

SUPERVISORS WORKSHOP



PART 1

Introduction

The Consortium for Advanced Research Training in Africa

Formed in 2008, the Consortium for Advanced Research Training in Africa (CARTA) is led jointly by the African Population and Health Research Center (APHRC), Kenya, and the University of the Witwatersrand (Wits), South Africa. This collaboration supports the development of a vibrant African academy able to lead world-class multidisciplinary research that impacts positively on public and population health. The consortium enhances the capacity of African universities to create sustainable multidisciplinary research hubs, by supporting junior faculty members to undertake their doctoral training locally, and to become internationally recognized research leaders. Ultimately, CARTA strengthens university-wide systems to support research, teaching, doctoral and postdoctoral training.

The Supervisors Workshop

The need for doctoral training as a means of fast-tracking the development of Africa cannot be over-emphasized. Compared to the rest of the world, Africa lags behind other continents in global knowledge production, including in the number of people who hold doctorate degrees (Fonn et al., 2018). Faced with the world's highest disease burden, the continent needs original thinkers to solve numerous challenges, including communicable and non-communicable diseases, poverty, poor infrastructure and security. A specific and related challenge is high attrition and low rate of timely completion of the doctoral programmes in many African universities (Tetey, 2010; Wamala et al., 2012; Olubusoye & Olusoji, 2013).

Effective and efficient supervision plays an important role in the experience and outcomes of doctoral research (Mothiba et al., 2019). Appropriate supervision ensures that candidates receive the education and training that will establish them as career researchers who are, in turn, equipped to train the next generation of researchers. High-quality supervision is essential for the timely completion of high-quality doctoral research projects. Supervisors play multiple roles, guiding doctoral students to identify feasible research topics, formulate appropriate questions, develop feasible study protocols, provide oversight of the research process and complete their projects on time. Good supervision is important for launching candidates into academia or research institutes (Kiley, 2011).

Crucially, supervision is a team venture. Effective collaboration between multiple supervisors is essential to effective completion of doctoral degrees. Achieving synergy within supervisory teams is increasingly important in the modern academic world as multidisciplinary studies become more common, which in turn requires the support of supervisors from diverse specialties and disciplinary working cultures. Collaboration of this kind facilitates peer-to-peer learning between supervisors. Many institutions team less experienced supervisors together with more experienced colleagues as a way to maximise institutional memory.

Unfortunately, training of supervisors for doctoral candidates is inadequate in many institutions and qualification requirements for supervisors are inconsistent. Many supervisors of PhD candidates learnt the process of supervision on the job, but this is often not enough to guarantee quality. Formal and professional development education and dedicated peer-to-peer learning experiences are essential for academics to achieve their full potential as PhD supervisors. CARTA recommends that such experiences be repeated throughout one's academic career to maintain the quality of supervision.

CARTA has developed a program to support the supervision process, including training of the supervisors. The program is based on experiences from the first ten years of the CARTA program, including a comprehensive two weeks' workshop for the CARTA supervisors (Manderson et al 2017, Igumbor et al 2021).

This training curriculum contains thirteen sessions covering the entire process of the supervision of PhD research from recruitment and selection of doctoral candidates, integrity in supervision, supervision process, to detachment and post-training mentoring of successful PhD graduates. Each session has a brief overview which presents a synopsis of the session. The session objectives specify the task to be accomplished and what trainees are expected to learn from it. While these formal a priori frameworks are essential for underpinning and managing each session, it is equally important to keep them flexible and participatory and to also maximize informal interactions between facilitators and participants through relaxed, enjoyable social formats.

References

- Fonn, S., Ayiro, L. P., Cotton, P., Habib, A., Mbithi, P. M. F., Mtenje, A., & Ezech, A. (2018). Repositioning Africa in global knowledge production. *The Lancet*, 392(10153), 1163–1166. [https://doi.org/10.1016/S0140-6736\(18\)31068-7](https://doi.org/10.1016/S0140-6736(18)31068-7)
- Kiley, M. (2011). Developments in research supervisor training: Causes and responses. *Studies in Higher Education*, 36(5), 585–599. <https://doi.org/10.1080/03075079.2011.594595>
- Mothiba, T. M., Maputle, M. S., & Goon, D. T. (2019). Understanding the practices and experiences of supervising nursing doctoral students: A qualitative survey of Two South African universities. *Global Journal of Health Science*, 11(6), 123–131. <https://doi.org/10.5539/gjhs.v11n6p12>
- Olubosoye OE and Olusoji O (2013). Determinants of PhD completion time at the University of Ibadan. A CESDEV unpublished paper
- Tetty WJ (2010). Challenges of developing and retaining the next generation of academics: deficits in academic staff capacity at African universities. *Partnership for Higher Education in Africa Paper*
- Wamala R, Ocaya B and Onyiah JC (2012). Extended candidature and non-completion of a PhD at Makerere University, Uganda. *Contemporary Issues in Education Research* 5 (3): 175–183

What this workshop offers

The overall objective of this workshop is to ensure that the next generation of PhD supervisors in Africa are well prepared for the supervisory process, based on the experiences of the CARTA program.

Outcomes

By the end of the workshop, PhD supervisors should be able to:

1. Apply best practices in the recruitment and selection of PhD candidates.
2. Prioritise measures to ensure scientific integrity in their supervisees' work.
3. Apply the most appropriate PhD supervision approach with their supervisees.
4. Appreciate the role of academic institutions in the supervision process.
5. Critically examine the practical logistics of PhD supervision.
6. Create a nurturing relationship with their supervisees.

A participatory approach

The CARTA approach is problem-posing and participatory. Each session presents situations and poses problems. Participants work with each other and with inputs from the trainer to find solutions. Problem-posing education bases itself on creativity and stimulates true reflection and action upon reality (Freire, 2020). It is different from the transfer or transmission of knowledge or facts to the passive learner, where the trainer is seen as possessing all essential information, and trainees as “empty vessels” needing to be filled with knowledge. The choice of participatory method is deliberate: there is a coherence between the values we promote and the way we go about sharing them. From the beginning, we recognize all participants as thinking, creative people with the capacity for action. Each person is a contributor, bringing different perceptions based on their own experiences. As facilitator, make a conscious effort to use participatory methods to enable participants to grow in awareness.

Facilitators' attributes

Some people assume that facilitating a workshop will be an easy process, until they try doing it. The participatory method for the Supervisors workshop requires facilitators to do guide the workshop, appreciating that the participants are in charge. The facilitator's responsibility is to create an enabling environment that allows participants to learn from each other, come to an understanding, and pool their collective wisdom in resolving issues. We recommend these attributes for facilitators.

An unbiased perspective

Participants should feel comfortable that their opinions are welcomed and encouraged. An unbiased facilitator creates a neutral zone where alternative points of view can be shared and debated in a respectful manner. This is key to driving a constructive, productive discussion.

Sensitivity to individuals

To create and maintain an atmosphere of trust and respect requires you to be aware of how people are responding to the topics under discussion and to the opinions and reactions of others. Most people will not articulate their discomfort, hurt feelings, or even anger; instead, they silently withdraw from the discussion and often from the group. Sensing how people are feeling and understanding how to respond to a particular situation is a critical skill of facilitation.

Sensitivity to the group

In any group, the whole is greater than the sum of the parts, and group 'chemistry' generally reflects shared feelings: eagerness, restlessness, anger, boredom, enthusiasm, suspiciousness, or even silliness. Perceiving and responding to the group's dynamic is essential to skilful facilitation.

Ability to listen

One way the facilitator learns to sense the feelings of individuals is by listening carefully, noting both the explicit meaning of words and their tone and implicit meaning. A good facilitator practices 'active listening'. She or he may repeat, sum up, or respond directly to what a speaker says to ensure that the speaker's meaning is correctly understood by the group.

Tact

Sometimes, a facilitator must say difficult things for the good of the group. The ability to do so carefully and diplomatically is critical. Examples include: a group discussion dominated by one person or a group of silent participants. The facilitator must find a gentle, tactful way to engage the team so everyone can participate and get the most out of the session. Often, a participant asks a question, and then rambles on, eventually answering his own question. A capable facilitator knows how to diffuse these awkward moments and maintain a productive atmosphere.

Commitment to collaboration

Collaborative learning can occasionally seem frustrating and inefficient. At these moments, every facilitator feels tempted to take on the familiar role of the traditional teacher and to lead, rather than facilitate. However, genuine conviction about the empowering value of cooperative learning will help the facilitator resist a dominating role. Likewise, a good facilitator is willing to share facilitation with others in the group. The goal is always to conduct the best and most effective discussion. To that end, a good facilitator knows how to adjust his or her role accordingly.

A sense of timing

The facilitator needs to develop a sixth sense for time: when to bring a discussion to a close, when to change the topic, when to cut off someone who has talked too long, when to let the discussion run over the allotted time, and when to let the silence continue a little longer.

Resourcefulness and creativity

Keep an open mind, as each group of participants presents different dynamics. Despite a well-planned agenda, discussions may not unfold as anticipated. A good facilitator should be able to think on his or her feet. This may mean changing direction in mid-stream, using other creative approaches to engage the group, or welcoming ideas from the group on how to shift the agenda. Good facilitators always have tricks up their sleeves that will help a group move forward while still keeping an eye on the overall objective of the meeting.

A sense of humour

As in most human endeavours, even the most serious, a sense of humour enhances the experience for everyone. A good facilitator appreciates life's ironies and is able to laugh at themselves and share the laughter of others.

In summary, a good facilitator works as an ally to ensure that meetings, seminars, planning sessions, and workshops deliver the intended and desired outcomes. It is very difficult to facilitate a meeting yourself when you also want to participate in it as an equal. But not all facilitators are alike. Identify facilitators who have the personality and aptitude to understand the goals, objectives and expected outcomes of the curriculum.

Preparation

Facilitation team

In plenty of time, identify and engage the co-facilitators and the different contributors for the Supervisors workshop. Hold planning meetings until the team members are on the same page. To prepare, advise facilitators to read and re-read the curriculum until they feel comfortable and confident that they know what is expected for all the workshop sessions.

Venue

Identify a location that will allow participants to move around easily, for example for role-plays. Make sure there are enough break-away rooms for small-group activities, and adequate wall space for poster tours and other elements of the workshop methodology.

Participants

Two weeks before the workshop, send detailed information to participants on workshop logistics, the participatory workshop method, what is expected of them as participants, and the reading lists (see Part III).

Prepare and share an online pre-workshop survey link to get the participants' profiles. Ask:

- What are your expectations of this workshop?
- What are you willing to contribute to ensure a successful workshop?

You can then analyse the information and adapt the workshop program, as much as possible, to accommodate the needs that participants express.

PART 2

Workshop sessions

Session 1 What do we want to achieve?

Overview

In this session, you discuss the desired outcomes of the workshop. For context, you reflect on why individuals choose to train for a PhD, and why and how academia and society benefit. Then participants compare the conditions for supervision in their institutions. How do participants define the roles and expectations of PhD supervisors? As they describe individual pathways to the role of supervisor, they reflect on the kinds of support and structure that their institutions did or should provide. These discussions encourage rapport between participants during the workshop and lay the foundation for a network of supervisors for the future.

Objectives

- To reflect on the requirements for a PhD, in relation to the candidate's responsibilities, work and potential career path
- To describe format for attaining a PhD means at different universities and in different disciplines
- To evaluate the potential impacts of the PhD in/to academic institutions, industry and the society
- To examine the role and responsibilities of the supervisor in the training and development of a PhD graduate, an independent researcher and leader

Preparation before arrival for the workshop

Trainees are expected to perform the tasks listed below, prior to arrival for the workshop.

Trainers should send the references to trainees at least one week before their arrival at the venue.

- Read Ali et al in light of the situation at their own university
- Read Loxley and Kearns and Williams et al (from the reading lists)
- Reflect on any prior experience in preparing for a career or role as a PhD supervisor

Where trainees are expected to complete a questionnaire on RedCAP, the facilitator should send a link in advance.

Session plan

Welcome and ice breaker

5–10 minutes: The facilitator welcomes trainees to the workshop, displays on a slide the objectives of the training program and briefly describes the nature of PhDs and the roles that supervision plays in the preparation of doctoral graduates.

10 minutes: The facilitator requests each trainee to briefly introduce himself/herself by providing full names, institution, the number of PhD candidates successfully supervised, and expectations from the workshop.

10 minutes: The facilitator provides feedback on the results of the RedCAP survey conducted before commencement of the workshop. Facilitator provides answers to questions arising from the results presented.

5 minutes: The facilitator introduces group work – the tasks groups are expected to perform. The facilitators divide trainees into three groups, based on experience:

- Experienced supervisors (more than 3 PhDs successfully supervised)
- Less experienced supervisors (have successfully supervised 1–2 PhDs)
- Postdocs considering a career or role as supervisors

For formation of discussion groups, facilitator mixes these categories to enable participants to benefit from the experience of other supervisors, from those in the same phase of career development on doctoral supervision.

5 minutes: The facilitator assigns groups to different locations to hold discussions without distraction discussions. Facilitator requests each group to appoint a moderator and note taker.

The Facilitator displays on the screen the tasks for groups:

- Requirements for recruitment into a PhD program at your institution
- Format for PhD supervision (thesis, publications, etc)
- Roles and responsibilities of supervisors in the training and development of a PhD graduate as an independent researcher and leader

30 minutes: Groups discuss

40–60 minutes: The facilitator requests a representative to provide feedback on the responses to the questions. Groups present their work.

Participants discuss points and challenges that emerge, seeking potential solutions from the facilitators or other participants.

Facilitator rounds up the session by highlighting the key points.

Resources

https://www.researchgate.net/publication/225839594_Successful_PhD_Supervision_A_Two-Way_Process

Ali F, Shet A, Yan W, Atkins S, Lucas H and for the ARCADE consortium (2017). Doctoral Research and Training Capacity in the Social Determinants of Health at Universities and Higher Education Institutions in India, China, Oman and Vietnam: A Survey of Needs. *Health Research Policy and Systems*. 15:76–87

Loxley A and Kearns M (2018). Finding a purpose for the doctorate? A view from the supervisors. *Studies in Higher Education*. 43:826–840.

Williams A, Jones MG, Jonsson R, Harris RA and Mulvany MJ (2019). A comparison of doctoral training in biomedicine and medicine for some UK and Scandinavian graduate programmes: learning from each other. *FEBS OPEN BIO* 9:830–839.

Igumbor J, Bosire EN, Katahoire A, Allison J, Muula AS, Peixoto A, Otworld K, Bondjers G, Fonn S and Ajuwon A, Effective supervision of doctoral students in public and population health in Africa: CARTA supervisors' experiences, challenges and perceived opportunities. *Global Public Health*, 1–16. <https://doi.org/10.1080/17441692.2020.1864752>

Session 2

Recruitment of PhD candidates

Overview

Recruiting suitable candidates is important for successful PhD training. Faulty recruitment is a major contributory factor to attrition and a low rate of timely completion. A suitable candidate starts and successfully completes the doctoral program on time. Their career progresses after graduation as they operate as an independent scholar. In this session, participants share experiences of the recruitment process in their different institutions, in order to identify best practices for the recruitment and retention of PhD candidates and for their successful completion. Participants map out common pitfalls and, pooling their combined experience, discuss practical solutions.

Objectives

- To discuss the processes involved in recruiting and selecting PhD students in different universities
- To explore how these processes can affect the progress, retention, attrition and future success of PhD candidates, depending on how they are managed
- To reflect on the effects of candidate recruitment and selection on the supervision process and journey
- To identify best practices in recruitment, training and retention of candidates and in ensuring the successful completion of PhD training
- To reflect on common challenges and pitfalls in the recruitment process and draw on combined experiences and insights to map out practical solutions

Session plan

10–15 minutes: The facilitator welcomes trainees and introduces the title and objectives of the session and objectives. In a maximum of five slides, the facilitator describes:

- the need for an appropriate process of recruiting suitable candidates for doctoral training
- the challenge of attrition, a major problem in doctoral training
- the emphasis on identifying suitable candidates, i.e., those likely to enroll and complete doctoral training on schedule (3–4 years of full-time study)

5 minutes: The facilitator divides trainees into three groups to:

- Discuss the merits and challenges involved in the current recruitment process of doctoral candidates in their institutions
- Identify characteristics of ideal candidates for doctoral training
- List best practices for recruitment of doctoral candidates
- Discuss strategies for overcoming attrition in doctoral training

15–25 minutes: Group discussions

10–15 minutes: Groups present outcome of discussions.

45 minutes: Brainstorm about the ideal recruitment process. Discuss:

- What challenges and pitfalls do you encounter or observe in the recruitment process?
- What practical solutions have you discovered or observed?
- What would an ideal selection process look like?

Facilitator wraps up the session.

Resources

https://www.researchgate.net/publication/225839594_Successful_PhD_Supervision_A_Two-Way_Process

Leijen, A.; Lepp, L.; Remmik, M. (2016) Why did I drop out? Former students' recollections about their study process and factors related to leaving the doctoral studies in Continuing Education 38: 129–144

Groenvynck, H ; Vandeveld, K; Van Rossem, R (2013) The PhD track: Who succeeds, who drops out? Research Evaluation 22: 199–209

Session 3

Scientific Integrity

Overview

A supervisor needs to guide their supervisee when it comes to ethics. Any accusation of scientific misconduct such as plagiarism, fabrication and falsification will reflect on the supervisor. Solidarity is important between researchers, supervisors and supervisees and co-authors in ensuring the scientific integrity of research.

Objectives

- To become acquainted with international standards and regulations for scientific integrity
- To reflect on the role of the supervisor, as an individual or as a member of a supervisory team, in applying these rules in PhD training
- To share and discuss individual cases of scientific misconduct including plagiarism, fabrication and falsification
- To compare practical procedures for ensuring scientific integrity in various institutions
- To explore the idea of academic citizenship in relation to supervisory integrity

Preparation before the session

Participants read materials listed below (see Resources) and come prepared to discuss issues relating to the subject of integrity in research and supervision.

Participants reflect on any prior experience that may be useful for the group discussion on scientific integrity.

Session plan

10 minutes: The facilitator welcomes trainees and displays the objectives of the session. The facilitator presents one or two slides to define meaning of integrity and describe its importance in research and supervision, and to give examples of misconduct (including fabrication, falsification and plagiarism). The facilitator welcomes comments and questions on trainees' experiences on integrity in performing their role as supervisors.

15 minutes: The facilitator stimulates general discussion by posing the following questions

- What is academic citizenship?
- Why is adherence to scientific integrity important for the scientific community?
- What is supervisory integrity?
- What is the role of the supervisor/s in supporting scientific integrity?
- What should the repercussions for scientific dishonesty be?
- How would you react if you suspect scientific dishonesty in your supervisee?

5 minutes: The facilitator divides trainees into three groups to discuss:

1. What are the rules for maintaining scientific integrity in your institution?
2. What (if any) specific rules relate to doctoral supervision?
3. How are cases of misconduct dealt with in the institution?
4. How effective are the rules?
5. How can these rules be strengthened?

40 minutes: Group discussions

20 minutes: In plenary, groups provide and discuss feedback.

5 minutes: The facilitator rounds up the session. Emphasize that supervisors should model integrity for their supervisees and that institutions require clear policies and guidelines to create an environment that fosters integrity. Refer to Turnitin, an important tool for detecting plagiarism.

Resources

<http://retractionwatch.com>

<http://www.who.int/ethics/research/en>

Löfström E and Pyhältö K (2017). Ethics in the supervisory relationship: supervisors' and doctoral students' dilemmas in the natural and behavioural sciences. *Studies in higher education*. (42) 232–247

Denisova-Schmidt E. (2018). Corruption, the Lack of Academic Integrity and Other Ethical Issues in Higher Education: What Can Be Done within the Bologna Process? IN: Curaj A., Deca L., Pricopie R. (eds) *European Higher Education Area: The Impact of Past and Future Policies*, Springer, Cham. https://link.springer.com/content/pdf/10.1007%2F978-3-319-77407-7_5.pdf

Clynes M, Corbett A, Overbaugh (2019). J Why we need good mentoring. *Nature Reviews Cancer*. 19:489–493.

Session 4

The supervision process

Overview

Participants describe and discuss the practical organization of supervision in different institutions and disciplines. Traditions in different disciplines and in different institutions will be described and discussed.

Objectives

- To explore and critically review the supervisory process as it is organized in different institutions
- To consider the interactive roles and responsibilities of the candidate and the supervisor in different phases of the PhD training process and for different facets of the training
- To consider other support for supervision in participants' institutions
- To understand different perspectives on the purpose of the PhD
- To discuss the use of milestones during supervision
- To consider the use of progress reports in participants' institutions
- To reflect on international differences and common trends

Preparation before the session

Before the session, participants:

- Read the materials (see Resources)
- Reflect on the question "How are supervisors prepared for their task in your institution?", preparing notes and/or a powerpoint slide

Session plan

10 minutes: The facilitator welcomes trainees and displays the objectives of the session. In three to four slides, facilitator describes the supervision process as all activities that take place during supervision of doctoral candidates. The facilitator emphasises the fact that supervisors need training in order to perform their supervisory roles effectively.

15 minutes: The facilitator welcomes a general discussion on the following questions:

- Who allocates the supervisor to a specific supervisee and what are the criteria for this allocation in your institution?
- What is the graduation rate of PhDs in your department, faculty and university?
- What are the characteristics of the pedagogy of PhD training – the teaching and learning methods?
- How will you and your supervisee define the milestones in their PhD training?
- How well do the supervision practices in your institution align with the ambition to train a quality PhD?

5 minutes: Co-facilitators divide trainees into groups and request them to discuss the following issues:

1. What preparation do supervisors need to effectively perform their roles as supervisors of doctoral students?
2. What is the role of supervisors for success in PhD training?
3. How can supervisors knowledge and skills be enhanced to enable them perform their roles effectively?

40 minutes: Groups discussions.

20 minutes: Groups summarize their points on flip charts. Co-facilitators conclude the session with a summary of new ideas, best practices, solutions to challenges and potential action points. They emphasize that formal training for supervisors is an important requirement for successful doctoral supervision.

Resources

<https://www.theguardian.com/higher-education-network/2015/dec/11/bad-phd-supervisors-can-ruin-research-so-why-arent-they-accountable>

<http://science-network.tv/supervision/>

Roach A, Christensen BK, Rieger E (2019). The essential ingredients of research supervision: A discrete-choice experiment. *J. Educ. Psychology* 111:1243-1260.

Barnett JV, RA Harris, MJ Mulvany (2017). A comparison of best practices for doctoral training in Europe and North America. *FEBS Open Bio*. 7: 1444-1452.

Session 5

University and academic citizenship

Overview

What does society expect from universities? And what do we expect from university systems in terms of PhD training to meet society's expectations? In this session, participants discuss the role of the university in society, particularly in relation to the supervisor's responsibilities. They consider the concept of academic citizenship and the role of the academic system in reaching the Sustainable Development Goals and in equipping society with knowledge and competence for democratic development, both historically and beyond 2030. Academic freedom and critical thinking – important throughout the world – provide a common framework for research and higher education.

Objectives

- To discuss the responsibilities (apart from producing a thesis) of the supervisor, the mentor and the university in the training of a PhD
- To discuss the role of the supervisor in supporting the development of the next generation of academic leaders
- To discuss the role of PhD training in the attainment of the Sustainable Development Goals
- To consider the oversight mechanisms in place at various universities to ensure that both the PhD candidate and the supervisors fulfil their roles and responsibilities

Preparation before the session

Participants:

- Read the materials (see Resources)
- Reflect on the career support for PhD candidates in their institutions and how this affects doctoral training

Session plan

10 minutes: The facilitator welcomes participants and outlines the objectives of the session. Using 3 to 5 slides, the facilitator describes the role of universities in the development of academic citizens and in achieving the Sustainable Development Goals.

10 minutes: The facilitator invites feedback and sparks conversation by posing the following main questions:

- What is the relationship between excellence in teaching and excellence in research?
- What is the relationship between leadership skills and excellence in research?
- How do the university and the supervisor contribute to the leadership skills of the PhD candidate?
- How can supervisor training be a tool to increase success in PhD training?

5 minutes: The facilitator divides participants into groups to discuss:

1. How does your university teach the relationship between excellence in teaching and academic citizenship?
2. How does your university teach the relationship between excellence in leadership and the values of academic citizenship?
3. How does your university see and discuss the responsibility of the university system for the sustainable development goals?
4. Does your university recognize social responsibility? If so, how is this reflected in practice?

40 minutes: Group discussions.

25 minutes: Back in the plenary, representatives take turns to present their group's conclusions and questions. After a discussion, the facilitator concludes the session with a summary of new ideas, best practices, solutions to challenges and potential action points.

Resources

<https://www.timeshighereducation.com/features/10-truths-a-phd-supervisor-will-never-tell-you/2005513.article>

Anna Peixoto (2014). De mest lämpade. <http://hdl.handle.net/2077/35675> Thesis in Swedish but with an extensive summary in English, available on the web. Short presentation of the Bourdiean analysis of the academic field.

Lee, Ann (2007). How are doctoral students supervised? Concepts of doctoral research supervision. *Studies in Higher Education* 33: 267–281.

Session 6

Formal terms and conditions of supervision

Overview

The supervision process is enriched when supervisor/supervisee understand their roles clearly and play them appropriately. CARTA uses a contract between supervisors and supervisees to clarify mutual expectations, and this session uses the contract as a related learning tool. Supervisors and their universities may subsequently adopt elements for their own institutional policies and procedures. The CARTA contract covers many aspects of the supervision process, including the expected roles and responsibilities of both supervisors and supervisees. Adopting the contract ensures that both parties know what to expect throughout the entire supervision process. The contract is intended to supplement the obligations of the candidate and supervisor(s) to their university and to any funding agency; it summarizes typical terms and conditions of a PhD and supplements them with best practices gleaned from across the academic community.

Objectives

- To reflect on the idea and value of a PhD supervision contract/agreement
- To learn from the CARTA supervision contract as a model
- To discuss the role of a contract in the supervisory process
- To consider the legal and other implications of the contract
- To discuss the possibility of adopting a contract or agreement in institutions where this is not practiced

Preparation before the session

Participants read the materials (see Resources).

Session plan

15 minutes: The facilitator welcomes participants and presents the objectives of the session. Using three to five slides, the facilitator introduces the concept of a contract in doctoral supervision and describes its importance in ensuring that both supervisor and student understand their roles and responsibilities in the supervision process. The facilitator welcomes contributions from participants.

- 5 minutes:** The facilitator divides participants into groups to discuss:
- Does your institution regulate supervision through a contract or other document?
 - How does or could a contract/agreement improve conditions for supervision? For the supervisor? For the supervisee? For the institution? For the quality of research?
 - Should supervisors have contractual obligations and if so, of what nature?
 - What logistical support should the institution provide to supervisee and supervisors to aid supervision?

- What role should the supervisor play to assist the PhD candidates to access the resources they need (laboratory and scientific instruments, or library resources)?

40 minutes: Small-group discussions.

20 minutes: Back in the plenary, representatives take turns to present their group's conclusions and questions. After a facilitated discussion, conclude the session with a summary of new ideas, best practices, solutions to challenges and potential action points.

Resources

<https://innsida.ntnu.no/wiki/-/wiki/English/PhD+Handbook>

Shin JC, Kim SJ, Kim E, Lim H (2018). Doctoral students 'satisfaction in a research-focused Korean university: socio-environmental and motivational factors. *Asia Pacific Education Review* 19:159-168

CARTA contract of supervision and academic obligations (also in Part III: Resources)

Session 7

Practical logistics of PhD supervision

Overview

Doctoral training can be arduous. Many candidates enrol for doctoral training but only a few successfully complete it. Institutions appoint supervisors to guide and support doctoral candidates throughout the training, some offering a single supervisor, others joint supervision. Doctoral candidates also learn from their peers. This session describes the different formats of supervision, the challenges and benefits of joint supervision and role of peer-to-peer support in doctoral training.

Objectives

- To discuss practical issues in organizing the PhD supervision process
- To identify the advantages and challenges of co-supervision
- To discuss the role of peer interactions, peer-to-peer learning and mutual support, with reference to the working culture of the postgraduate student body
- To consider the advantages and disadvantages, opportunities and challenges associated with group supervision
- To re-visit the question of supervisor preparation / training
- To discuss the most common and significant challenges to supervisors in managing supervisees' progress, and share the best ways to address them

Preparation before the session

Participants:

- Read the materials (see Resources)
- Consider their university's regulations on supervisor training, provision of training and access to training for supervisors, co-supervisors, group supervision, mentors and teams of supervisors
- Reflect on their prior experience of joint supervision and peer-to-peer support

Session plan

10 minutes: The facilitator welcomes participants and reads out the objectives of the session. Using three to five slides, the facilitator describes different approaches to the supervision of doctoral students, highlighting the advantages and limitations of single and joint supervision models, and opening up for discussion.

15 minutes: To stimulate further discussion, the facilitator asks:

- What does your university recommend with respect to individual or group supervision?
- How are supervisors prepared for and supported by their institutions?

- How would you benefit from co-supervisors and mentors in your capacity as a supervisor?
- Do PhD candidates in your university need (or get) multi-disciplinary supervision?

5 minutes: The facilitator divides participants into three groups to discuss:

- Different formats for supervision
- Different institutional systems for the oversight of PhD supervision
- Any training that supervisors receive and any support they get for the supervision of doctoral candidates
- The Salzburg Process

40 minutes: Group discussions.

20 minutes: Back in the plenary, representatives take turns to present their group's conclusions and questions. The facilitator rounds off the session and conclude with a summary of new ideas, solutions to challenges, best practices and potential action points.

Resources

Nakanjako D., Katamba A., Kaye D., Okello E., Kanya M., Sewankembo N., Mayanja-Kizza H., (2014). Doctoral training in Uganda: evaluation of mentoring best practices at Makerere university college of health sciences. BMC Medical Education 14:9. DOI: 10.1186/1472-6920-14-9

van Schalkwyk SC Murdoch-Eaton D Tekian A van der Vleuten C, Cilliers F (2016). The supervisor's toolkit: A framework for doctoral supervision in health professions education: AMEE Guide No. 104. Med Teach. 38:429-42. doi: 10.3109/0142159X.2016.1142517. Epub 2016 Mar 21.

Govender, K., & Dhunpath, R. (2011). Student experiences of the PhD cohort model: Working within or outside communities of practice. Perspectives in Education, 29(1), 88-99. [https://journals.co.za/doi/pdf/10.10520/EJC87632supervisors to aid supervision?](https://journals.co.za/doi/pdf/10.10520/EJC87632supervisors%20to%20aid%20supervision?context=1)

Session 8

Psychology of the supervisor–supervisee relationship

Overview

The interaction between supervisor and supervisee is close and may lead to psychological and relationship challenges. In this session, participants discuss these challenges in relation to the roles and personalities of both parties and how their relationships may evolve over the course of the PhD training. The session addresses the question of institutional support to both parties.

Objectives

- To discuss and reflect on the affective dimensions on the supervisor–supervisee relationship
- To propose the most important personal qualities of the supervisors from the perspectives of, respectively, the supervisee, the supervisor and the institution
- To assess how the supervisee affects the supervisor
- To speculate on how these relationships may evolve during the PhD training, with specific emphasis on how to seize important opportunities and avoid common pitfalls
- To consider what psychological support the institution should provide to the supervisee and the supervisor
- To discuss the role of gender in the relationship between supervisor and supervisee

Preparation before the session

Before the session, participants:

- Read the material (see Resources)
- Consider their own experiences of the affective components of supervision
- Reflect on any prior experiences that may be useful for the group discussion

Session plan

10 minutes: The facilitator welcomes participants and displays the objectives of the session. Using three to five slides, the facilitator reminds participants that supervisor and supervisee enter into a personal relationship over the long duration of PhD training. Potential challenges to this relationship arise because of issues of inequality such as gender, age and other power dynamics. The facilitator asks participants:

- To what extent do you consider your personal relationship to the candidate when you accept a postgraduate student?
- Are specific personal characteristics of the candidate important for the success of supervision?
- What personal characteristics of the candidate (age, sex, marital status) affect the relationship that the supervisor has with the candidate?
- Do certain personal characteristics of a candidate predict failure?

- What personal characteristics of a candidate could complicate the supervision process?
- What characteristics of the supervisor can potentially complicate the supervisor–supervisee relationship?
- What are the most important challenges to supervisors in managing the relationship with the PhD candidate? How are these challenges best addressed?

5 minutes: The facilitator divides participants into three groups to discuss:

- What components of the relationship do you consider most important for successful supervision?
- What support mechanisms are available in your institution for supervisor–supervisee relationships?
- How can these mechanism be improved?

40 minutes: Small-group discussions.

20 minutes: Back in the plenary, representatives take turns to present their group's conclusions and questions. After a facilitated discussion, conclude the session with a summary of new ideas, solutions to challenges, best practices and potential action points.

Resources

Deuchar R (2008). Facilitator, director or critical friend? Contradiction and congruence in doctoral supervision styles. *Teaching in higher education* 13: 489–500.

Bitzer E and Matimbo F (2017). Cultivating African Academic capital – intersectional narratives of an African graduate and his PhD study supervisor. *Innovations in Education and Teaching International*

Bernstein, B. L., Evans, B., Fyffe, J., Halai, N., Hall, F. L., Jensen, H. S., ... & Ortega, S. (2014). The continuing evolution of the research doctorate. In *Globalization and its impacts on the quality of PhD education* (pp. 5–30). Brill Sense. 54:539–549. DOI: 10.1080/14703297.2017.1394825

Fortes, M., Kehm, B. M., & Mayekiso, T. (2014). Evaluation and quality management in Europe, Mexico, and South Africa. In *Globalization and its impacts on the quality of PhD education* (pp. 81–109). Brill Sense

Session 9

Quality assurance in doctoral research training

Overview

Assuring quality in research is essential for validating and maintaining the credibility of the academic system. While the supervisors take responsibility for most of the quality-control processes involved in the completion of the PhD, independent and objective quality assurance is primarily a responsibility of the institution. The supervisor needs to strike a balance between controlling quality and in giving pastoral support to the PhD candidate. The broader scientific community provides external quality control during PhD training through peer review, open access of published material and examination by external examiners. This session focuses on the role of the supervisor in quality control in the context of both supplementary external quality control and internal quality-assurance mechanisms at institutional level.

Objectives

- To distinguish clearly between quality control and quality assurance, in order to compare and contrast the distinctive roles of supervisors, mentors and institutions
- To reflect on the role of the supervisor in assuring high-quality research and the development of a high-quality researcher over the course of PhD
- To debate the supervisor's role in quality control of the research: gate-keeper, facilitator or supporter?
- To review common quality-control mechanisms designed to ensure that the candidate, supervisors and mentors all fulfil their roles and responsibilities throughout the course of the PhD and take corrective action wherever necessary
- To discuss how quality control and assurance of the PhD thesis are supported by format: as a monograph, a thesis by publication or a de facto hybrid model
- To explore how examination of the PhD should be used for quality control of individual graduates, of the supervisors and mentors' contributions and of the overall doctoral training process
- To evaluate key performance indicators (KPIs) for quality assurance, both process- and outcome-based

Preparation before the session

Participants:

- Read the materials (see Resources)
- Explore the quality-assurance system for research training in their institution by reading the full guidelines and regulations for postgraduate studies
- Reflect on their prior experience related to quality assurance in PhD supervision

Session plan

10 minutes: The facilitator welcomes participants and presents the objectives of the session. Using three to five slides, the facilitator explains the importance of quality in validating and maintaining the credibility of the academic system. Supervisors play a critical role in achieving quality of the doctoral degree. Ask the following key questions:

- What stages and processes in PhD training are important for quality control and assurance?
- What quality-assurance mechanisms exist for PhD supervision in your institution?
- How are quality control and assurance integrated at different levels of PhD training in your institutions?
- What quality standards and oversight systems that you consider essential for PhD supervision are missing in your institution?
- Is there an available and transparent process, policy or set of KPIs in your institutions?
- What is the role of a supervisor in quality assurance in PhD training: are you a gate-keeper, facilitator or supporter?
- What practical measures do you find effective in managing the quality-assurance process, such as milestones, reports, completion rates?

5 minutes: The facilitator divides participants into groups to discuss additional issues:

- How is the Salzburg Process related to quality requirements?
- How do publication traditions affect quality of research?
- What is the quality control mechanism in the institutions as regards process and results?

40 minutes: Small-group discussions.

20 minutes: Back in the plenary, representatives take turns to present their group's conclusions and questions. After a facilitated discussion, conclude the session with a summary of new ideas, solutions to challenges, best practices and potential action points.

Resources

http://www.eua.be/Libraries/publications-homepage-list/Salzburg_II_Recommendations

<http://www.orpheus-med.org/images/stories/documents/ORPHEUS-AMSE-WFME-standards-for-PhD-education.pdf>

Session 10

Inequity and dilemmas in supervision

Overview

The relationship between a supervisor and supervisee is not a relationship of equal partners. This situation is a potential source of conflicts which must be acknowledged and prevented. Many conflicts in the supervisor–supervisee relationship can be avoided if one is aware of the ways that gender, age, ethnicity, class and culture may affect supervision. A toolbox of support options is valuable, in case of a dilemma in relation to inequity and division.

Objectives

- To consider supervision in relation to power dynamics in the academic field and within the university community as a whole
- To discuss how gender, age, ethnicity, class and culture affect supervision
- To consider the ways in which scientific research, university structures and processes and academic opportunity are influenced by gender, age, ethnicity, class and culture
- To consider how supervisor–supervisee relationships are influenced by gender, age, sexuality, ethnicity, social class and culture
- To explore ways to solve dilemmas between a supervisor and a supervisee that concern gender, age, ethnicity, class and/or culture
- To discuss how social justice and social exclusion are affected by modes of supervision

Preparation before the session

Participants:

- Read the materials (see Resources).
- Reflect on a dilemma they have experienced with a supervisee that concerns gender, age, ethnicity, class and/or culture. First-time supervisors should think of a dilemma they have experienced as a supervisee or one that they have heard of. They should be ready to describe how the dilemma was resolved and what they learnt from it.

Session plan

10 minutes: The facilitator welcomes participants and display the objectives of the session. Using three to five slides, the facilitator introduces the subject of inequity and the dilemmas that often arise during the supervision process. The facilitator explains that inequity in supervision is a reflection of inequities in the university system and in society as a whole. Ask:

- How are career opportunities in universities affected by gender, age, ethnicity, class and culture?
- Why do older men, particular ethnic groups and/or individuals from privileged class backgrounds dominate the ranks of senior academics?
- Why do men dominate particular areas of research and teaching, and women others?

- How is equity in science affected by present trends in higher education and research?
- How should conflicts arising from the process of supervision be resolved?
- How should conflicts between supervisors be resolved?

5 minutes: The facilitator divides participants into three groups to use role play in an activity called Trio Coaching (see Part III and the CARTA video for step-by-step guidance) to resolve a real dilemma. The facilitator explains the steps involved in Trio Coaching.

40 minutes: In groups of three, participants use Trio Coaching to resolve a dilemma.

20 minutes: Back in the plenary, the facilitator asks:

- Did you find Trio Coaching useful?
- Would you use it in your institution?

The facilitator concludes the session with a summary of new ideas, solutions to challenges, best practices and potential action points.

Resources

<https://www.auckland.ac.nz/en/about/the-university/how-university-works/policy-and-administration/equity/equity-policy-and-procedures-.html>

Carter S, Blumenstein M, Cook C (2013). Different for women? The challenges of doctoral studies. *Teaching in higher education* 18:339–351.

Shibayama S and Kobayashi Y (2017). Impact of Ph.D. training: a comprehensive analysis based on a Japanese national doctoral survey. *Scientometrics* 113:387–415. DOI 10.1007/s11192-017-2479-7

Cohen, GL; Garcia, J; Appel N; Master, A (2006). Reducing the racial achievement gap: A social-psychological intervention. *Science* 313: 1307–3013.. doi 10.1126/Science 1128317

Dumbo, OK, Krogstad DJ. (1998). Doctoral training of African scientists. *Am J Trop Med Hyg.* 58:127–132. DOI; 10.4269/ajtmh 58.127

Session 11

The detachment process

Overview

Successful PhD training should produce a scientist who is able to conduct research independent of their doctoral supervisor. The transition from the student phase to the postdoc phase of the career may be difficult for the supervisor, the supervisee and their relationship. This session raises these challenges, with the aim of maximizing the independence of the doctoral candidate after graduation, while preserving a good relationship between the supervisor and supervisees as independent peers, to the mutual benefit of both parties.

Objectives

- To discuss the role of the supervisor in enabling the successful future career of the PhD, through essential soft skills acquired during the PhD training and an ongoing mentorship relationship
- To discuss potential problems if the hierarchical supervisor–supervisee relationship becomes competitive
- To identify solutions to these challenges, emphasizing the full course of the PhD training as a process of transition towards independence, emphasizing the transition into a peer-to-peer relationship
- To discuss career planning with the PhD graduate

Preparation before the session

Participants:

- Read the materials (see resources)
- Reflect on and be ready to share how they have developed or are developing their own career plans
- Reflect on personal expectations and prior experience related to the detachment process after completing their own doctoral training

Session plan

10 minutes: The facilitator welcomes participants and display the objectives of the session. Using three to five slides, the facilitator explains the meaning of detachment, emphasizing that this must occur if doctoral graduates are to become independent researchers. Ask:

- What is the purpose of a PhD education for the individual; the institution; country?
- What challenges arise for the supervisor in the transition of the supervisee to an independent researcher?
- What support does the supervisee need? How can supervisors support the postdoctoral phase of the PhD?
- What soft skills does the doctoral graduate need to learn over the course of the PhD training in order to become independent of you?

- What training and mentorship should supervisors provide during the PhD training and when should you begin to withdraw such support?
- What is the value in doing a postdoc period outside of the home university and what difficulties might be anticipated?
- To what extent should a supervisor be involved in assisting the student in their search for jobs, including postdoc positions?

60 minutes: The facilitator uses the ‘World Café’ activity to draw out experiences and share ideas about how supervisors can help doctoral graduates make transition from being students to independent researchers.

The facilitator divides the participants into five groups. At each of five stations, pin a large sheet of paper or flipchart, with a different question on the top of each one:

- What can the PhD student do?
- What can you do as a supervisor?
- What can your university do?
- What can your department do?
- What can CARTA do?

40 minutes: Every group has 5 minutes at each table to note their answers on the sheet. When they move to a new table, they review what is already written there and only add new points. After every group has answered each question, the whole group moves around the five stations together to read and discuss each set of ideas in full. Later, the facilitator collects the sheets, transcribes the points and send the document to everyone.

Resources

<http://www.theworldcafe.com/key-concepts-resources/design-principles>

Hobin JA, Clifford PS, Dunn BM, Rich S, Justement LB (2014). Putting PhDs to work: career planning for today’s scientists. CBE – Life sciences education 13: 49–53.

Bryan B and Guccione K (2018). Was it worth it? A qualitative exploration into graduate perceptions of doctoral value. Higher Education Research and development 37 : 1124–1140. DOI: 10.1080/07294360.2018.1479378

Session 12

Mentorship

Overview

For early-career researchers, effective mentorship is essential for personal development, career guidance and choices. Mentorship has a significant impact on the retention of trainees and their research productivity, including publication and grant success. Mentored graduates are said to be more connected to their work environment than their non-mentored peers. They also report higher levels of satisfaction with academic experience when compared to their non-mentored peers. Mentorship is a skill that needs to be developed and nurtured, hence this session.

Objectives

- To explore the role of mentorship in professional development
- To examine the dynamics of mentorship in the supervisor–supervisee relationship
- To differentiate between mentorship and coaching in professional development

Preparation before the session

Participants:

- Read the literature and internet material (see Resources)
- Identify their university's academic mentorship rules and tools and bring a copy to the workshop
- Note successful mentorship activities they have witnessed or experienced, to contribute to group discussions

Session plan

10 minutes: The facilitators welcome participants and display the objectives of the session. Using three to five slides, a facilitator defines mentorship and describes the important role mentoring plays in the career development of the academic. Ask participants:

- What is academic mentorship?
- Why do we need academic mentorship?
- How do we develop an academic-mentorship relationship?
- How can the available frameworks and tools be used to enable effective mentorship?
- How can mentorship be used to facilitate the decolonisation and democratisation of knowledge development, as well as improving the progression of women and/or disadvantaged ethnic groups into academic leadership roles?

5 minutes: The facilitator divides participants into groups and to discuss:

1. What are the differences between academic mentorship, supervision, and professional development?
2. What constitutes effective academic mentorship?
3. How best could these factors and processes be implemented in institutions?
4. What are the roles and responsibilities of a mentor and a mentee?
5. What is the focus of mentorship of early-career researchers?

40 minutes: Group discussion.

20 minutes: Back in the plenary, representatives take turns to present their group's conclusions and questions. The facilitator concludes the session with a summary of new ideas, solutions to challenges, best practices and potential action points.

Resources

Balogun, F. M., Malele-Kolisa, Y., Nieuwoudt, S. J., Jepngetich, H., Kiplagat, J., Morakinyo, O. M. & Kaindoa, E. (2021). Experiences of doctoral students enrolled in a research fellowship program to support doctoral training in Africa (2014 to 2018): The Consortium for Advanced Research Training in Africa odyssey. PloS one, 16(6), e0252863. <https://doi.org/10.1371/journal.pone.0252863>

Desai, M. M., Göç, N., Chirwa, T., Manderson, L., Charalambous, S., Curry, L. A., & Linnander, E. (2021). Strengthening the Mentorship and Leadership Capacity of HIV/AIDS and Tuberculosis Researchers in South Africa. The American Journal of Tropical Medicine and Hygiene. <https://pubmed.ncbi.nlm.nih.gov/34398822/>

Mathews, P. (2003). Academic mentoring enhancing the use of scarce resources. Educational Management Administration & Leadership, 31(3), 313–334. Available here: <http://ema.sagepub.com/content/31/3/313.full.pdf+html>

Practical advice for mentoring and supporting faculty colleagues in STEM fields: Views from mentor and mentee perspectives. Spangle, Jennifer M. et al. Journal of Biological Chemistry, Volume 0, Issue 0, 101062. DOI: <https://doi.org/10.1016/j.jbc.2021.101062>

Quinlan, K. M. (1999). Enhancing mentoring and networking of junior academic women: what, why, and how? Journal of higher education policy and management, 21(1), 31–42 Available here: <http://www.tandfonline.com/doi/pdf/10.1080/1360080990210103>

Sambunjak, D., Straus, S. E., & Marušić, A. (2006). Mentoring in academic medicine: a systematic review. Jama, 296(9), 1103–1115. Available here: <http://jama.jamanetwork.com/article.aspx?articleid=203257>

Schrodt, P., Cawyer, C. S., & Sanders, R. (2003). An examination of academic mentoring behaviors and new faculty members' satisfaction with socialization and tenure and promotion processes. Communication Education, 52(1), 17–29. Available here: <http://www.tandfonline.com/doi/pdf/10.1080/03634520302461>

Somefun, O. D., & Adebayo, K. O. (2021). The role of mentoring in research ecosystems in Sub-Saharan Africa: Some experiences through the CARTA opportunity. Global Public Health, 16(1), 36–47. <https://doi.org/10.1080/17441692.2020.1776365>

Sorkness, C.A., Pfund, C., Ofili, E.O. et al. A new approach to mentoring for research careers: the National Research Mentoring Network. BMC Proc 11, 22 (2017). <https://doi.org/10.1186/s12919-017-0083-8>

Making the mentoring relationship — or better, relationships — work. <https://www.fredhutch.org/content/www/en/news/center-news/2017/04/making-the-mentoring-relationship-work.html>

YouTube: How to be a Great Mentor | Kenneth Ortiz | TEDxBethanyGlobalUniversity https://youtu.be/G3q8kEn_nsg

Session 13

What have we achieved

Overview

For early-career researchers, effective mentorship is essential for personal development, career. This session encourages individual reflection on the workshop. The overall questions are: What have we achieved in the supervisor workshop? What have we achieved towards the development of an African perspective on supervision in research training? Raise remaining issues in open discussion with peers and facilitators. Discuss the challenges of research training in Africa, based on the experience of the participants. Little has been published on the specific challenges of research training in Africa or best practices to overcome them, so the network of peers established in the workshop may consider developing paper/s based on the workshop and on the experiences of the group.

Objectives

- To reflect on the questions raised by the workshop
- To consider if the workshop challenged supervisors' attitudes and perceptions on responsibilities in relation to supervision
- To synthesize all the opportunities for improved supervision practices mapped out during the workshop
- To consider what changes, if any, in research-education supervision are necessary in the supervisors' home institution
- To consider the potential role of supervisor training in the quality assurance of PhD education in supervisors' own institution
- To consider how contemporary initiatives in relation to research supervision and education outside of Africa may or may not be adapted to be useful in African contexts

Preparation before the session

Before the session, participants:

- Reflect in advance on all the discussions over the course of the workshop, so that they can share their views on what was useful, what was not, and what could improved

Session plan

5 minutes: The facilitator welcomes participants and displays the objectives of the session.

60 minutes: The facilitator asks participants to reflect on their experience:

- What issues in the workshop have been particularly valuable for you?
- Which issues covered in the workshop did you think were inappropriate or not very useful?
- Which workshop components could be improved and how?

- What additional issues should be covered in this workshop
- How might such workshops potentially contribute to improved research training in your institution? In Africa?
- Are there unique aspects of research training in the African context to learn from?

10 minutes: The facilitator notes the suggestions made, thanking participants for their contributions. Round off the session by highlighting lessons learnt, best practices and take-home messages. Highlight action points to improve supervising experience for their doctoral graduates.

25 minutes: The facilitators round off the workshop by requesting participants to complete evaluation form (and RedCap where relevant). The host facilitator presents certificates of attendance to participants.

PART 3

Resources

Participant preparation

Notes to send to all supervisors who will be attending, well in advance of the workshop itself.

Information

At least a week before the workshop, make sure you have the following information about your institution.

Session 1: What do we want to achieve?

- What are the requirements for recruitment into a PhD program at your institution?
- What is the format for PhD supervision in your field and department (thesis, publications, hybrid)?

Session 3: Scientific integrity

- What are the rules for maintaining scientific integrity in your institution?
- What (if any) specific rules relate to doctoral supervision?
- How are cases of misconduct dealt with in the institution?

Session 5: University and academic citizenship

- How does your university teach the relationship between excellence in teaching and academic citizenship?
- How does your university teach the relationship between excellence in leadership and the values of academic citizenship?

- How does your university see and discuss the responsibility of the university system for the sustainable development goals?
- Does your university recognize social responsibility? If so, how is this reflected in practice?

Session 6: Formal terms and conditions

- Does your institution regulate supervision through a contract or other document? If so, bring a copy to the workshop.

Session 7: Practical logistics of PhD supervision

- What does your university recommend with respect to individual or group supervision?
- How are supervisors prepared for and supported by their institutions?
- Do PhD candidates in your university need (or get) multi-disciplinary supervision?

Session 8: Psychology of the supervisor–supervisee relationship

- What support mechanisms are available in your institution for supervisor–supervisee relationships?

Session 9: Quality assurance in doctoral research training

- What are the guidelines and regulations for quality assurance of postgraduate studies at your university?
- How are quality control and assurance integrated at different levels of PhD training in your institutions?
- What is the quality control mechanism in your institutions as regards process and results?

Session 12: Mentorship

- What are the rules and tools for academic mentorship at your institution? (Bring a copy to the workshop)

Reading

Before attending the workshop, please read the materials for Sessions 1 and 2. Then please make sure you have read the materials before each session.

Session 1: What do we want to achieve?

https://www.researchgate.net/publication/225839594_Successful_PhD_Supervision_A_Two-Way_Process

Ali F, Shet A, Yan W, Atkins S, Lucas H and for the ARCADE consortium (2017). Doctoral Research and Training Capacity in the Social Determinants of Health at Universities and Higher Education Institutions in India, China, Oman and Vietnam: A Survey of Needs. *Health Research Policy and Systems*. 15:76–87

Loxley A and Kearns M (2018). Finding a purpose for the doctorate? A view from the supervisors. *Studies in Higher Education*. 43:826–840.

Williams A, Jones MG, Jonsson R, Harris RA and Mulvany MJ (2019). A comparison of doctoral training in biomedicine and medicine for some UK and Scandinavian graduate programmes: learning from each other. *FEBS OPEN BIO* 9:830–839.

Igumbor J, Bosire EN, Katahoire A, Allison J, Muula AS, Peixoto A, Otworld K, Bondjers G, Fonn S and Ajuwon A, Effective supervision of doctoral students in public and population health in Africa: CARTA supervisors' experiences, challenges and perceived opportunities. *Global Public Health*, 1–16. <https://doi.org/10.1080/17441692.2020.1864752>

Session 2: Recruitment of PhD candidates

https://www.researchgate.net/publication/225839594_Successful_PhD_Supervision_A_Two-Way_Process

Leijen, A.; Lepp, L.; Remmik, M. (2016) Why did I drop out? Former students' recollections about their study process and factors related to leaving the doctoral studies in Continuing Education 38: 129–144

Groenvynck, H ; Vandeveld, K; Van Rossem, R (2013) The PhD track: Who succeeds, who drops out? Research Evaluation 22: 199–209

Session 3: Scientific integrity

<http://retractionwatch.com>

<http://www.who.int/ethics/research/en>

Löfström E and Pyhältö K (2017). Ethics in the supervisory relationship: supervisors' and doctoral students' dilemmas in the natural and behavioural sciences. Studies in higher education. (42) 232–247

Denisova-Schmidt E. (2018). Corruption, the Lack of Academic Integrity and Other Ethical Issues in Higher Education: What Can Be Done within the Bologna Process? IN: Curaj A., Deca L., Pricopie R. (eds) European Higher Education Area: The Impact of Past and Future Policies, Springer, Cham. https://link.springer.com/content/pdf/10.1007%2F978-3-319-77407-7_5.pdf
Clynes M , Corbett A , Overbaugh (2019). J Why we need good mentoring. Nature Reviews Cancer. 19:489–493.

Session 4: The supervision process

<https://www.theguardian.com/higher-education-network/2015/dec/11/bad-phd-supervisors-can-ruin-research-so-why-arent-they-accountable>

<http://science-network.tv/supervision/>

Roach A, Christensen BK, Rieger E (2019). The essential ingredients of research supervision: A discrete-choice experiment. J. Educ. Psychology 111:1243–1260.

Barnett JV, RA Harris, MJ Mulvany (2017). A comparison of best practices for doctoral training in Europe and North America. FEBS Open Bio. 7: 1444–1452.

Session 5: University and academic citizenship

<https://www.timeshighereducation.com/features/10-truths-a-phd-supervisor-will-never-tell-you/2005513.article>

Anna Peixoto (2014). De mest lämpade. <http://hdl.handle.net/2077/35675> Thesis in Swedish but with an extensive summary in English, available on the web. Short presentation of the Bourdiean analysis of the academic field.

Lee, Ann (2007). How are doctoral students supervised? Concepts of doctoral research supervision. Studies in Higher Education 33: 267–281.

Session 6: Formal terms and conditions

<https://innsida.ntnu.no/wiki/-/wiki/English/PhD+Handbook>

Shin JC, Kim SJ, Kim E, Lim H (2018). Doctoral students' satisfaction in a research-focused Korean university: socio-environmental and motivational factors. Asia Pacific Education Review 19:159–168

CARTA contract of supervision and academic obligations (also in Part III: Resources)

Session 7: Practical logistics of PhD supervision

Nakanjako D., Katamba A., Kaye D., Okello E., Kanya M., Sewankembo N., Mayanja-Kizza H., (2014). Doctoral training in Uganda: evaluation of mentoring best practices at Makerere university college of health sciences. BMC Medical Education 14:9. DOI: 10.1186/1472-6920-14-9

van Schalkwyk SC Murdoch-Eaton D Tekian A van der Vleuten C, Cilliers F (2016). The supervisor's toolkit: A framework for doctoral supervision in health professions education: AMEE Guide No. 104. Med Teach. 38:429–42. doi: 10.3109/0142159X.2016.1142517. Epub 2016 Mar 21.

Govender, K., & Dhunpath, R. (2011). Student experiences of the PhD cohort model: Working within or outside communities of practice. Perspectives in Education, 29(1), 88–99. <https://journals.co.za/doi/pdf/10.10520/EJC87632>

Session 8: Psychology of the supervisor–supervisee relationship

Deuchar R (2008). Facilitator, director or critical friend? Contradiction and congruence in doctoral supervision styles. *Teaching in higher education* 13: 489–500.

Bitzer E and Matimbo F (2017). Cultivating African Academic capital – intersectional narratives of an African graduate and his PhD study supervisor. *Innovations in Education and Teaching International*

Bernstein, B. L., Evans, B., Fyffe, J., Halai, N., Hall, F. L., Jensen, H. S., ... & Ortega, S. (2014). The continuing evolution of the research doctorate. In *Globalization and its impacts on the quality of PhD education* (pp. 5–30). Brill Sense.54:539–549. DOI: 10.1080/14703297.2017.1394825

Fortes, M., Kehm, B. M., & Mayekiso, T. (2014). Evaluation and quality management in Europe, Mexico, and South Africa. In *Globalization and its impacts on the quality of PhD education* (pp. 81–109). Brill Sense

Session 9: Quality assurance in doctoral research training

http://www.eua.be/Libraries/publications-homepage-list/Salzburg_II_Recommendations

<http://www.orpheus-med.org/images/stories/documents/ORPHEUS-AMSE-WFME-standards-for-PhD-education.pdf>

Session 10: Inequity and dilemmas in supervision

<https://www.auckland.ac.nz/en/about/the-university/how-university-works/policy-and-administration/equity/equity-policy-and-procedures-.html>

Carter S, Blumenstein M, Cook C (2013). Different for women? The challenges of doctoral studies. *Teaching in higher education* 18:339–351.

Shibayama S and Kobayashi Y (2017). Impact of Ph.D. training: a comprehensive analysis based on a Japanese national doctoral survey. *Scientometrics* 113:387–415. DOI 10.1007/s11192-017-2479-7

Cohen, GL; Garcia, J; Appel N; Master, A (2006). Reducing the racial achievement gap: A social-psychological intervention. *Science* 313: 1307–3013.. doi 10.1126/Science 1128317

Doumbo, OK, Krogstad DJ. (1998). Doctoral training of African scientists. *Am J Trop Med Hyg.* 58:127–132. DOI; 10.4269/ajtmh 58.127

Session 11: The detachment process

<http://www.theworldcafe.com/key-concepts-resources/design-principles>

Hobin JA, Clifford PS, Dunn BM, Rich S, Justement LB (2014). Putting PhDs to work: career planning for today’s scientists. *CBE – Life sciences education* 13: 49–53.

Bryan B and Guccione K (2018). Was it worth it? A qualitative exploration into graduate perceptions of doctoral value. *Higher Education Research and development* 37 : 1124–1140. DOI: 10.1080/07294360.2018.1479378

Session 12: Mentorship

Balogun, F. M., Malele-Kolisa, Y., Nieuwoudt, S. J., Jepngetich, H., Kiplagat, J., Morakinyo, O. M. & Kaindoa, E. (2021).

Experiences of doctoral students enrolled in a research fellowship program to support doctoral training in Africa (2014 to 2018): The Consortium for Advanced Research Training in Africa odyssey. *PloS one*, 16(6), e0252863. <https://doi.org/10.1371/journal.pone.0252863>

Desai, M. M., Göç, N., Chirwa, T., Manderson, L., Charalambous, S., Curry, L. A., & Linnander, E. (2021). Strengthening the Mentorship and Leadership Capacity of HIV/AIDS and Tuberculosis Researchers in South Africa. *The American Journal of Tropical Medicine and Hygiene.* <https://pubmed.ncbi.nlm.nih.gov/34398822/>

Mathews, P. (2003). Academic mentoring enhancing the use of scarce resources. *Educational Management Administration & Leadership*, 31(3), 313–334. Available here: <http://ema.sagepub.com/content/31/3/313.full.pdf+html>

Practical advice for mentoring and supporting faculty colleagues in STEM fields: Views from mentor and mentee perspectives. Spangle, Jennifer M. et al. *Journal of Biological Chemistry*, Volume 0, Issue 0, 101062. DOI: <https://doi.org/10.1016/j.jbc.2021.101062>

Quinlan, K. M. (1999). Enhancing mentoring and networking of junior academic women: what, why, and how? *Journal of higher education policy and management*, 21(1), 31–42 Available here: <http://www.tandfonline.com/doi/pdf/10.1080/1360080990210103>

Sambunjak, D., Straus, S. E., & Marušić, A. (2006). Mentoring in academic medicine: a systematic review. *Jama*, 296(9), 1103–1115. Available here: <http://jama.jamanetwork.com/article.aspx?articleid=203257>

Schrodt, P., Cawyer, C. S., & Sanders, R. (2003). An examination of academic mentoring behaviors and new faculty members' satisfaction with socialization and tenure and promotion processes. *Communication Education*, 52(1), 17–29. Available here: <http://www.tandfonline.com/doi/pdf/10.1080/03634520302461>

Somefun, O. D., & Adebayo, K. O. (2021). The role of mentoring in research ecosystems in Sub-Saharan Africa: Some experiences through the CARTA opportunity. *Global Public Health*, 16(1), 36–47. <https://doi.org/10.1080/17441692.2020.1776365>

Sorkness, C.A., Pfund, C., Ofili, E.O. et al. A new approach to mentoring for research careers: the National Research Mentoring Network. *BMC Proc* 11, 22 (2017). <https://doi.org/10.1186/s12919-017-0083-8>

Making the mentoring relationship — or better, relationships — work. <https://www.fredhutch.org/content/www/en/news/center-news/2017/04/making-the-mentoring-relationship-work.html>

YouTube: [How to be a Great Mentor | Kenneth Ortiz | TEDxBethanyGlobalUniversity https://youtu.be/G3q8kEn_nsg](https://youtu.be/G3q8kEn_nsg)

CARTA contract of supervision and academic obligations

This document provides a guideline to communication and practice for the duration of the doctoral research between

PhD candidate)

and

(Supervisor)

at

(name of institution)

The items agreed on below are intended to supplement the legal obligations of the candidate and supervisor(s), individually, to their university and to any funding agency. University rules, regulations and by-laws cover other contingencies and circumstances, and have precedence over any circumstances set out below.

The candidate and supervisor(s) should all keep original signed copies of this document. A copy should also be forwarded to the Research Dean or senior academic delegated with authority to overview graduate students in the academic unit in which the student is enrolled.

Principles, Actions and Processes Comments

1. The doctoral candidate shall:
 - 1.1. Undertake all formalities of enrolment, including any documentation of proof of prior qualifications or outcome of tests
 - 1.2. Adhere to all university rules and regulations, including those related to:
 - 1.2.1. Attendance
 - 1.2.2. Hours of paid work
 - 1.2.3. Submission of reports and completion of specific activities (e.g. confirmation seminar)
 - 1.2.4. Ethics approval and reporting
 - 1.2.5. Plagiarism
 - 1.2.6. Intellectual Property
 - 1.2.7. Occupational Health and Safety
 - 1.2.8. Other ethical obligations as a candidate and as a member of the university

- 1.3. Undertake activities required by the academic programs specified by the university, faculty and department in which they are enrolled including:
 - 1.3.1. Undertake and complete coursework as required
 - 1.3.2. Attend seminars and journal clubs as required
 - 1.3.3. Participate in academic activities such as seminars at the local host institution where data collection occurs, should he or she be in a field setting away from the university of enrolment
- 1.4. Meet all regular reporting obligations such as annual reports to ethics committees, funding bodies, and the university graduate candidate office, and ensure that such reports are with the primary supervisor at least one week before due date
- 1.5. Advise the supervisor(s) of any events that may impact on progress, including accepting part-time employment or voluntary activities
- 1.6. Contact other people for advice as he or she chooses
- 1.7. Have the right to intellectual, administrative, and practical support to undertake his or her research
- 1.8. Hold ownership of his or her work. Accordingly the candidate is responsible for the content and presentation of their work.
- 1.9. Have the right to seek an alternative supervisor and change supervisory arrangements if the supervisor fails to honor agreements set out in this contract, or for any other reason, subject to permission from the head of department or other representative of the university, and in so doing, he or she should not be penalized by any other party.
2. Good supervision is an important component of the institutional commitment to the candidate to complete their doctoral training program. The supervisor(s) shall:
 - 2.1. Guide and support the candidate, and provide appropriate mediation should conflict with any other person or institution occur
 - 2.2. Identify and advise the candidate on training needs additional to those acquired from any requisite training specified by the university or funding agency
 - 2.3. Provide guidance to the relevant scientific literature, skills and techniques
 - 2.4. Provide feedback of written work in a timely manner, ordinarily within three weeks, and be available to discuss work, progress or other issues as may arise with the candidate
 - 2.5. If unable to honor an appointment or feedback regarding work, for example, as a result of ill health or work travel, advise the candidate of changes in availability for an appointment or of a longer absence as early as possible
 - 2.6. Where possible and subject to funding, visit the candidate in the field in order to provide academic support and to monitor the candidate's progress
 - 2.7. Provide appropriate academic advice and support, and arrange other academic support as necessary, to ensure that the candidate is working at a level expected of a PhD candidate and in ways that will enable timely and successful completion
 - 2.8. Provide appropriate personal advice and support, and arrange other support and counseling as necessary, to ensure that the candidate is physically and mentally able to work at a level expected of a PhD candidate
 - 2.9. Ensure that any services and technical equipment are available, such as assistive communication aids and appropriate furniture for candidates with specific physical difficulties, to ensure that the candidate can work at a level expected of a PhD candidate and in ways that will enable timely and successful completion

- 2.10. In the event of retirement, relocation or prolonged absence shall be responsible for arranging
 - 2.10.1. to continue supervision subsequent to departure and until the student has graduated, or
 - 2.10.2. for students in the early stages of candidature, arrange alternative supervision
 - 2.10.3. Have the right to terminate a supervisory arrangement for reasons
 - 2.10.4. provided advice is given to the appropriate authorities and due steps are taken to enable the candidate to continue without prejudice,
 - 2.10.5. Take steps to discontinue the enrolment of the candidate when the candidate has failed to meet contractual obligations, timelines and outputs such as to provide evidence that he or she should not continue their candidature

A successful PhD program requires the collaboration and commitment of and a good relationship between the candidate and supervisor, or supervisors where there are more than one. Through discussion, the candidate and supervisor(s) shall agree on:

- 2.11. A work plan to ensure the completion of specified tasks and the presentation of work to supervisor to ensure timely outputs
- 2.12. The regularity and duration of meetings, set out a timetable for such meetings and keep appointments
- 2.13. Requirements of presence on campus and the facilities and technical support to be provided for the candidate on campus
- 2.14. The turn-around time of written work submitted by the candidate and feedback to the candidate, to so ensure the timely progress of the candidate
- 2.15. General mode of communication, both day to day and at any time that supervisor or candidate is travelling or undertaking field research, with respect to face to face meetings, email and other online communications, telephone and skype
- 2.16. Attendance and participation in specified seminars, journals clubs, conferences and other academic activities
- 2.17. The minimum academic program of part-time candidates, including seminar and workshop requirements, and discuss and clarify the implications of any part-time commitments for fulltime candidates
- 2.18. How to present results including in seminars, videoconferencing, conferences, papers, including when, in what fora, and in what form
- 2.19. The following issues related to publications and dissemination of information arising from the PhD research
 - 2.19.1. During candidature, the candidate is the first author regardless of any other agreement of authorship
 - 2.19.2. The graduate retains the right to publish a full length monograph of his or her work
 - 2.19.3. In institutions where publication is not a requirement for PhD graduation and where the candidate has expressed no interest in, or made no attempt to publish in the first year after graduation, then with permission from the candidate the supervisor(s) can take the lead on a peer review journal article or book chapter, drawing on data collected for the PhD, provided that the graduate is a co-author
 - 2.19.4. that all authors adhere to the rules of authorship as specified by particular journals, and
 - 2.19.5. As further specified or modified in 4.1 below

- 3. Additional clauses determined by agreement between the supervisor(s) and candidate

- 3.1. Publication and authorship of articles, reports, posters, conference papers, and other outputs
- 3.2. Any other clauses not specified above

Signed at

(Place)

on

(Date)

by.

(Name & Signature of Candidate)

(Name & Signature of Supervisor)

Additional supervisors:

Witness

(Name & Signature)

Address

Trio Coaching

This form of structured conversation helps with reflection, problem solving and development. Learn the technique as a role play in a workshop. See also the CARTA Trio Coaching video.

The group consists of three people and the roles are Focus person, Coach and Observer.

Dilemma

Discuss a real dilemma concerning the psychology involved in a supervisor–supervisee relationship. It should be a dilemma that you have experienced yourself, mediating difficulties in supervisory relations affected by gender ethnicity, social class, culture and/or sexuality.

Possible examples:

- As a female supervisor, the male co-supervisor tends not to listen to you
- Your PhD student makes sexual advances
- It is hard for you to be a supervisor because you are from a minority group
- You have a hard time getting your supervisee to listen to you since you are much younger than him/her
- Your supervisee offers you gifts on special occasions such as Christmas

Pointers

- It is important to keep to the time and follow the structure.
- The exercise takes a maximum of 30 minutes
- Only discuss one dilemma at the time in each group
- Remember confidentiality: What is said during the session stays in the room!

Steps

Conversation 1: Mapping the situation (10 minutes)

The focus person starts by explaining their dilemma. The coach asks open questions to help the focus person to develop and describe their thoughts. The observer listens actively, but does not speak.

Conversation 2: Reflections on the focus person's dilemma (10 minutes)

The coach and the observer reflect on the conversation that just took place. What experiences do they have of similar situations? What do they think is the real substance of the situation? What did the focus person leave out of the story? How can the focus person succeed with their task in the best way or resolve their dilemma? The focus person just listens during this conversation; they do not speak. The coach and the observer talk to each other as if the focus person was not present.

Conversation 3: Capturing what is relevant (10 minutes)

The third conversation takes place between the focus person and the coach. They concentrate on the things that the focus person perceived as important, interesting and clarifying in the previous conversation. The coach begins by asking the focus person what they thought

and felt when they listened to the reflections. The coach tries to help the focus person come up with concrete steps towards desired outcome. The observer listens to the conversation without speaking.

Debrief

In a round-table discussion between all three participants, discuss your views on Trio Coaching. Could this be helpful to use at your department? (10 minutes)



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