The Ethiopian PhD Competency Framework

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IQ-GEAR

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CONTENTS

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IQ-GEAR PROJECT

The IQ-GEAR (Interuniversity Collaboration for Quality Graduate Education and Research; www.iq-gear.org) is an international interuniversity collaboration between Flemish and selected Ethiopian universities that is financially supported by VLIR-UOS (www.vliruos.be) and the Belgian Development Cooperation. The project runs from 2022 to 2027. The overall vison of IQ-GEAR is to transform both postgraduate education and research quality in the domains of infectious diseases and nutrition, and to become a driver of sustainable and equitable development in Ethiopia. To realize this, IQ-GEAR works towards the following four milestones:

- **Milestone 1:** The involved universities deliver higher quality and inclusive postgraduate education benefiting the PhD programs.
- **Milestone 2:** Improved research practices, and both interuniversity and interdisciplinary research collaborations on infectious diseases and nutrition that lead to high quality needs-oriented research with high societal uptake.
- **Milestone 3:** Improved ICT and Library services that enhance the delivery of postgraduate education and interuniversity research collaborations.
- **Milestone 4:** Improved engagement of stakeholders that enhance the delivery of postgraduate education, and both interuniversity and interdisciplinary research collaborations.

As part of milestone 1, the project initiated the development of a PhD competency framework in close collaboration with the Ethiopian Federal Ministry of Education.

BACKGROUND

Over the last three decades **the landscape of higher education institutions (HEIs) in Ethiopia has considerably changed** due to an ever-increasing demand for more quality education and research. While there were only three public universities in the country at the beginning of 1990s, there are currently 57 universities (51 public and six private). Today, it is estimated that all the HEIs together enrol more than 450,000 students in both under- and postgraduate programs. In addition to this nationwide expansion of HEIs (and probably because of it), the Ethiopian government has carried out a comprehensive systematic analysis of the existing education system and has subsequently developed a new Ethiopian Education Development Roadmap to enhance access, equity, quality, relevance, and efficiency of the education and training, and increase the employability of graduates. One of the proposed measures is to categorize Ethiopian public universities into four groups based on their core mission and program focus areas: research-intensive universities, comprehensive universities, universities of applied sciences, and science and technology universities. Research universities will have a strong focus on research and are expected both to train competent human power to support the other three groups of universities and to establish strong research centres. Particularly for this group, **there is a pressing need for PhD holders**. Indeed, while the higher education sector needs 30% of their staff to be a PhD holder, only 13% of those who currently teach at Ethiopian universities completed a PhD. Today, **PhD trajectories in Ethiopia remain delayed.** Although these challenges are multifactorial and will require efforts from different actors, a PhD competency framework plays a key role in sustainability and quality of strong PhD programs.

A competency framework defines the **PhD competencies at the end of a PhD study**, this means when a PhD student graduates. It is an organized and structured representation of a set of interrelated and purposeful PhD competencies, clustered into competency roles. Each PhD competency describes the ability of a PhD student to use a set of related knowledge, skills, and attitudes required to successfully perform activities and tasks in a defined setting.

A PhD competency framework serves several important purposes in academia and research. Here are some key reasons why it is needed:

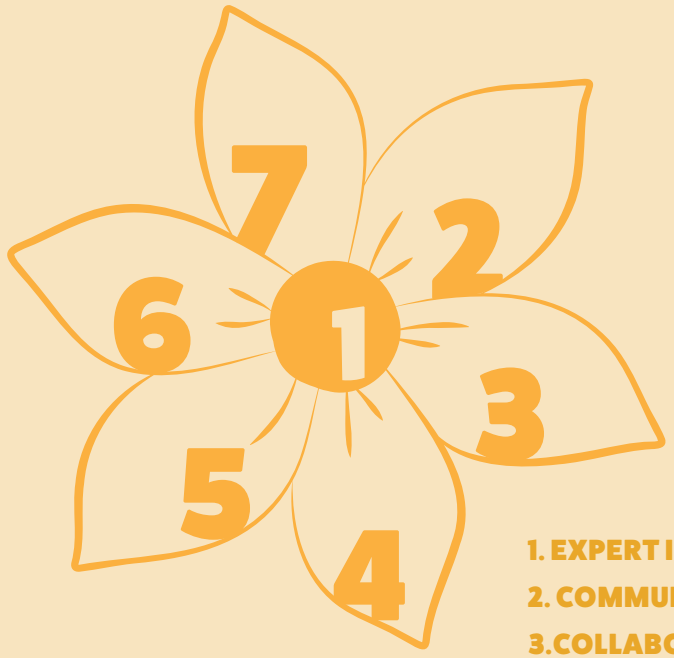
- **Standardization:** It helps define what skills, knowledge, and attributes are expected of PhD graduates. This standardization ensures that graduates across different institutions and disciplines have a common set of competencies, making their qualifications more comparable.
- **Guidance for development:** For PhD candidates, a competency framework provides a clear outline of the skills and experiences they should aim to acquire. This guidance helps them focus their efforts and ensures they are developing a well-rounded set of capabilities.
- **Assessment:** It provides a basis for assessing PhD candidates' progress and achievements. Institutions can use the framework to assess whether candidates meet the required competencies and to identify areas for improvement.
- **Quality assurance:** It serves as a tool for institutions to ensure the quality and consistency of their PhD programs. By aligning their programs with the framework, institutions can ensure they are meeting high standards and preparing students effectively for their careers.
- **Career readiness:** A competency framework helps PhD graduates transition into the job market by clearly outlining the skills and competencies they possess. It helps them articulate their qualifications to potential employers and demonstrates their readiness for various roles.
- **Professional development:** It encourages ongoing professional development by highlighting areas where candidates may need additional training or experience. This continuous focus on development helps candidates stay current with evolving trends and practices in their fields.
- **Interdisciplinary collaboration:** By defining competencies across disciplines, a framework can facilitate better interdisciplinary collaboration. It ensures that researchers from different fields have a mutual understanding of each other's skills and capabilities.

The policies towards competency-based education are not new and are receiving attention by the African Union with the aim to further harmonize competencies across member states. For example, in 2019, the African Continental Qualification Framework (ACQF) was launched at the headquarters of the African Union (Addis Ababa, Ethiopia).

AIM OF THE DOCUMENT

This document describes the general Ethiopian PhD competency framework that consists of seven roles, 16 competencies and 60 behavior indicators. It aims to ensure that postgraduate education is rigorous, relevant, and aligned with both academic and professional expectations. The logo of the PhD competency framework is inspired by the Ethiopian flower Adey Ababa, each of the seven roles representing a part of the flower.

This PhD competency framework is based on the CanMEDS framework, and was rigorously validated in an Ethiopian context by more than 300 participants over five rounds between October (2023) and December (2024), covering the most important stakeholders (e.g., Vice Presidents of Academic Affairs, Postgraduate Directors, PhD supervisors and PhD students of the different Ethiopian universities, Ethiopian Education and Training Authority, Ethiopian Federal Ministry of Education, and the Flemish partners). It is important to note that this framework is a first step towards improved postgraduate education. Other aspects that may need further attention, include but are not limited to revising the curriculum to match the competencies identified and the development of rubrics to assess the progress of the PhD student towards the different competencies. Also note that it is common that competency frameworks change over time (after 3 – 5 years of implementation) to better reflect the advancements in the HEIs.



1. EXPERT IN FIELD OF STUDY
2. COMMUNICATOR
3. COLLABORATOR
4. INNOVATOR
5. LEADER
6. SCHOLAR
7. PROFESSIONAL

ROLE 1 EXPERT IN THE FIELD OF STUDY

DEFINITION

As an expert in a specific area of the field of study (specialty), the PhD student integrates all of the PhD roles, applying advanced knowledge, skills and professional values in his/her provision of high-quality research. In doing so, demonstrate a broad and in-depth understanding of his/her field.

COMPETENCY 1: Broad subject and theoretical knowledge

The PhD student applies broad subject knowledge and advanced theoretical concepts and principles.

BEHAVIOR INDICATORS:

The PhD student is able to:

1.1. Demonstrate a deep and thorough understanding of key concepts, theories, and frameworks within their field of study.

1.2. Acquire and interpret new (cross-)disciplinary knowledge, which allows formulating new scientific questions from various intellectual perspectives.

1.3. Familiarize with and use the latest research methods within one's own field of study, which allows to identify provable concepts, theories and hypotheses.

1.4. Engage in interdisciplinary research to generate relevant questions and insights for one's own research.

1.5. Apply broad subject knowledge and advanced theoretical concepts and principles to identify and address complex problems within one's own field of study.

COMPETENCY 2: Specialized subject and theoretical knowledge

The PhD student applies specialized subject and theoretical knowledge.

BEHAVIOR INDICATORS:

The PhD student is able to:

2.1. Demonstrate an in-depth understanding of advanced concepts, theories, and frameworks specific to their area of expertise.

2.2. Articulate recent developments, debates and gaps in the field which the research project is helping to address.

2.3. Apply specialized theoretical knowledge to analyze complex problems and develop innovative solutions within their field.

2.4. Generate new and impactful ideas within one's own field and know how to develop them into a significant contribution to the personal research area.

ROLE 2 COMMUNICATOR

DEFINITION
As a communicator, the PhD student communicates and interacts effectively with colleagues at all levels, be it peers, students, supervisors or stakeholders from other organizations, national and international policy formulation bodies and society at large.

COMPETENCY 3: Communication with peers, supervisors and stakeholders
The PhD student communicates with peers, supervisors and other stakeholders effectively.

BEHAVIOR INDICATORS:

The PhD student is able to:

3.1. Demonstrate the ability to effectively communicate with peers, supervisors and other stakeholders, fostering clear understanding and productive discussion.

3.2. Adapt his/her communication style to different cultural, disciplinary, and professional contexts, ensuring effective information exchange and fostering understanding among diverse audiences.

COMPETENCY 4: Research communication
The PhD student communicates complex research findings to diverse audiences effectively.

BEHAVIOR INDICATORS:

The PhD student is able to:

4.1. Demonstrate the ability to present complex ideas, arguments and decisions in writing, in a clear, well-structured and convincing way to appeal to the target audience.

4.2. Simplify complex information or data and ideas and effectively communicate them to diverse audiences, including peers, supervisors, and stakeholders, through clear and concise written, verbal, and visual presentations.

4.3. Present ideas, theories and research findings in a clear, understandable and interesting way to the target audiences including academic and professional communities (e.g. through seminars, conferences, poster presentations, journal articles or doctoral defense).

ROLE 3 COLLABORATOR

DEFINITION
As a collaborator, the PhD student works effectively with other students, supervisors, and stakeholders to provide high-quality research.

COMPETENCY 5: Teamwork
The PhD student collaborates with different team members who are involved in the research project to provide high-quality research.

BEHAVIOR INDICATORS:

The PhD student is able to:

5.1. Bring together diverse perspectives and talents to share ideas and reach consensus to achieve common or shared research goals.

5.2. Cooperate successfully with a diverse group (international, interdisciplinary, or intersectoral) to deliver shared outcomes.

5.3. Demonstrate versatility and adaptability by assuming different roles and responsibilities within a team (including leadership, coordination, motivation, conflict resolution, implementation, time keeping, secretary and reporter).

5.4. Identify opportunities for collaboration within a team and beyond, introduce effective ways of working to support that collaboration.

5.5. Negotiate a compromise between the diverging views of different stakeholders towards a solution that meets the needs of all parties involved.

5.6. Build positive relationships, demonstrate empathy, responsibility, respect, integrity, and foster an environment of trust and psychological safety within the team.

4 ROLE INNOVATOR

DEFINITION
As an innovator, the PhD student applies the critical and analytical mindset and competencies needed to engage creatively with his/her own research material and to generate innovative and research-based solutions.

COMPETENCY 6: Critical and analytical thinking
The PhD student utilizes critical and analytical thinking to solve complex problems.

BEHAVIOR INDICATORS:

The PhD student is able to:

6.1. Apply sound critical judgment and analytical thinking to solve any given problem or situation to achieve the best outcomes.

6.2. Engage with large (meta) datasets and/or evidence bases and generate insights which are grounded in those datasets.

6.3. Apply experimental study designs, research methods or new modes of thinking to any given problem or situation to come up with new ways of tackling them.

COMPETENCY 7: Innovation and creativity
The PhD student demonstrates an advanced proficiency in fostering creativity and innovation.

BEHAVIOR INDICATORS:

The PhD student is able to:

7.1. Proactively use critical and analytical skills to engage creatively with one's own research material and to generate innovative solutions.

7.2. Solve complex problems by combining discipline-specific knowledge with more abstract problem-solving skills (e.g. strategic thinking, design thinking and system thinking).

7.3. Identify new opportunities and possibilities for value creation grounded in one's own research.

7.4. Demonstrate resilience, perseverance, intellectual property awareness and project management capabilities in supporting the application and commercialization of research-based innovations.

5 ROLE LEADER

DEFINITION
As a leader, the PhD student takes responsibility to set a vision, develops shared goals with a team, and mobilizes resources to attain the PhD related research and/or project objectives.

COMPETENCY 8: Project management
The PhD student manages research projects effectively to achieve objectives and deliver high-quality research outcomes.

BEHAVIOR INDICATORS:

The PhD student is able to:

8.1. Use project management techniques and supporting tools to plan and manage a project.

8.2. Inspire, motivate, and guide members of the research team towards achieving common project goals and empower team members to perform their best.

8.3. Prioritise workload and reevaluate priorities in the face of changing circumstances as required.

8.4. Develop and implement detailed project plans, set realistic timelines, and allocate resources effectively to achieve project objectives.

COMPETENCY 9: Research management
The PhD student manages research projects effectively, from planning to execution, and delivers high-quality outcomes.

BEHAVIOR INDICATORS:

The PhD student is able to:

9.1. Manage the different stages of a research project from start to finish (e.g. planning, allocating resources, monitoring progress, timelines and budgets) in collaboration with the supervisor.

9.2. Detect risks (e.g. financial and time-oriented) to own research project and devises appropriate means of managing these risks.

9.3. Effectively employ digital tools and platforms for generating, processing, analyzing, and interpreting research data to ensure accurate documentation.

6 ROLE SCHOLAR

DEFINITION
As a scholar, the PhD student demonstrates a lifelong commitment to excellence in practice through continuous learning and by teaching others, evaluating evidence, and contributing to scholarship.

COMPETENCY 10: Lifelong learning
The PhD student engages in continuous enhancement of his/her professional activities through ongoing learning.

BEHAVIOR INDICATORS:

The PhD student is able to:

10.1. Develop, implement, monitor, and revise a personal learning plan to achieve learning goals.

10.2. Identify opportunities for learning and improvement by regularly reflecting and assessing his/her performance using various internal and external data sources.

10.3. Continuously enhance personal practice and contribute to collective learning through collaborative knowledge sharing.

10.4. Provide, ask for and receive constructive feedback.

COMPETENCY 11: Personal effectiveness
The PhD student manages personal time, resources, and tasks efficiently maintaining high intrinsic motivation and adaptability.

BEHAVIOR INDICATORS:

The PhD student is able to:

11.1. Demonstrate the ability to prioritize tasks, set realistic deadlines, and adhere to timelines, ensuring timely completion of research milestones and academic obligations.

11.2. Demonstrate flexibility and resilience in the face of challenges, stressful situations or changes, adjusting plans and strategies as needed to accommodate evolving circumstances and optimize outcomes.

11.3. Organize and coordinate multiple tasks and projects simultaneously, employing effective planning and coordination strategies to achieve objectives efficiently.

11.4. Exhibit self-discipline and self-regulation in managing workload and responsibilities, maintaining focus and productivity amidst distractions or competing priorities.

COMPETENCY 12: Teaching and supervision
The PhD student utilizes educational design to teach, mentor and support students to enhance their effectiveness and success in learning and/or research.

BEHAVIOR INDICATORS:

The PhD student is able to:

12.1. Design courses effectively with defined learning outcomes, making use of digital teaching-learning technologies where necessary and appropriate.

12.2. Guide students in exploring new research areas and can prompt them to think critically about those research areas.

12.3. Lead and manage course delivery ensuring effective learning which is tailored to the needs of students.

12.4. Effectively applies educational design principles to create engaging and inclusive learning environments, facilitating student-centered teaching, mentoring, and support initiatives aimed at maximizing student learning outcomes and research success.

COMPETENCY 13: Career development
The PhD student manages career development, sets attainable objectives, improves employability, and demonstrates dedication to contributing to both the organization and the profession.

BEHAVIOR INDICATORS:

The PhD student is able to:

13.1. Perform self-assessments and proactively manage professional development in view of personal career objectives.

13.2. Showcase personal skills, competencies and strengths as well as interests and values for future employers in written applications, CV and interviews.

13.3. Apply job searching techniques to find diverse career opportunities fitting with personal expertise and career ambitions.

13.4. Demonstrate dedication to advancing both the organization and the profession by actively participating in professional development activities, engaging with professional associations, and contributing to organizational initiatives and projects.

ROLE 7 PROFESSIONAL

DEFINITION
As a professional, the PhD student is committed to ethical practice, high personal standards of behavior, accountability to the profession and society, profession-led regulation, and work-life balance.

COMPETENCY 14: Ethics and integrity
The PhD student recognizes ethical and social values and standards and acts accordingly.

BEHAVIOR INDICATORS:

The PhD student is able to:

14.1. Demonstrate a commitment to research by applying best practices and adhering to high ethical standards.

14.2. Exhibit self-awareness of the current standards concerning research integrity, legislation, and ethical guidelines.

14.3. Recognize and manage potential conflicts of interest, ethical breaches and violations.

14.4. Exhibit professional behavior vis-à-vis the community, researchers and peers.

COMPETENCY 15: Cross-cultural mindset
The PhD student demonstrates advanced cross-cultural competency and adaptable thinking to effectively embrace diversity.

BEHAVIOR INDICATORS:

The PhD student is able to:

15.1. Build and maintain a network of (international) stakeholders and engage them in one's own work.

15.2. Gauge the interests of different stakeholders and adapt communication style to their needs.

15.3. Build strong working relationships with others from different cultural backgrounds by being tolerant and respecting diversity.

COMPETENCY 16: Personal health and well-being
The PhD student demonstrates a commitment to personal health and well-being to foster an optimal PhD trajectory.

BEHAVIOR INDICATORS:

The PhD student is able to:

16.1. Exhibit self-awareness and manage influences on personal well-being and professional performance.

16.2. Demonstrate a commitment to maintain a good work-life balance and well-being.

16.3. Demonstrate a behavior that recognizes, supports, and responds effectively to colleagues in need.

The Ethiopian PhD Competency Framework