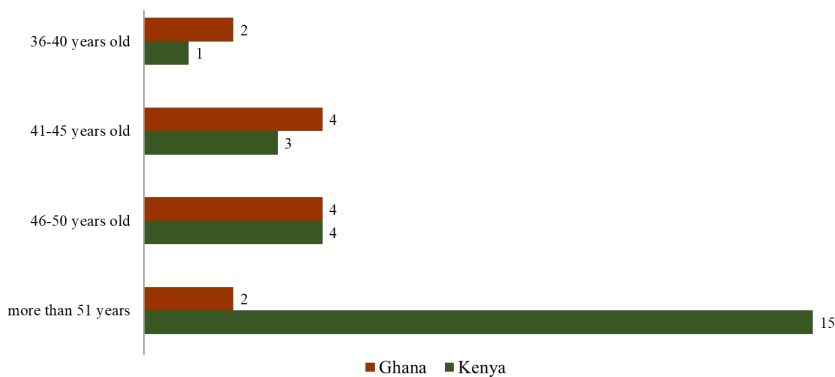
Figure 2. Breakdown of the results: Age Range participants from Ghana and Kenya.

In the first section of the survey, *Use of Digital Skills*, only the most relevant responses are reported here. The majority of respondents (88%) reported confidence in using basic digital

tools (e.g. word processing, search engines, video tutorials) and operations such as copy-paste functions. Many also demonstrated competences in more advanced tools like cloud storage platforms (e.g. Dropbox). However, 34% of respondents indicated they either do not know how to, or require help with, creating new content that integrates different formats (e.g. text, images, video, and audio). In terms of video conferencing platforms, a significant minority (31%) reported difficulty using them independently or lacked familiarity altogether. The most commonly used platforms were Zoom, Google Meet, and Microsoft Teams, in that order. With regard to remote collaboration, 20% of respondents reported not fully understanding its potential benefits.

As highlighted in the second section of the survey, *Moodle*, we observed that more than half of respondents either do not know Moodle (11%) or have only a limited understanding of it (37%), a majority (57%) do not use Moodle at all, and 46% reported being unable to use it without assistance. Furthermore, 63% of participants were unfamiliar with the distinction between Moodle's "resource" and "activity" functionalities. Although Moodle is an open-source platform designed to foster collaborative learning, its adoption across African universities remains limited comparing to other regions globally. South Africa leads the continent, with 1,966 registered Moodle sites (Figure 3).

Figure 3. Moodle: Number of registered sites among DigiGrad African partners as of 17/01/2025.
Source: https://stats.moodle.org/

In the final section of the survey, *PhD Supervision: Role and Activities,* responses from both Kenya and Ghana highlight a strong institutional orientation towards academic career preparation, with 80% of supervisors reporting that their PhD programmes are primarily geared towards academia. This academic focus suggests a traditional approach to doctoral training, potentially overlooking the need to diversify career pathways beyond academia, particularly within the private sector or applied research fields. This may limit the broader relevance and adaptability of doctoral education in today's rapidly evolving knowledge economies. More than half of supervisors (66%) are responsible for supervising more than one PhD student per year,

typically two to three students. Most supervisors (80%) reported interacting with PhD students through both online and face-to-face meetings. The frequency of supervision meetings was generally one to two times per month (69%). While all participants reported following university administrative guidelines for supervision, fewer than half (48%) used a common evaluation grid for assessing PhD theses. Finally, the demanding nature of the supervisory role was widely acknowledged, with 86% of respondents describing it as highly challenging.

3. Compendium of Resources, Toolkit for Supervisors and Training.

The findings from the survey highlighted specific gaps in digital competencies, supervision practices, and the use of learning platforms among PhD supervisors in African partner universities. These insights provided a foundational understanding of the practical challenges faced by academic staff in their supervisory roles.

In response to the identified needs, the following methodology was adopted in designing the three resources. The *Compendium of Resources* is a curated collection of openly accessible tools and materials, bringing together resources from various institutions with a strong focus on digitalisation and innovation in PhD supervision, training, and research. Organised for ease of use, it serves as a reference for supporting training sessions, seminars, and other initiatives. Designed as a flexible and evolving "living document," the compendium is intended to remain open to additions and updates throughout the DigiGrad Africa project and beyond, allowing for continuous refinement and the incorporation of new insights and practices. The resources are categorised by document title, type, keywords, key lessons learned, author, and the corresponding training module, ensuring accessibility and contextual relevance (Figure 4).
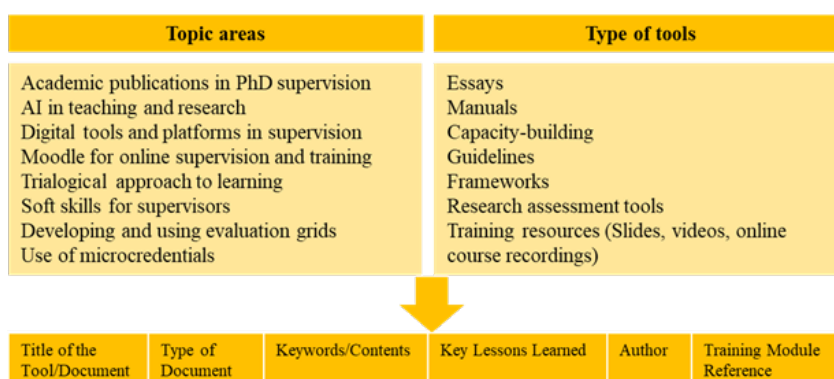
Topic areas	Type of tools
Academic publications in PhD supervision AI in teaching and research Digital tools and platforms in supervision Moodle for online supervision and training Trialogical approach to learning Soft skills for supervisors Developing and using evaluation grids Use of microcredentials	Essays Manuals Capacity-building Guidelines Frameworks Research assessment tools Training resources (Slides, videos, online course recordings)

Title of the Tool/Document	Type of Document	Keywords/Contents	Key Lessons Learned	Author	Training Module Reference

Figure 4. Compendium of Resources: Topic Areas, Type of Tools and Structure.

The *Toolkit for Supervisors* provides practical guidance for effectively managing PhD students throughout the entire research process, both in person and within digital environments. It provides a wide range of resources, tools, and templates for each stage of supervision, from

setting expectations and developing research plans to addressing challenges and preparing for thesis submission. The toolkit also includes guidance on essential software for reference and data management, collaborative platforms, data analysis tools, and cutting-edge AI resources (Wright, 2024). Drawing on extensive bibliographic research and a diverse collection of institutional resources, the team has synthesised and organised the most relevant references and recommendations, ensuring the Toolkit is both comprehensive and user-friendly. This effort brought together a mix of supervisory guidelines, training models, and evaluation frameworks drawn from a broad range of universities and research institutes around the world, including HES-SO, IES, Université de Montréal, TU Delft, Utrecht University, University of Reading, University of Edinburgh, UCL, USTO, IMT, Sapienza University, the University of Extremadura, Institut Polytechnique de Paris, and members of the PRIDE Network. It also incorporated key documents from institutions such as the European Commission, the EU, NPF, and Formez PA. In addition, the Toolkit integrates relevant contributions from leading scholars and research labs working on doctoral education, supervision, and academic development globally.

The document is structured into seven sections. *Getting Started* assists supervisors in laying a solid foundation with PhD students by clarifying expectations, defining research goals, and aligning with institutional policies, emphasising personalised approaches and long-term planning. *Ongoing Supervision* offers advice on maintaining regular, structured meetings, tracking progress, and fostering collaboration through constructive feedback and writing support. *Managing Challenges* focuses on common issues such as time management and motivation, proposing strategies for communication, conflict resolution, and wellbeing support to ensure academic continuity. *Thesis Writing and Completion* guides supervisors in helping students through final thesis stages, including structure, formatting, submission, and defence preparation. *Helping Researchers Make the Best of their Research* highlights the supervisor's role in facilitating publication, career planning, and networking, thereby enhancing academic visibility. *Continuous Professional Development (CPD)* underscores the need for supervisors to stay current with research and student needs through training and reflective practice. Finally, *Golden Rules* outlines the core supervision principles, offering a concise guide to best practices throughout the PhD journey

Each section of the Toolkit offers targeted resources, such as charts, assessments, and digital tools, to support doctoral supervision and enhance both soft and technical skills. Particular emphasis is placed on essential digital tools that can be integrated across the entire research process. Practical sessions and Digital Tools are designed to assist both supervisors and PhD candidates in effectively navigating the thesis journey while maximising the use of available technologies. One example of Practical Session is *"Breaking Down Research Activities into Work Packages"*, which helps PhD supervisors in guiding students structure their research. Another example of digital tool is "*Using Artificial Intelligence to Support Writing"*, which

showcase AI platforms that aid academic research through literature access, writing enhancement, and research streamlining. It stresses the ethical use of generative AI, guided by ERA Living Guidelines principles like transparency, privacy, confidentiality, and intellectual property rights (European Commission, 2024).

Additionally, these two documents serve as a foundational reference for the final phase of the project task, the *Training for PhD Supervisors*. To maximise impact and foster a culture of shared learning and capacity building, the training sessions were opened to a broader audience beyond supervisors, including researchers, academic staff involved in supervision, and institutional representatives engaged in research management and development. Building directly on the identified needs and competency gaps identified through the survey, the training materials and support tools were carefully tailored to enhance supervisors' effectiveness across the research lifecycle. The training was conducted in two phases. The first phase comprised the online training programme comprising three sessions in January 2025, attended by approximately 50 academic staff members. Feedback collected through post-session surveys indicated high levels of satisfaction with both the quality and relevance of the training content.

The second phase, managed by UEx, involved an in-person workshop in Badajoz, Spain, in February 2025, with two supervisors from each African partner university. The training addressed the specific needs of PhD supervisors, focusing on improving research supervision through digital skills integration and effective tool usage, as well as developing transversal competencies for guiding doctoral candidates. Participants gained hands-on experience in structuring supervision services, designing supervisor training, and managing research processes. They also collaborated on creating supervision plans and common guidelines for PhD supervision, drawing from both their experience and the project's materials.

4. Conclusion

African universities, which are particularly young institutions, face significant challenges in research and postgraduate training. For this reason, postgraduate training is recognised as essential for improving research output and institutional relevance. Strong international collaboration and South-South-North knowledge exchange play a vital role in enhancing postgraduate training, foster PhD student success, and achieve high-quality research outcomes. By embracing digitalisation and fostering global partnerships, African universities can enhance the quality and relevance of postgraduate training, ultimately driving higher research productivity and innovation. Digitalisation is a transformative opportunity worldwide to support internationalisation and capacity building, encouraging more efficient, scalable, and inclusive supervisory practices. By integrating digital tools, all universities across the globe can strengthen research supervision, enhance student engagement, and streamline administrative processes. The DigiGrad Africa project has contributed to this effort by providing open-access

resources, which are described in this paper. These resources are considered living documents that should be updated by African institutions both during and after the project, in response to evolving local needs and in alignment with global developments. Moreover, sustained institutional commitment, continuous professional development, and cooperation will be essential to ensuring long-term impact.

Acknowledgement

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