Supervision

A curriculum to equip both new and experienced PhD supervisors

Introduction

The 13 sessions of this training curriculum cover the process of supervising PhD research from recruitment and selection of doctoral candidates, through integrity in supervision and relationship dynamics, to detachment and post-training mentoring of PhD graduates. The curriculum provides guidance addressed to you, the person designing and/ or facilitating the training of supervisors.

Watch the video as preparation for using this curriculum.

> *One or more interactive elements has been excluded from this version of the text. You can view them online here:*
> *https://pressbooks.pub/cartacurricula/?p=798#oembed-1*

Download this curriculum in full.

Overview

You have various approaches to choose from in order to train supervisors. CARTA offers this particular curriculum because it has been well received by participants ranging from senior, experienced supervisors to new supervisors.

Doctoral training is crucial to fast-track the development of Africa, and so CARTA made it a priority (Mothiba et al., 2019). Anywhere in the world, effective and efficient supervision plays an important role in the experience and outcomes of doctoral research. Appropriate supervision ensures that candidates receive the guidance that will establish them as career researchers who are, in turn, equipped to train the next generation.

Supervisors play multiple roles, such as guiding doctoral students to:
- Identify feasible research topics.
- Formulate appropriate questions.
- Develop feasible study protocols.
- Analyse and write up their research.
- Complete their projects on time.

Supervisors provide oversight of the entire research process. High-quality supervision is essential for the timely completion of high-quality doctoral research projects and then for launching candidates into academia, or research institutes, public or private (Kiley, 2011).

Supervision is a team venture; effective collaboration between multiple supervisors is essential. Styles of supervision have changed over time, from the apprentice model – which implied one-on-one supervision – to team supervision, especially as multidisciplinary studies become more common. These require the support of supervisors from diverse specialities 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.

Training of supervisors for doctoral candidates has been inadequate in many institutions. 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.

This curriculum is based on experience from the first ten years of the CARTA program, including a comprehensive one-week workshop for the PhD supervisors. (Manderson et al 2017, Igumbor et al 2021).
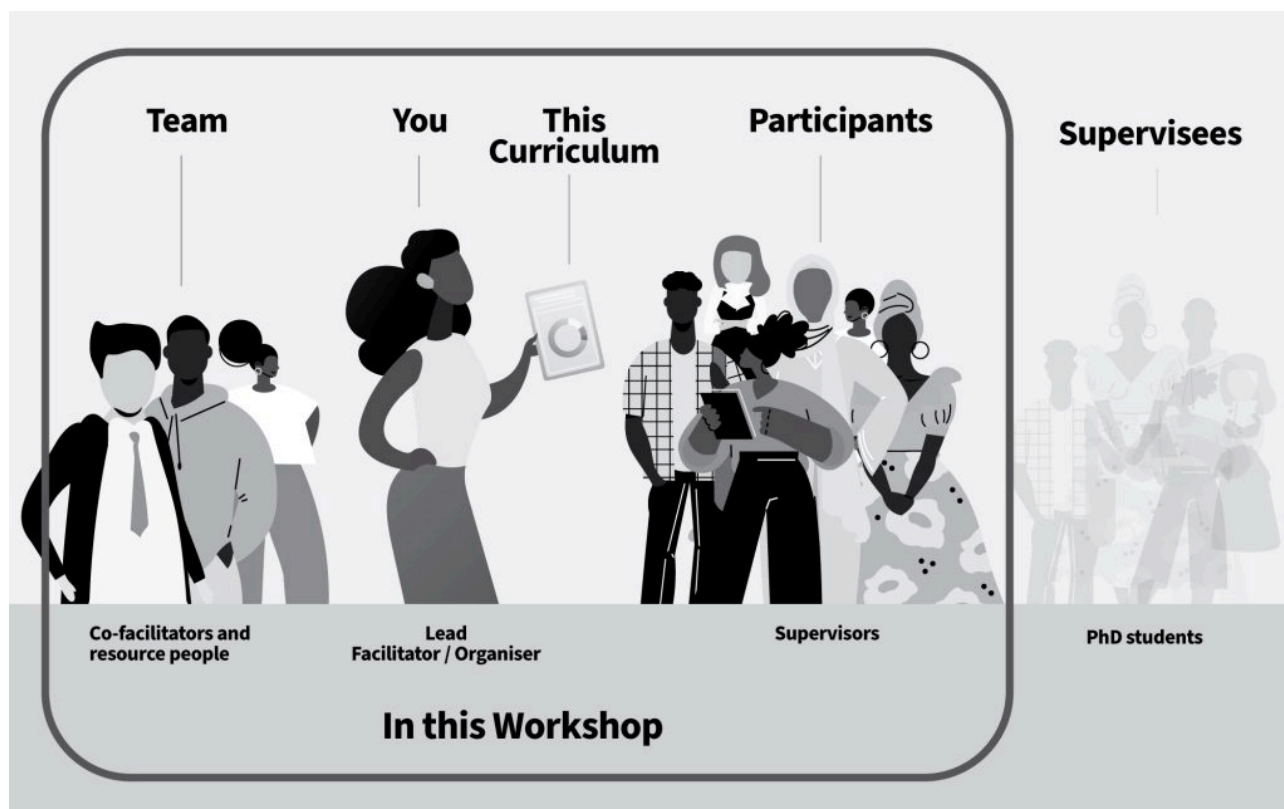
Outcomes

By the end of the workshop or series of sessions, PhD supervisors can:

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

Approach

The CARTA approach is problem-posing and participatory, acknowledging the skills, and experience that people bring into the workshop. Each session presents situations and poses problems. Participants work with each other and with inputs from the facilitator to find solutions. Problem-posing education bases itself on creativity and stimulates true reflection along with action on 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 values and the approach to sharing them. From the beginning, this curriculum recognizes all participants as thinking, creative people with the capacity for action. Each person is a contributor, bringing different perceptions based on their own experiences. This requires that you, as facilitator, make a conscious effort to use participatory methods to enable participants to grow in awareness.

Watch this video for more insight into CARTA's approach.

> *One or more interactive elements has been excluded from this version of the text. You can view them online here:*
> *https://pressbooks.pub/cartacurricula/?p=798#oembed-2*

Facilitation

Some people assume that facilitating a workshop will be an easy process, until they try doing it. The participatory method means that you and your co-facilitators guide the workshop while appreciating that the participants are in charge. Your 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.

A good co-facilitator works as an ally to help you 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 co-facilitators who have the personality and aptitude to understand the goals, objectives, and expected outcomes of this curriculum. CARTA recommends you look for co-facilitators with these attributes.

> ***Facilitator attributes***
>
> *An unbiased perspective*
> Participants should feel comfortable that their opinions are welcomed and encouraged. As an unbiased facilitator, you create 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, you must 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 feel-

ings, 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 you learn to sense the feelings of individuals is by listening carefully, noting body language along with both the explicit meaning of words, and their tone and implicit meaning. As a good facilitator, you practise 'active listening'. You might repeat, sum up, or respond directly to what a speaker says to ensure that their 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. Find a gentle, tactful way to engage the group so that everyone can participate and get the most out of the session. A capable facilitator knows how to diffuse 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 you resist a dominating role. Likewise, a good facilitator is willing to share facilitation with co-facilitators. The goal is always to conduct the best and most effective discussion. To that end, you need to adjust your role accordingly.

A sense of timing

Any facilitator needs to develop a sixth sense for timing: 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

Each group of participants presents different dynamics. Despite a well-planned agenda, discussions may not unfold as anticipated. You must be able to think on your 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 to move forward with 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.

Preparation

As you work through the curriculum ahead of the workshop, check that participants will be able to access the references for all sessions. Some sources may require payment, an email request to authors, institutional log in or a portal such as Hinari.

Identify and engage co-facilitators and other contributors for the workshop. Advise your co-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. Meet as a facilitation team as often as needed to ensure that all are on the same page.

For the workshop venue, identify a location that allows participants to move around easily, for example for role-play. 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.

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.

Prepare and link to an online pre-workshop survey to draw out 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.

> *Participant preparation*
>
> Supervisors attending the workshop need to be familiar with the relevant procedures of their own institutions. To ensure each one is ready to share and discuss this information, send this questionnaire to all participants well ahead of the workshop.
>
> To all workshop participants: Please make sure you have the following information about your own institution.
> - 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)?
> - What are the regulations for maintaining scientific integrity and for sanctioning misconduct (such as plagiarism)?
> - Does your university recognise social responsibility? If so, how is this reflected in policies and practice?
> - Does your institution regulate supervision through a contract or other document? If so, bring a copy to the workshop?
> - How does your institution prepare and support supervisors for this role?
> - Do PhD candidates in your university need (or get) multi-disciplinary supervision?
> - What support mechanisms (if any) are available in your institution for supervisor–supervisee relationships?
> - How are quality control and assurance integrated at different levels of PhD training in your institutions?
> - What are the rules and tools for academic mentorship at your institution? Please bring a copy to the workshop.

References

- Fonn, S., Ayiro, L. P., Cotton, P., Habib, A., Mbithi, P. M. F., Mtenje, A., & Ezeh, A. (2018). Repositioning Africa in global knowledge production. The Lancet, 392(10153), 1163–1166.
- Igumbor, J. O., et al: (2022). Effective supervision of doctoral students in public and population health in Africa: CARTA supervisors' experiences, challenges and perceived opportunities, Global Public Health, 17:4, 496-511.
- Kiley, M. (2011). Developments in research supervisor training: Causes and responses. Studies in Higher Education, 36(5), 585–599.
- Manderson, L., et al (2017). Enhancing Doctoral Supervision Practices in Africa: Reflection on the CARTA Approach. Council for the Development of Social Science Research in Africa, 2018 (ISSN 0851–7762).
- 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.
- Olubosoye, O. E. and Olusoji, O. (2013/2014). Determinants of PhD completion time at the University of Ibadan. CES-DAVE/ African Journal of Sustainable Development, Vol. 4 No. 2.
- Tettey, W. J. (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 Oonyu, J. C. (2012). Extended candidature and non-completion of a PhD at Makerere University, Uganda. Contemporary Issues in Education Research 5 (3): 175-183.

Sessions

Sequence, 13 sessions, 1 week

Session 1. What Do We Want to Achieve? | 2 hours

Discuss the desired outcomes of the workshop, reflecting on why individuals choose to train for a PhD, and how academia and society benefit. Participants compare the conditions and support for supervision in their institutions, building group rapport.

Outcomes

By the end of the session, supervisors can:

- Relate the requirements for a PhD to the candidate's responsibilities, work, and potential career path.
- Describe the potential impact of a PhD on academic institutions, industry, and society.
- Characterise the role and responsibilities of the supervisor in the training and development of a PhD graduate as an independent researcher and leader.

Preparation

As the facilitator

At least one week before the workshop, ask participants: How did you prepare for a career or role as a PhD supervisor? Ask them read these resources in light of their own institution and experience.

- Ali, F., Shet, A., Yan, W., Atkins, S., and 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.
- Igumbor, J., Bosire, E. N., Katahoire. A., Allison, J., Muula, A. S., Peixoto, A., Otwombe, 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.
- Wichmann-Hansen, G., Wogensen, Bach. L., Eika, B., Mulvany, M. J., Successful PhD Supervision: A Two-Way Process, Chapter 5, The Researching, Teaching, and Learning Triangle, DOI 10.1007/978-1-4614-0568-9_5.

Steps

Time	Step	Who
10 minutes	1. Welcome and outline of the workshop	Facilitator
15 minutes	2. Introduce participants	Facilitator, supervisors
35 minutes	3. Describe PhD requirements by institution	Groups
30 minutes	4. Compare institutional requirements	Each group to plenary
40 minutes	5. Discuss challenges and solutions	Full group

Step 1. Welcome and outline the workshop
10 minutes

Welcome the supervisors with an ice-breaker activity. Display on a slide the objectives of the supervision workshop and outline the roles that supervision plays in the preparation of doctoral graduates.

Step 2. Introduce participants
15 minutes

Invite each supervisor to briefly introduce themselves: full name, institution, number of PhD candidates successfully supervised, and expectations from the workshop.

Step 3. Describe PhD requirements by institution
35 minutes

Divide the supervisors into three groups. Each group should have a mix of:

- Experienced supervisors (more than three PhDs successfully supervised).

- Less experienced supervisors (one or two PhDs supervised).
- Postdoctoral students considering a career or role as supervisors.

Present the group tasks on a slide or sheet:
- What are the requirements for recruitment into a PhD program at your institution?
- What is the basis for attaining a PhD in your institution/ discipline (thesis, publications, etc.)?
- What are the roles and responsibilities of supervisors in your institution in the training and development of a PhD graduate as an independent researcher and leader?

Groups meet and discuss in different parts of the room or building, keeping a summary on a flip chart or slide/s.

Step 4. Compare institutional requirements
30 minutes

A representative of each group presents the summary to the full group, taking a turn to explain which step/s in the research process they find easier and which more difficult, and why.

Step 5. Discuss challenges and solutions
30 minutes

Facilitate a discussion of contrasts, challenges and potential solutions related to the requirements of candidates and supervisors in different institutions. Round up the discussion with a summary of key points.

Session 2. Recruiting PhD Candidates | 2 hours

Supervisors 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 their successful completion. Participants map out common pitfalls and pool their combined experience to brainstorm practical solutions.

Outcomes
By the end of this session, supervisors can:
- Compare the processes involved in recruiting and selecting PhD students in different universities.
- Appreciate how these processes – and the way they are managed – affect the progress, retention, attrition, and future success of PhD candidates, depending on how they are managed.
- Discuss the effects of candidate recruitment and selection, on the supervision process and journey.
- Identify best practices in recruitment, training, and retention of candidates, and in ensuring the successful completion of PhD training.
- Discuss common pitfalls in recruitment process and map out practical solutions.

Preparation
Design a PowerPoint presentation (maximum of five slides) to introduce the session (Step 1).
Consult these resources to enrich your presentation and share them with participants.
  ◦ Wichmann-Hansen, G., Wogensen, L; Eika, B., Mulvany, M. (2012) Successful PhD Supervision: A Two-Way Process in The Researching, Teaching, and Learning Triangle, 55–64.
  ◦ Leijen, A., Lepp, L., Remmik, M. (2015) 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., Vandevelde, K., Van Rossem, R. (2013) The PhD track: Who succeeds, who drops out? Research Evaluation 22: 199-209.

Steps

Time	Step	Who
15 minutes	1. Introduce recruitment	Facilitator to full group
30 minutes	2. Discuss institutional practices	Groups
30 minutes	3. Present recruitment strategies	Each group to plenary
45 minutes	4. Brainstorm solutions	Plenary

Step 1. Introduce recruitment
15 minutes

Using your PowerPoint presentation, outline the session. Describe:
- The need for an appropriate process of recruiting suitable candidates for doctoral training.
- The challenge of attrition, a major problem in doctoral training.
- The importance of identifying suitable candidates: those likely to enrol and complete doctoral training on schedule (three or four years of full-time study).

Step 2. Discuss experiences, challenges and best practices
45 minutes

Divide the supervisors into three groups and invite them to:
- Discuss the merits and challenges involved in the current processes for recruiting doctoral candidates in their institutions.
- Identify characteristics of ideal candidates for doctoral training.
- List best practices for recruiting doctoral candidates.
- Discuss strategies for overcoming attrition in doctoral training.

Each group records key points on flipcharts.

Step 3. Present recruitment strategies
30 minutes

Each group presents their conclusions to the plenary. To vary the process, you might use the approach in the "[Multiple Perspectives](#)" video.

Step 4. Brainstorm ideal recruitment processes
30 minutes

Supervisors propose and discuss elements that would contribute to an ideal approach to recruitment. Ask:
- 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?

Session 3. Research Integrity | 1 hour, 30 minutes

Supervisors focus on their need to guide their supervisee when it comes to ethics. Any accusation of misconduct such as plagiarism, fabrication, or falsification will reflect on the supervisor as well as the student and the institution. Solidarity is important between researchers, supervisors and supervisees,"""" and co-authors in ensuring the integrity of research.

Outcomes
By the end of this session, supervisors can:
- Appreciate international standards and regulations for research integrity.
- Understand their own role, as an individual or as a member of a supervisory team, in applying these rules in PhD training.
- Compare practical procedures for ensuring research integrity in various institutions.

- Appreciate the concept of academic citizenship in relation to supervisory integrity.

Preparation

Ask supervisors to watch or read the resource materials and come ready to discuss the issues they raise.

- "Plagiarism scandal engulfs high-profile academic in Latvia" and other articles on RetractionWatch
- World Health Organization (2017). Code of Ethics and Professional Conduct (abridged)
- 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.
- Clynes, M., Corbett, A., Overbaugh, J. (2019). J. Why we need good mentoring. Nature Reviews Cancer. 19:489-493.

Prepare three slides to introduce the concepts of scientific integrity and academic citizenship and to give examples of misconduct.

Steps

Time	Step	Who
10 minutes	1. Define scientific integrity	Facilitator
15 minutes	2. Discuss academic citizenship	Facilitator and group
40 minutes	3. Compare rules to maintain integrity	Small groups
20 minutes	4. Present existing and potential rules	Each group to plenary
5 minutes	5. Discuss supervisors' role in modelling integrity	Facilitator

Step 1. Define scientific integrity
10 minutes

Introduce the objectives of the session and present slides to define meaning of integrity and describe its importance in research and supervision. Give examples of misconduct, including fabrication, falsification and plagiarism. Welcome input from supervisors on their experiences with integrity in their supervisory role.

Step 2. Discuss academic citizenship
15 minutes

To stimulate discussion, ask:
- What is academic citizenship?
- Why is adherence to research integrity important for the academic community?
- What is supervisory integrity?
- What is the role of the supervisor/s in supporting research integrity and ethics?
- What should the repercussions for misconduct be?
- How would you react if you suspect dishonesty or misconduct in your supervisee?

Step 3. Compare rules to maintain integrity
40 minutes

Divide the supervisors into three groups to discuss:
- What are the rules for maintaining research integrity in your institution?
- What (if any) specific rules relate to doctoral supervision?
- How are cases of misconduct dealt with in the institution?
- How effective are the rules?
- How can these rules be strengthened?

Step 4. Present existing and potential rules
5 minutes

Groups provide and discuss feedback.

Step 5. Discuss supervisors' role in modelling integrity
20 minutes

To conclude the session, emphasize that supervisors should model integrity for their supervisees. Note that institutions require clear policies and guidelines to create an environment that fosters integrity. Refer to Turnitin, an important tool for detecting plagiarism.

Session 4. The Supervision Process | 1 hour, 30 minutes

Supervisors describe and discuss the practical organization of supervision in different institutions and disciplines.

Outcomes

By the end of this session, supervisors can:
- Critically review the supervisory process as it is organised in their own institutions.
- Appreciate the interactive roles and responsibilities of the candidate and the supervisor in different phases of the PhD training process.
- Consider other support for supervision in their own institutions.
- Understand different perspectives on the purpose of the PhD.
- Debate the use of milestones and progress reports during supervision.
- Compare international differences and common trends in supervision processes and training for supervisors.

Preparation

Summarise the steps in the supervision process in three or four slides (Step 1).

For participants

Read these resources before the session:
- Anonymous Academic. (2015). Bad PhD supervisors can ruin research. So why aren't they accountable? The Guardian.
- Ronnie Gunnarson. (2014). Supervision (of PhD students). In Science Network TV.
- Roach, A., Christensen B. K., Rieger, E. (2019). The essential ingredients of research supervision: A discrete-choice experiment. J. Educ. Psychology 111:1243-1260.
- Barnett, J. V., R. A. Harris., M. J., Mulvany (2017). A comparison of best practices for doctoral training in Europe and North America. FEBS Open Bio. 7: 1444-1452.

Reflect on the question "How are supervisors prepared for their task in your institution?" and prepare notes and/or a PowerPoint slide for the session.

Prepare three PowerPoint slides to introduce the concepts of scientific integrity and academic citizenship and to give examples of misconduct.

Steps

Time	Step	Who
10 minutes	1. Describe the steps in the supervision process	Facilitator
15 minutes	2. Discuss the process in different institutions	All
45 minutes	3. Compare preparation for supervisor role	Small groups
20 minutes	4. Discuss best practices to prepare supervisors	Groups to plenary

Step 1. Describe the steps in the supervision process

10 minutes

Describe the supervision process as all activities that take place during supervision of doctoral candidates. Emphasize the fact that supervisors need training in order to perform their supervisory roles effectively.

Step 2. Discuss the process in different institutions
15 minutes

Invite a general discussion. Ask:
- Who allocates the supervisor to a specific supervisee in your institution, and what are the criteria for this allocation?
- 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?

Step 3. Compare preparation for the supervisor role
45 minutes

Divide participants into groups. Ask them to discuss these questions:
- What is the role of supervisors of doctoral students in achieving success in PhD training?
- What preparation do supervisors need to effectively perform this role?
- How can supervisors' knowledge and skills be enhanced to enable them perform their roles more effectively?

Step 4. Discuss best practices to prepare supervisors
20 minutes

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

Session 5. University and Academic Citizenship | 1 hour, 40 minutes
- What does society expect from universities?
- And what do we expect from university systems in terms of PhD training to meet society's expectations?

Supervisors 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 international agreements, such as 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.

Outcomes
By the end of this session, supervisors can:
- Identify the responsibilities (aside from producing a thesis) of the supervisor, the mentor, and the university in the training of a doctoral candidate.
- Appreciate the role of the supervisor in supporting the development of the next generation of academic leaders.
- Understand the role of PhD training in the attainment of the Sustainable Development Goals.
- Compare the oversight mechanisms in place at various universities to ensure that both the PhD candidate and the supervisors fulfil their roles and responsibilities.

Preparation
Develop three to five PowerPoint slides to outline the role of universities in the development of academic citizens and in achieving the Sustainable Development Goals (Step 1).

For participants

Read these resources before the session:

- Tara Brabazon. (2013). [10 truths a PhD supervisor will never tell you](). Times Higher Education supplement.
- Anna Peixoto. (2014). [De mest lämpade](). [Thesis in Swedish but with an extensive summary in English 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.

Reflect on the career support for PhD candidates in their institutions and how this affects doctoral training.

Steps

Time	Step	Who
10 minutes	1. Describe the development of academic citizens	Facilitator
10 minutes	2. Discuss leadership and research excellence	All
45 minutes	3. Discuss universities' social responsibilities	Small groups
25 minutes	4. Relate values to research leadership	Groups to plenary

Step 1. Describe the development of academic citizens
10 minutes

Using 3 to 5 PowerPoint slides, describe the role of universities in the development of academic citizens and in achieving the Sustainable Development Goals.

Step 2. Discuss leadership and research excellence
10 minutes

Invite feedback and spark conversation by asking:
- 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?

Step 3. Discuss universities' social responsibilities
45 minutes

Divide participants into groups. Ask them to discuss these questions:
- 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 view and discuss the responsibility of the university system for international agreements such as the Sustainable Development Goals?
- Does your university recognize social responsibility? If so, how is this reflected in practice?

Step 4. Relate values to research leadership
25 minutes

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

Session 6. Formal Terms and Conditions of Supervision | 1 hour, 30 minutes

The supervision process is enriched when the supervisor and the supervisee both understand their roles clearly and play them appropriately. CARTA uses a contract between supervisors and supervisees to clarify mutual expectations, and this session uses that contract as a learning tool. Workshop participants and their universities may want to adopt elements for their own institutional policies and procedures.

The CARTA contract:
- Covers the expected roles and responsibilities of both supervisors and supervisees throughout the entire supervision process.
- Supplements the obligations of the candidate and supervisor(s) to their university and to any funding agency.
- Summarizes typical terms and conditions of a PhD.
- Includes best practices gleaned from across the academic community.

Outcomes

By the end of this session, supervisors can:
- Appreciate the value of a PhD supervision contract/agreement.
- Consider the CARTA supervision contract as a possible model.
- Discuss the role of a contract in the supervisory process.
- Consider the legal and other implications of the contract.
- Discuss the possibility of adopting a contract or agreement in institutions where this is not practised.

Preparation

Develop three to five PowerPoint slides to introduce the idea and component elements of a contract in doctoral supervision (Step 1).

For participants

Read these resources:
- Norwegian University of Science and Technology (2020). PhD Handbook. Quality in PhD Education.
- Shin, J. C., Kim, S. J., 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.

Steps

Time	Step	Who
15 minutes	1. Introduce the role of a contract in supervision	Facilitator, group
10 minutes	2. Review the CARTA contract as a model	Facilitator, group
45 minutes	3. Share experiences and opinions of contracts	Small groups
20 minutes	4. Discuss benefits of contracts	Each group in plenary

Step 1. Introduce the role of a contract in supervision
15 minutes

Using three to five PowerPoint slides, introduce the concept of a contract in doctoral supervision and describe its importance in ensuring that both supervisor and student understand their roles and responsibilities in the supervision process. Welcomes contributions from participants.

Step 2. Review the CARTA contract as a model
10 minutes

Lead a review of the sub-sections of the CARTA contract of supervision and academic obligations:
- Responsibilities of doctoral students.

- Roles of supervisors.
- Joint responsibilities of supervisors and supervisees.

Step 3 . Share experiences and opinions of contracts
45 minutes

Divide participants into groups to discuss these questions:
- 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)?

Step 4 . Discuss benefits of contracts
20 minutes

Back in the plenary, representatives take turns to present their group's conclusions and questions. Facilitate discussion and conclude by summarising new ideas, best practices, solutions to challenges, and potential action points.

Session 7. Practical Logistics of PhD Supervision | 1 hour, 30 minutes

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.
- The role of peer-to-peer support in doctoral training.

Outcomes

By the end of this session, supervisors can:
- Address practical issues in organizing the PhD supervision process.
- Identify the advantages and challenges of co-supervision.
- Appreciate the role of peer interactions, peer-to-peer learning and mutual support, with reference to the working culture of the postgraduate student body.
- Present the advantages and disadvantages, opportunities, and challenges associated with group supervision.
- Share deepened thinking on preparation and training for supervisors.
- Identify the most common and significant challenges to supervisors in managing supervisees' progress, and share the best ways to address them.

Preparation

Develop three to five PowerPoint slides that summarise supervision approaches: individual, co-supervision and group supervision including by multi-disciplinary teams (Step 1).

For participants
Read these resources:
- Nakanjako D., Katamba A., Kaye D., Okello E., Kamya 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 S. C., 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.

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.

Steps

Time	Step	Who
10 minutes	1. Introduce individual vs co-supervision	Facilitator
15 minutes	2. Discuss institutional approaches to supervision	Facilitator, group
45 minutes	3. Compare institutional systems for supervision	Small groups
20 minutes	4. Brainstorm best practices	Each group in plenary

Step 1. Introduce individual vs co-supervision
10 minutes

Using three to five PowerPoint slides, describe different approaches to the supervision of doctoral students, highlighting the advantages and limitations of single and joint supervision models.

Step 2.Discuss institutional approaches to supervision
15 minutes

To stimulate discussion, ask:

- What does your university recommend: individual or group supervision?
- How are supervisors prepared 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?
- What would make you feel more confident in your role as supervisor?

Step 3 . Compare institutional systems for supervision
45 minutes

Divide participants into 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.

Step 4 .Brainstorm best practices
20 minutes

Back in the plenary, representatives take turns to present their group's conclusions and questions. Facilitate discussion and conclude by summarising the group's experiences and new thinking about individual vs co-supervision, and how universities might adopt and support best practices.

Session 8. Psychology of the Supervisor–Supervisee Relationship | 1 hour, 30 minutes

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.
- How their relationships may evolve over the course of the PhD training.
- The question of institutional support to both parties.

Outcomes

By the end of this session, supervisors can:

- Discuss and reflect on the affective dimensions of the supervisor–supervisee relationship.
- Propose important personal qualities of a supervisor from the perspectives of, respectively, the supervisee, the supervisor, and the institution.
- Assess how the supervisee affects the supervisor.
- Describe how these relationships may evolve during the PhD training, with specific emphasis on how to seize important opportunities, and avoid common pitfalls.
- Consider what psychological support the institution should provide to the supervisee and the supervisor.
- Discuss the role of gender in the relationship between supervisor and supervisee.

Preparation

Develop three to five PowerPoint slides to introduce the psychology of the supervision relationship, including unequal power dynamics based on as gender, age, and other factors (Step 1).

For participants

Read these 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

Consider their own experiences of the affective components of supervision.

Reflect on any prior experiences that may be useful for the group discussion.

Steps

Time	Step	Who
10 minutes	1. Introduce supervision as a relationship	Facilitator
15 minutes	2. Discuss personal characteristics and pitfalls	Facilitator, group
45 minutes	3. Consider factors in successful relationships	Small groups
20 minutes	4. Brainstorm ideal mechanisms and support	Each group in plenary

Step 1. Introduce supervision as a relationship
10 minutes

Remind participants that the 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 related to gender, age and other power dynamics.

Step 2.Discuss personal characteristics and pitfalls

15 minutes

To stimulate discussion, ask:
- 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) may 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?

Step 3. Consider factors in successful relationships
45 minutes

Divide participants into groups to discuss these questions:
- 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?

Step 4. Brainstorm ideal mechanisms and support
20 minutes

Back in the plenary, representatives take turns to present their group's conclusions and questions. Facilitate discussion and conclude by summarising the group's thinking about successful supervisory relationships and mechanisms through which universities can best support them.

Session 9. Quality Assurance in Doctoral Research Training | 1 hour, 30 minutes

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. The supervisor must strike a balance between controlling quality and giving pastoral support to the PhD candidate.

Assuring quality in research is essential for validating and maintaining the credibility of the academic system. While the supervisor/s 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 broader scientific community provides external quality control during PhD training through peer review, open access of published material, and examination by external examiners.

Outcomes

By the end of this session, supervisors can:
- Distinguish clearly between quality control and quality assurance, in order to compare and contrast the distinctive roles of supervisors, mentors, and institutions.
- Explain the role of the supervisor in assuring high-quality research and the development of a high-quality researcher over the course of PhD.
- Debate the supervisor's role in quality control of the research: gate-keeper, facilitator or supporter.
- 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.
- Define quality control and assurance of the PhD thesis according to format (monograph, thesis by publication, or de facto hybrid model).
- Understand 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.

- Evaluate key performance indicators (KPIs) for quality assurance, both process- and outcome-based.

Preparation

Develop three to five PowerPoint slides to explain the importance of quality in validating and maintaining the credibility of the academic system (Step 1).

For participants

Read these resources:

- European University Association (2010). Salzburg II Recommendations: European universities' achievements since 2005 in implementing the Salzburg Principles.
- Orpheus. (2016/2020). Best Practices for PhD Training.

To explore the quality-assurance system for research training in their institution, read the full guidelines and regulations for postgraduate studies.

Reflect on their prior experience related to quality assurance in PhD supervision.

Steps

Time	Step	Who
25 minutes	1. Introduce quality assurance by supervisors	Facilitator, full group
45 minutes	2. Review mechanisms to ensure quality	Small groups
20 minutes	3. Summarise quality assurance in the PhD	Plenary

Step 1. Introduce quality assurance by supervisors
25 minutes

Using three to five PowerPoint slides, explain 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. To engage the supervisors in discussion, ask:

- 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 institution?
- 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 gatekeeper, facilitator or supporter?
- What practical measures – such as milestones, reports, completion rates – do you find effective in managing the quality-assurance process?

Step 2. Review mechanisms to ensure quality
45 minutes

Divide participants into groups to discuss these 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 your institutions as regards process and results?

Step 3. Summarise quality assurance in the PhD
20 minutes

Back in the plenary, representatives take turns to present their group's conclusions and questions. After a facilitated dis-

> cussion, conclude the session with a summary of new ideas, solutions to challenges, best practices, and potential action points.

Session 10. Inequity and Dilemmas in Supervision | 1 hour, 30 minutes

The relationship between a supervisor and supervisee is not a relationship of equal partners. This situation is a potential source of conflict 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.

Outcomes

By the end of this session, supervisors can:

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

Preparation

Develop three to five PowerPoint slides to introduce the subject of inequity and the dilemmas that often arise during the supervision process (Step 1).

Make copies of the instructions for Trio Coaching.

For participants

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. Each participant should be ready to describe how the dilemma was resolved and what they learnt from it.

Read these resources:

- University of Auckland (2022). Te Ara Tautika | The Equity Policy.
- Carter, S. Blumenstein, M., Cook, C., (2013). Different for women? The challenges of doctoral studies. Teaching in Higher E§ducation 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, G. L., 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, O. K., Krogstad D. J. (1998). Doctoral training of African scientists. Am, J., Trop Med Hyg. 58:127-132. DOI; 10.4269/ajtmh 58.127

Steps

Time	Step	Who
20 minutes	1. Introduce the impact of inequity on supervision	Facilitator, full group
40 minutes	2. Explain and practise Trio Coaching	Small groups
30 minutes	3. Summarise quality assurance in the PhD	Plenary

Step 1. Introduce the impact of inequity on supervision
20 minutes

Introduce the subject of inequity and the dilemmas that often arise during the supervision process. Explain 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 academia 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?

Step 2. Explain and practise Trio Coaching
40 minutes

Divide participants into groups of three people each, to use role play in an activity called Trio Coaching to resolve a real dilemma. After you show the Trio Coaching video and go over the instructions, have the groups use the method to resolve a dilemma.

> *One or more interactive elements has been excluded from this version of the text. You can view them online here:*
> *https://pressbooks.pub/cartacurricula/?p=798#oembed-3*

Step 3. Review ways to resolve dilemmas
30 minutes

Back in the plenary, ask:

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

Draw out supervisors' thoughts on the challenges of inequity and means of resolving dilemmas.

Session 11. The Detachment Process | 2 hours

Successful PhD training should produce a graduate who is able to conduct research independently 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 supervisee as independent peers, to the mutual benefit of both parties.

Outcomes

By the end of this session, supervisors can:

- Appreciate 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.
- Be alert to the possibility that the hierarchical supervisor–supervisee relationship becomes competitive.
- Identify solutions to challenges, emphasizing the full course of the PhD training as a process of transition towards independence, emphasising the transition into a peer-to-peer relationship.
- Discuss career planning with the doctoral candidate.

Preparation

Develop PowerPoint slides to explain the concept and importance of detachment (Step 1).

Remind yourself of the World Café approach to generating and sharing ideas. Prepare four flipcharts, one for each 'station' (Step 2).

For participants

Read these resources:

- The World Café. Design Principles.
- Hobin, J. A., Clifford, P. S., Dunn, B. M., Rich, S., Justement, L. B. (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.

Reflect on how they have developed or are developing their own career plans, and be ready to share these steps.

Reflect on their expectations and experience of the detachment process after completing their own doctoral training.

Steps

Time	Step	Who
20 minutes	1. Define steps towards detachment	Facilitator, full group
60 minutes	2. Propose roles to support detachment	Groups in World Café
40 minutes	3. Pool suggestions and action points	World Café feedback

Step 1. Define steps towards detachment
20 minutes

Using the PowerPoint slides you developed, explain the meaning of detachment, emphasizing that this must occur if doctoral graduates are to become independent researchers. Engage supervisors in discussion. Ask:
- What is the benefit of a PhD education for the individual? The institution? The country?
- What challenges arise for the supervisor as the supervisee transitions to become 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?

Step 2. Propose roles to support detachment
60 minutes

Use 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.

In a large open room, mark out four 'stalls' or tables. At each stall, pin up 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?

> Divide the participants into four groups. Each group has five 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.
>
> ### Step 3. Pool suggestions and action points
> *40 minutes*
>
> After every group has answered each question, the whole group moves around the four stations together to read and discuss each set of ideas in full. Later, collect the sheets, transcribe the points and send the document to everyone.

Session 12. Mentorship | 1 hour, 20 minutes

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.

Outcomes

By the end of this session, supervisors can:

- Appreciate the role of mentorship in professional development.
- Understand something of the dynamics of mentorship in the supervisor–supervisee relationship.
- Differentiate between mentorship and coaching in professional development.

Preparation

Develop PowerPoint slides to define the concept of mentorship and explain the role that mentorship plays in a PhD candidate's career development (Step 1).

For participants

Identify their university's academic mentorship rules and tools. Bring a copy to the workshop.

Note successful mentorship activities they have witnessed or experienced, to contribute to group discussions.

Read these 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.
- 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.
- Mathews, P. (2003). Academic mentoring enhancing the use of scarce resources. Educational Management Administration & Leadership, 31(3), 313-334.
- Spangle, Jennifer M. et al. (2021). Practical advice for mentoring and supporting faculty colleagues in STEM fields: Views from mentor and mentee perspectives. Journal of Biological Chemistry, Volume 0, Issue 0, 101062. DOI:
- 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.
- Sambunjak, D., Straus, S. E., & Marušić, A. (2006). Mentoring in academic medicine: a systematic review. Jama, 296(9), 1103-1115.
- 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.
- 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.
- 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).
- Engel, M. (2017) Making the mentoring relationship work. Fred Hutch Cancer Center.

Watch this video:

- Kenneth Ortiz |TEDxBethanyGlobalUniversity (2019). [How to be a Great Mentor](#).

Prepare three slides to introduce the concepts of mentorship and to give examples of the role of mentorship in career development.

Steps

Time	Step	Who
20 minutes	1. Define mentorship in career development	Facilitator, full group
40 minutes	2. Disaggregate elements of mentorship	Small groups
20 minutes	3. Share best practices for successful mentorship	Plenary

Step 1. Define mentorship in career development
20 minutes

Using the PowerPoint slides you prepared, define mentorship and describes the important role it plays in the career development of the academic. Engage supervisors in discussion. Ask:

- 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?

Step 2. Disaggregate elements of mentorship
40 minutes

Divide participants into groups to discuss these questions:

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

Step 3. Share best practices for successful mentorship
20 minutes

Back in plenary, representatives take turns to present their group's conclusions and questions for further debate. Conclude the session with a summary of definitions, best practices, and potential action points.

Session 13. What Have We Achieved? | 1 hour, 30 minutes

This session encourages individual reflection on the workshop.
- 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.

Outcomes
By the end of this session, supervisors can:

- Reflect on whether or how the workshop challenged their´ attitudes and perceptions as regards their responsibilities in relation to supervision.
- (Collectively) synthesize the opportunities for improved supervision practices that have been mapped out during the workshop.
- Decide what changes, if any, in research-education supervision are necessary in their home institutions.
- Judge the potential role of supervisor training in the quality assurance of PhD education in their own institution.
- Consider ways in which 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

For 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 be improved.

Steps

Time	Step	Who
60 minutes	1. Discuss workshop take-aways	Facilitator, full group
10 minutes	2. Summarise lessons learned	Facilitator
20 minutes	3. Complete evaluations	Individuals

Step 1. Draw overall conclusions
60 minutes

Facilitate a frank discussion of the experience of this workshop and overall learnings. Ask:
- 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?
- 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?

Step 2. Summarise lessons learned
10 minutes

Thank participants for their contributions. Conclude by summarising what has been learned and potential future steps.

Step 3. Evaluate the workshop
20 minutes

Ask participants to complete evaluation forms. Finally, invite the host facilitator to present certificates of attendance to participants.

Training of Trainers

To implement this curriculum effectively, facilitators must be well prepared. This ToT workshop builds or refreshes the skills and background knowledge of your team.

Download the [ToT workshop](#).