



Studi e Ricerche

Formazione



Toolkit for Post-Graduate and PhD Supervisors

*Utilising Digitalisation to Support
Training and Supervision*

Hassan Zaiter, Francesca Giofrè, Niccolò Busca, Elisa Gigliarelli



Collana Studi e Ricerche 175

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About DigiGrad Africa

DigiGrad Africa, Internationalisation and Digitalisation of Graduate Training and Research for the Attainment of African Regional and Global Development Goals, aims to enhance the quality and relevance of postgraduate training in Africa, for the attainment of Africa development goals, through harnessing the opportunities provided by digitalisation and internationalisation. The project is funded by the Erasmus+ Programme of the European Union during the period April 2023-March 2026.

DigiGrad Africa is implemented by:

- ANIE - African network for Internationalisation of Education
- Obreal Global
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- University of Burundi
- Bujumbura international University
- University of Juba
- Upper Nile University
- UC Leuven Limburg
- Maastricht University
- Sapienza University of Rome
- University of Extremadura

Preface

This toolkit has been developed by the Sapienza University team as part of the EU-funded project DigiGrad Africa (*Internationalisation and Digitalisation of Graduate Training and Research for the Attainment of African Regional and Global Development Goals*). The project aims to enhance the quality and relevance of graduate student and early-career researcher training in Africa, with a particular focus on supporting regional and global sustainable development goals. Specifically, this toolkit aligns with Goal 4: “*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.*”

The toolkit is designed to assist supervisors in selecting and refining the tools they use based on their specific profile, needs, and objectives. It is organised into seven sections, each focusing on a critical aspect of PhD supervision. These sections include practical resources, strategies, and guidance that can be tailored according to the stage of the PhD process, from setting expectations and developing research plans to managing challenges, supporting student wellbeing, preparing for thesis submission, post-thesis support, and continuous professional development.

Each section has been carefully structured to provide a step-by-step approach to supporting PhD students in both traditional and digital environments. The toolkit also incorporates insights into key software for managing references and data, collaboration platforms, tools for data analysis, and innovative AI resources, ensuring supervisors have access to cutting-edge tools and strategies

The toolkit is intended to be a user-friendly, flexible, and upgradable resource, designed to keep pace with the rapid evolution of information technology and the growing potential of artificial intelligence in research supervision. As such, it is built to evolve, with updates that reflect new trends and tools, allowing supervisors to stay current and provide the best support to their students.

Introduction

Supervising a PhD candidate is a foundational element in the career path of academic researchers and forms an integral part of the responsibilities for most research staff. Reflecting on the evolving landscape of PhD supervision, prominent researcher Professor Sonneveld highlights the increasing recognition of the need for greater professionalisation in supervisory roles. In some countries, professional development for supervisors has become an integral part of doctoral programmes. However, in many regions, such support remains inconsistent, hampered by the misconception that supervisors may resist additional guidance. Sonneveld argues that this assumption is unfounded, provided such initiatives are thoughtfully designed and grounded in three key principles: acknowledging the expertise of many supervisors, identifying specific challenges they encounter, and fostering peer exchange through the sharing of effective practices. Instead of focusing on mistakes or imposing compliance via administrative measures, professional development should celebrate good practices, creating a supportive and collegial environment that enhances supervision quality through positive reinforcement and mutual learning¹.

One of the principal challenges and opportunities in supervision today relates to the expanding and evolving digital environment. This toolkit is designed to provide supervisors with comprehensive guidance and practical resources to effectively support students throughout the various stages of their doctoral research journey, with a focus on essential digital tools that can be effectively applied at each stage.

By addressing the specific challenges and demands of supervising young researchers and PhD students, the toolkit aims to assist supervisors in navigating critical aspects of the supervisory process. These include setting expectations, fostering productive research environments, managing common challenges, and supporting students' personal and academic development. Particular emphasis is placed on the integration of supervision practices within a digital framework to enhance both the supervisor's and the student's experience. The toolkit provides comprehensive guidance and a wide range of practical resources to effectively support students through the many stages of their doctoral research journey. It is designed to equip

¹ Sonneveld, 2016.

supervisors with the tools and insights needed to promote high-quality, inclusive, and digitally enabled supervision practices.

This toolkit is divided into seven sections:

1. Getting Started. Guides supervisors in setting a strong foundation with PhD students by clarifying expectations, goals, and research plans. It emphasises tailoring approaches, long-term planning, and understanding policies, timelines, and ethics. Clear roles and responsibilities foster a productive relationship, ensuring students meet standards while receiving ongoing support.

2. Ongoing Supervision. Advises on maintaining regular meetings, progress tracking, feedback, and writing support for PhD students. It emphasises strategic guidance, problem-solving, and fostering a collaborative environment to help students achieve milestones and complete their thesis successfully.

3. Managing Challenges. Offers strategies for helping PhD students overcome common obstacles like time management, motivation, and work-life balance. It highlights conflict resolution, open communication, and promoting wellbeing through resource connections. Early intervention and ongoing support are key to maintaining research progress.

4. Thesis Writing and Completion. Provides guidance for supervisors in supporting PhD students through the final thesis stages of the PhD, focusing on feedback, structure, formatting, and submission. It also prepares students for their oral defence, ensuring they meet requirements and build confidence.

5. Helping Researchers Make the Best of their Research. Supports PhD students in transitioning to their post-PhD careers, focusing on publishing research, exploring career options, and building professional networks. Supervisors play a key role in advising on journals, submissions, and peer review, helping graduates gain visibility, recognition, and a foundation for future opportunities.

6. Continuous Professional Development (CPD). Highlights the importance of staying current with research trends, improving supervision practices, and adapting to diverse PhD student needs. CPD enhances skills in handling interdisciplinary research, cultural diversity, and policy changes. By engaging in training, reflection, and peer support, supervisors become more effective mentors, fostering a culture of excellence and ensuring high-quality guidance for students.

7. Golden Rules. Summarises essential principles to guide supervisors and PhD candidates throughout the research process and beyond.

Each section of this toolkit provides tailored resources and tools, including charts, assessment surveys, and digital sources, to address the specific needs of doctoral candidates while offering professional development tips to enhance supervisory skills. Designed to support the supervision process at all levels, the toolkit aims to facilitate student success, foster effective supervisory relationships, and contribute to the production of high-quality, impactful research outcomes. While each doctoral

thesis is as unique as the PhD student preparing it, general principles and tools can guide supervisors in effectively supporting their students. It is the joint responsibility of both supervisor and student to adapt these guidelines and leverage the tools to align with the research's specific needs and the structured path of the PhD journey. Ultimately, doctoral research across disciplines is a cornerstone for the scientific and technological progress of any country.

Overview of PhD Supervision

Supervising PhD students and young researchers involves a pivotal role in navigating the complexities of a multi-year research endeavour, ensuring the achievement of both academic milestones and professional development. Effective supervision requires maintaining a balance between academic rigour and PhD student well-being, while staying informed about institutional policies and advancements in research best practices. This toolkit provides a comprehensive guide with actionable insights tailored to each stage of the PhD process, from setting initial goals and devising research plans to facilitating thesis completion and offering post-graduation support.

PhD research is expected to make a substantial contribution to the student's field, and as a supervisor, your role is to help shape and refine research questions that achieve this goal. Effective supervision involves setting clear standards for the depth, originality, and rigour required of a doctoral thesis, ensuring that students are aware of what constitutes meaningful, high-impact research. PhD research requires long-term planning, with projects often spanning several years, depending on the university's rules. Supervisors can provide support in aligning milestones with institutional requirements and career aspirations, helping them stay on track and motivated throughout the process. This comprehensive toolkit provides strategies for helping students divide their research into manageable stages, from literature review and proposal development to data collection, analysis, and writing.

Supervisors also play an important role in helping to link research with future career goals. Whether aiming for an academic position, industry role, or other professional path, mentorship on aligning the project's scope, skills development, and publication strategy with these ambitions is extremely beneficial. Career-focused supervision ensures a more solid preparation for the transition to their next career step.

Finally, PhD thesis must meet rigorous academic standards in both depth and structure. Supervisors play a vital role in helping students organise and develop their thesis, ensuring that it is comprehensive enough to showcase expertise while maintaining coherence and focus. To support supervisors in their guidance, a dedicated section outlines expectations for thesis length and provides tips for structuring content to best communicate research findings.

By clearly defining these aspects of PhD supervision, this toolkit aims to equip supervisors with strategies and digital tools to support PhD students effectively, fostering a productive supervisory relationship that guides students toward a successful and fulfilling doctoral experience.

1. Getting Started

This section of the toolkit helps supervisors establish a strong foundation for the research journey with PhD students. This stage involves setting clear expectations, defining research goals, and developing a realistic research plan. Supervisors are encouraged to tailor their approach based on the student's program level, with an emphasis on long-term planning and goals for PhD students. Key areas covered include understanding institutional policies, timelines, and ethical considerations, which are crucial for aligning both parties' expectations from the outset. By establishing a mutual understanding of roles, responsibilities, and deliverables, supervisors can foster a productive working relationship and set the stage for successful research outcomes. This early structure ensures that students are aware of the standards and requirements they need to meet while being supported through each step of the process.

1.1. Setting Expectations

Establishing clear expectations is essential for a successful supervisory relationship. This section provides guidance on setting mutually agreed standards for workload, meeting frequency, and both student and supervisor responsibilities. Workload expectations should address the intensity and time commitment required for PhD research, helping students understand the demands of sustained, self-directed study. Meeting frequency is also important to define early on, ensuring consistent check-ins to discuss progress, troubleshoot issues, and offer guidance. By outlining mutual responsibilities, supervisors and students can create a collaborative environment where both parties understand their roles, whether this involves timely feedback from the supervisor or regular updates and preparation from the student. Clear expectations reduce misunderstandings and lay the foundation for an effective, goal-oriented supervision experience.

Codes of Practice are essential tools for defining clear expectations and responsibilities in the supervisor- doctoral candidate relationship. While they may not always be a formal requirement, articulating the key elements of this relationship fosters a shared understanding, ensuring collaboration is grounded in mutual respect, transparency, and accountability. Such clarity helps to build a strong foundation for productive and harmonious academic partnerships¹.

Code of Practice for PhD Students	Code of Practice for PhD Supervisors
<ul style="list-style-type: none">• Actively participating in defining learning needs and fully engaging in the recommended development programme to enhance research and professional skills.• Committing to the structured development programme and making the most of its resources and opportunities. Maintaining steady progress in line with the agreed workload, milestones, and timelines established with the supervisor.• Proactively identifying and communicating challenges or issues encountered during the research process to seek timely resolution.• Submitting timely reports, deliverables, and any required documentation in accordance with the agreed schedule.	<ul style="list-style-type: none">• Providing clear and collaborative guidance on the research process, including defining objectives, outlining goals, and collaboratively planning the research programme.• Collaboratively identifying and addressing the learning needs of the doctoral candidate and ensuring these are addressed through tailored advice and development opportunities.• Maintaining regular contact through an agreed-upon schedule of meetings to ensure effective communication and support.• Monitoring progress to identify and address areas of concern promptly.• Clearly defining the level of support that can be expected for thesis preparation and discussions

¹ University of Reading, 2019.

1.2. Defining Research Goals

PhD research is designed to make an original contribution to the student’s field, and defining these research goals is a critical step in setting a clear research direction. Unlike Master’s projects, which often involve practical application, PhD research requires an in-depth, extensive investigation that addresses complex and broad academic questions. Supervisors play a crucial role in helping students formulate goals that are ambitious yet achievable, focusing on developing new theories, expanding on existing frameworks, or offering novel solutions to significant issues in the field. This section offers strategies for helping students refine their research goals to ensure their work is meaningful, relevant, and of publishable quality.

The definition of research goals should be set by the PhD student at the very beginning and discussed with supervisor. To set the objectives, the supervisor, based on his experience with other student, should make sure the goals set by the PhD student are tangible and realistic to develop a research PhD aligned with the interest of the student. A discussion can be held to explore the topic, set the state-of-the-art and clarify what is doable and what is already done on the national and international levels in order to make the research more realistic and be achievable. For identifying and evaluating research objectives and questions, PhD students should develop a



Fig. 1.1. S.M.A.R.T. goals (Courtesy of BiteSize Learning)

S.M.A.R.T. objective for each goal or outcome they hope their research will achieve: Specific, Measurable, Attainable, Relevant, and Timely.

Where to Begin?

First, the PhD students should identify the problem they want to solve or the goal they want to achieve. Then, reword the problems into a question they can answer. Start by thinking about what to measure and what results or outcomes will tell how the student how to be successful.

PRACTICAL SESSION 1. PROMPTING FOR SMART OBJECTIVES



Finally, determine the key components of each question posed, goal or outcome by using S.M.A.R.T. objectives².

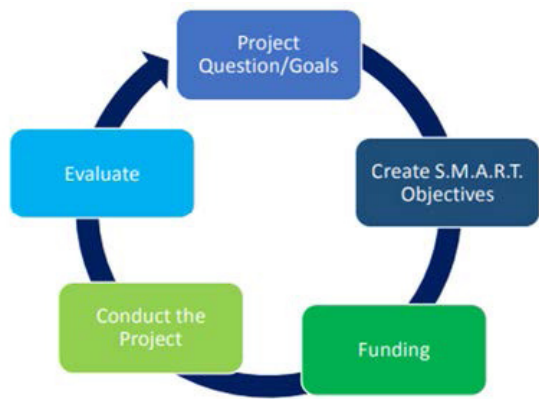


Fig. 1.2.Process of creation of objectives and evaluation. (Courtesy of OHSU Community Research Coalition HUB)

Next Steps

Refine their research question ensuring that all S.M.A.R.T. objectives are addressed. Create S.M.A.R.T. objectives for each goal and kickstart the project!

1.3. Developing a Research Plan

A well-structured research plan aligns a PhD student’s work with the timelines and requirements of their program. This section provides guidance on creating a research plan that includes thesis preparation, data collection and surveys, analysis of results, and thesis finalisation. Supervisors can help students break down each phase into achievable steps, setting realistic deadlines and building in flexibility for unforeseen challenges. Since a PhD project often spans several years, the research plan should be treated as a living document, adaptable to both the student’s progress and any shifts in research focus. This structured approach helps students manage time effectively and build a strong foundation for their research. It is essential for guiding PhD students through the complexities of their project, ensuring they have a clear roadmap from start to finish. Typically, a research plan should outline the key objectives of the study, the research questions or hypotheses, and a literature review that contextualises the work within the broader field. Methodology is a crucial component, detailing the approach to data collection, tools, and techniques that will be used for analysis.

² OHSU, 2018.

KEY COMPONENTS OF THE RESEARCH PLAN

1. Thesis Development and Phases

Supervisors should help students break the research process into manageable phases, such as thesis preparation, data collection, analysis of results, and finalisation. Each phase should be further subdivided into specific tasks with clear objectives to ensure progress is measurable and manageable.

2. Adaptability and Flexibility

Since a PhD project often spans multiple years, the research plan must be treated as a living document. It should remain adaptable to the student's progress, shifts in research focus, or unforeseen challenges, while still maintaining the overall trajectory of the project.

3. Research Objectives and Framework

The plan should clearly outline:

- Key objectives: What the research aims to achieve.
- Research questions or hypotheses: The guiding inquiries or propositions of the study.
- Literature review summary: A contextualisation of the project within its broader academic field.

4. Methodology and Tools

A detailed methodology section is critical, specifying:

- The approach to data collection.
- Tools and techniques for analysis.
- Any specialised equipment, datasets, or software required.

5. Timeline and Milestones

A timeline is indispensable for tracking progress, often presented using tools like GANTT charts.

- Duration: Reflects the structure of the programme, generally 36 months for standard PhDs, but sometimes extending to 60 months for certain fields or institutions.
- Phases: The timeline should include clear phases such as literature reviews, methodology development, fieldwork, data analysis, and thesis writing.
- Collaboration: Supervisors and students should work together to establish tasks and deadlines, ensuring the plan remains realistic and adaptable.

6. Budget and Resources

If the research requires funding, specialised equipment, or access to particular datasets, these should be documented. This ensures resource allocation aligns with project needs and institutional guidelines.

1.3.1. Proposed Structure for a Research Plan

1. Introduction

- Overview of the research project.
- Key objectives and significance of the study.

2. Research Questions and Hypotheses

- Clearly defined questions or propositions guiding the research.
- ### 3. Literature Review
- Summary of existing research and its relevance to the study.
 - Identification of gaps the study will address.

4. Methodology

- Detailed explanation of methods, tools, and techniques.
 - Approach to data collection and analysis.
 - Ethical considerations

5. Timeline (GANTT Chart)

- Breakdown of major phases and milestones.
- Key deliverables and regular review intervals.

6. Budget and Resources

- Estimated costs, funding sources, and resource needs.

7. Potential Risks and Contingencies

- Identification of potential challenges (e.g. methodological, logistical).
 - Strategies for mitigation and contingency planning.

8. Stakeholders and Beneficiaries

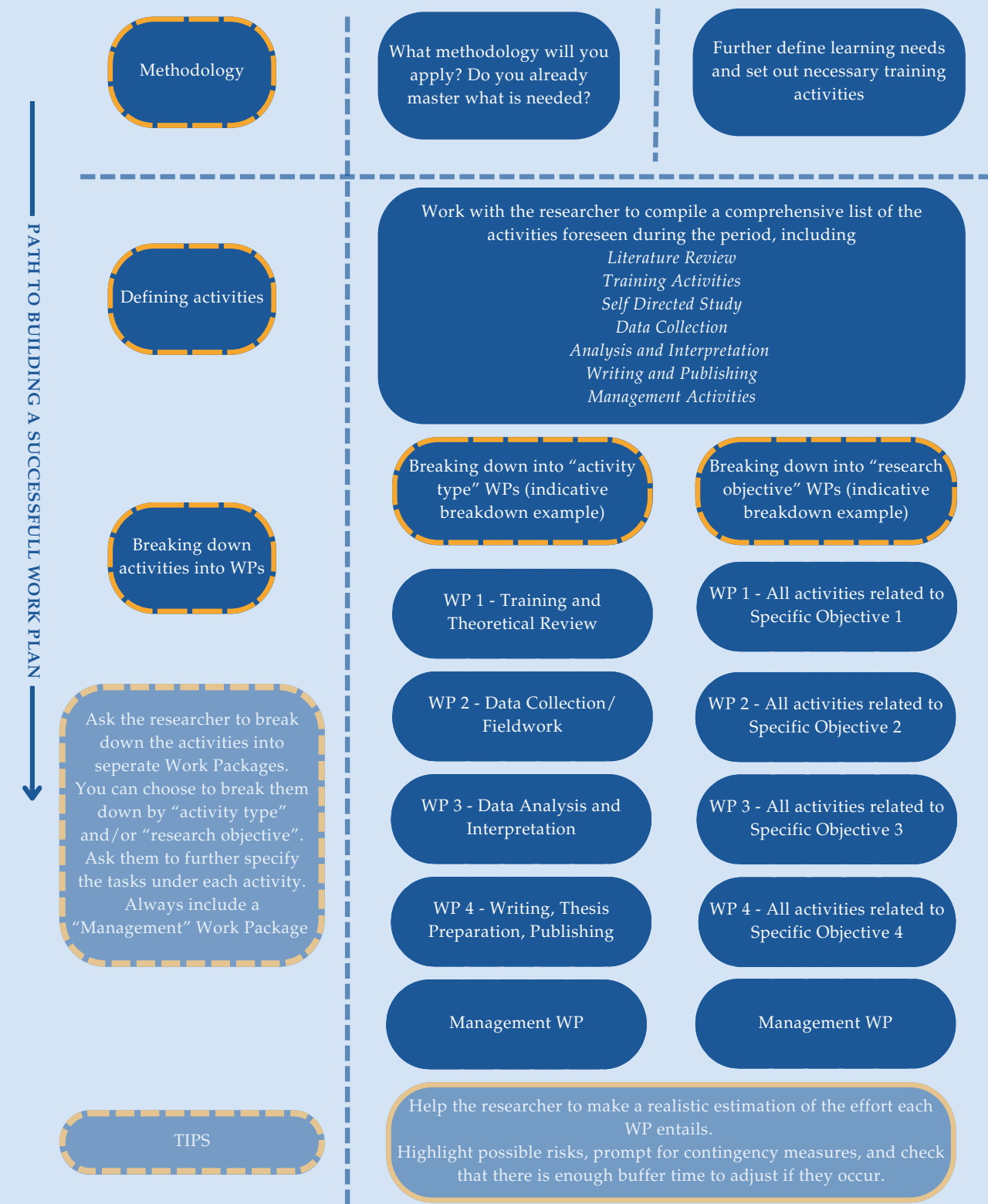
- Key stakeholders involved or impacted.
- Potential beneficiaries of the research findings.

9. Conclusion

- Summary of the plan and its alignment with the overall research objectives.
 - Plan for evaluation and adaptability throughout the research process.

This structure ensures that the research plan is comprehensive, actionable, and aligned with the long-term goals of the PhD project.

PRACTICAL SESSION 2. BREAKING DOWN RESEARCH ACTIVITIES INTO WORK PACKAGES



1.3.2. Getting the Timeline Clear: Using a GANTT Chart

A research plan should include a timeline that breaks down major tasks and milestones to help manage time effectively, particularly given the long duration of a PhD. The GANTT chart is a vital tool for visualising and managing the timeline of a doctoral programme. It provides a structured overview of key tasks and milestones, helping students and supervisors plan and monitor progress effectively. Typically, the chart reflects the duration of the programme, which is usually 36 months but may extend to 60 months in certain disciplines or institutions, depending on the regulations of the PhD School. This flexibility ensures the chart can accommodate the diverse timelines required by different research fields and institutional frameworks.

To maximise its utility, the GANTT chart should be divided into clear phases, such as literature reviews, methodology development, data collection, analysis, and thesis writing. Each phase should include specific tasks and deadlines, enabling supervisors and students to track progress systematically. Collaborative input from both parties is crucial in detailing the tasks, ensuring the roadmap is realistic, adaptable, and aligned with the goals of the project.

Additionally, the chart should incorporate contingency plans to account for unforeseen challenges, allowing adjustments without derailing the overall timeline. By treating the GANTT chart as a dynamic document, supervisors and students can foster a proactive approach to managing the research process, ensuring timely completion and adherence to institutional and programme-specific requirements.

Finally, a well-structured research plan should specify budget and resource requirements, particularly if the project necessitates funding, specialised equipment, or access to specific datasets. Including these elements not only ensures alignment with the project's goals and institutional requirements but also provides a solid foundation for effective time and resource management. By tracking progress and making adjustments as the research unfolds, supervisors and students can collaboratively navigate challenges and maintain focus on the project's objectives, fostering a more organised and productive research journey.

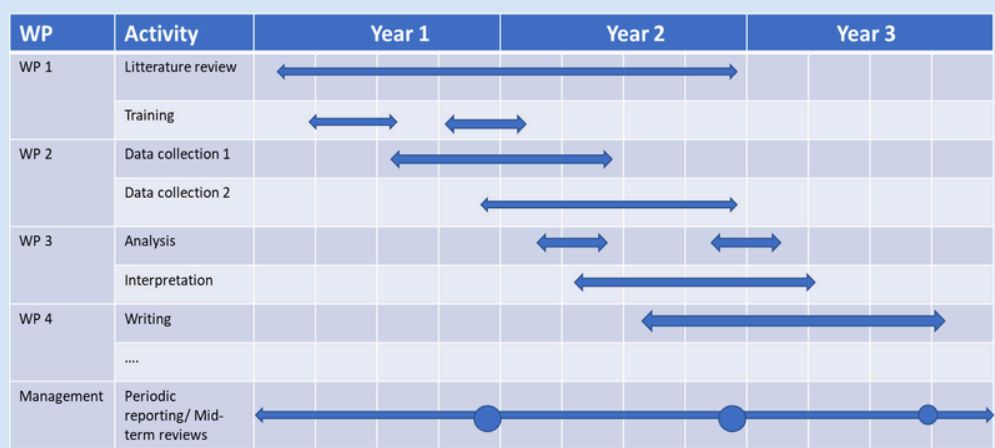
1.4. Understanding University Policies

For PhD students, understanding university policies is crucial to navigating the requirements of their program successfully. Students and supervisors should be familiar with the key policies, including research ethics, thesis requirements, and program deadlines. Research ethics, in particular, is essential for students conducting original research, as it ensures their work upholds integrity and adheres to legal and professional standards. The university policies should include an overview of thesis requirements, such as formatting and submission guidelines, and the importance of meeting deadlines to avoid delays in program completion. By ensuring that students are well-informed about these policies, supervisors can help them avoid administrative challenges and focus on their research with confidence.

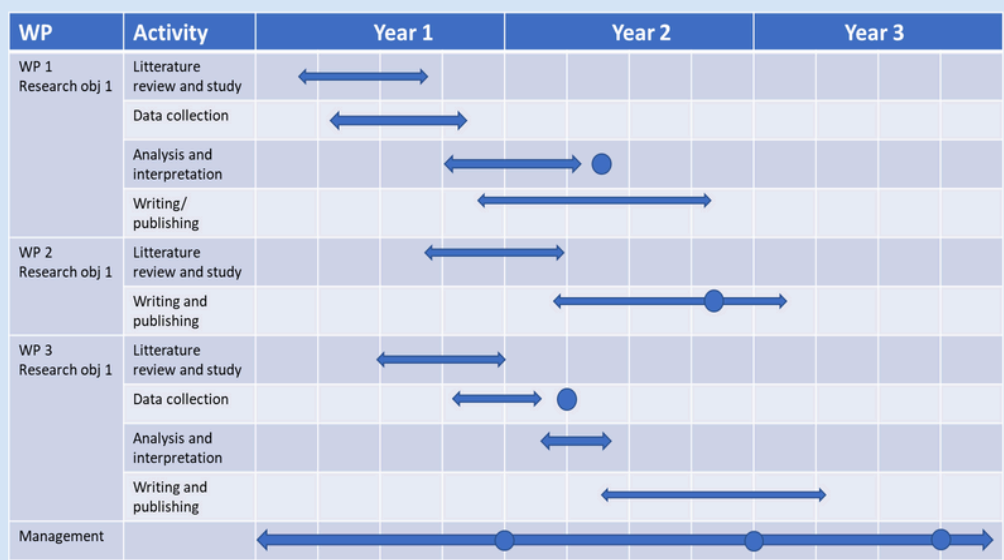
PRACTICAL SESSION 3. USING A GANTT CHART

You can use a simple Excel sheet or a series of customised models to create your own GANTT chart. Create rows for the Work Packages and then detail the activities for each one. Use the columns for time, and place the activities across the timeline.

GANTT CHART EXAMPLE - break down by “activity type”



GANTT CHART EXAMPLE - break down by “research objective”



1.4.1. Policies and Frameworks for Effective PhD supervision

In addition, the university should define a set of policies, procedures and forms to be used by PhD supervisors and all staff working with doctoral research students. A very useful example is the documents prepared by University of Reading that can be summarised as follow³:

- **Code of Conduct on Research Students**

The Code of Conduct on Research Students establishes a minimum set of requirements for all parties involved in the awarding of research degrees within academic institutions. This Code encompasses all research degrees, including MPhil and PhD programmes. It provides context and references to other key documents related to the assessment and administration of research degrees.

- **Code of Conduct for Supervisors of Research Students**

The Code of Conduct for Supervisors of Research Students complements and builds upon the Code of Practice on Research Students, aiming to promote excellence in the supervision of research candidates. Supervisors are encouraged to refer to the Code of Conduct for the latest guidance on policies and procedures related to research students. Additional resources and guidance documents relevant to supervisors can be accessed through good practice guides or institutional resources.

- **Rules for the Submission of Theses for Higher Degrees**

The regulations for the submission of theses for higher degrees provide comprehensive details regarding the processes doctoral researchers must follow, including the notice of intention to submit, submission procedures, word limits, thesis formatting requirements, and referencing system and style. These regulations should also outline the examination process, the communication of results, and graduation procedures.

- **Electronic Submission of Theses**

It is recommended that institutions require doctoral students to submit an electronic copy of their thesis to ensure accessibility and long-term preservation. Clear guidance should be made available to students to support this process, while supervisors should be provided with tailored resources to understand their critical role in facilitating and overseeing electronic submissions.

- **Monitoring and Assessment of Progress**

Institutions should have a formal policy in place for monitoring and assessing the progress of research degree candidates. A Code of Practice or equivalent document can serve to outline these policies, ensuring consistency and transparency in their application. Complementary resources, such as good practice guides, can provide additional support for staff involved in the supervision and assessment of doctoral researchers.

Additionally, process maps or similar guides can be helpful in clarifying the steps to be taken following key assessments, such as the Confirmation of Registration re-

³ University of Reading, 2019.

PRACTICAL SESSION 4. SELF-ASSESSMENT CHECKLIST: CLEARLY SETTING OUT RULES AND POLICIES

Questions	Y	N	List key elements that are included or should be included
Does your institution provide a webpage or kit to walk postgraduate students, and PhDs in particular, through the main university policies and procedures?	<input type="radio"/>	<input type="radio"/>	
What key resources does it include/ should be included to guarantee clear orientation?	<input type="radio"/>	<input type="radio"/>	
Does your institution have a code of practice for PhD researchers?	<input type="radio"/>	<input type="radio"/>	
Does your institution have a code of practice for PhD supervisors?	<input type="radio"/>	<input type="radio"/>	
Are supervision policies set out clearly, with guidelines or other useful tools (including choice, matching, and co-supervision)?	<input type="radio"/>	<input type="radio"/>	
Do they specify requirements for remote careers?	<input type="radio"/>	<input type="radio"/>	
Monitoring and assessment: Are there templates available in advance for the different stages and levels (e.g. monitoring progress, annual reviews, assessments)?	<input type="radio"/>	<input type="radio"/>	
Is the process for thesis submission laid out in detail?	<input type="radio"/>	<input type="radio"/>	
List other useful resources available to quickly guide the researcher through the main steps and requirements of the programme.	<input type="radio"/>	<input type="radio"/>	

view. These tools foster a structured and transparent approach to monitoring and supporting doctoral research progress⁴.

Embedding Ethical Values in PhD Supervision: An Example

PhD supervision offers a unique opportunity to introduce foundational values in the next generation of researchers. European Union principles, such as respect for human dignity, freedom, democracy, equality, the rule of law, and human rights, including minority rights, should inform supervisory practices. These values promote ethical research and ensure that academic institutions uphold inclusivity, equity, and the highest moral standards.

Complementing these values is the European Code of Conduct for Research Integrity, which provides essential guidance for responsible research. This Code highlights core principles such as reliability, honesty, respect, and accountability, forming a robust framework for maintaining integrity in academic inquiry⁵. Integrating these principles into supervision not only fosters academic excellence but also ensures research contributes meaningfully to societal progress.

Supervisors play a critical role in embedding these values by guiding PhD candidates in ethical decision-making, promoting inclusivity within research teams, and encouraging transparent collaboration. By doing so, they align doctoral education with institutional missions and global ethical standards, setting a benchmark for responsible and impactful research.

⁴ ALLEA, 2023; The University of Edinburgh, 2024; University of Reading, 2017.

⁵ ALLEA, 2023.

DIGITAL TOOLS 1

GETTING STARTED

DIGITAL TOOLS 1.1. EARLY SET UP OF YOUR DIGITAL ENVIRONMENT

The above practical sessions can be used to support an early set up of your digital environment.

Practical Session 1 will enable you to identify essential literature, necessary skill development, and to understand where additional support is needed to achieve key research objectives. Make the best of its outcomes by setting up a collaboration platform to facilitate early and continuous document sharing.

Practical Session 2 helps to effectively break down a wide range of activities that will occur throughout the journey and to organise a practical layout that allows you to easily track progress and plan activities ahead. You can make the most of these outcomes by choosing to use an e-learning platform or a project management software and customising an initial layout divided into work packages.

Practical Session 3 helps to set up a timeline. This will allow you to monitor and track progress of all the activities and to prepare tools and upload useful materials as you go along. Using the GANTT chart as a guide, you can schedule activities and exercises, request reports, and assign meaningful milestones in the research plan. Review the features in your chosen digital environment and consider how and when they can be useful for this purpose.

PLATFORMS FOR COLLABORATION AND DOCUMENT SHARING

Collaborative platforms play a vital role in enhancing communication and document sharing among supervisors, students, and research teams. These tools provide a centralised space for storing and sharing documents, enabling real-time editing and feedback exchange. By facilitating collaboration, they help research teams to maintain consistent progress, even when working across different locations, time zones, and devices. Additionally, these platforms improve version control, ensuring that all team members are working with the latest document version and reducing the risk of errors.

Key Platforms: **Google Drive, Microsoft OneDrive, Dropbox, Overleaf**

These platforms streamline workflow management, reduce administrative overhead, and ensure that both students and supervisors have easy access to up-to-date research documents, helping them stay aligned and organised.

Links: [Google Drive](#), [Microsoft OneDrive](#), [Dropbox](#), [Overleaf](#)

E-LEARNING PLATFORMS

E-learning platforms play a central role in the digital ecosystem of learning.

Designed as software for delivering educational content, facilitating learning, and supporting the administration of online courses, they provide tools for teachers to create content and for students to access it. These platforms often include features like assessments, discussion forums, progress tracking, and analytics.

E-learning platforms enable asynchronous learning (self-paced) or synchronous learning (live, real-time classes), making education more flexible, accessible, and scalable.

Key Platforms: **Moodle, edX, Google Classroom**

Platforms such as Moodle allow you to integrate various features, track progress, set time limits, and more.

Links: [Moodle - Tool Guide for Teachers](#), [Features - Moodle Docs](#)

PROJECT MANAGEMENT TOOLS

If you are managing multiple projects at once, you may consider using more advanced project management software. These tools are designed to organise and monitor various types of activities, handle large amounts of data, and manage strict deadlines efficiently.

Software like Trello and Asana feature intuitive interfaces and offer a range of tools that provide a comprehensive overview of your research progress. These include note-taking features, task trackers, Gantt charts, and more. They also allow you to assign tasks and distribute workloads effectively.

Key Platforms: **Trello, Asana, Microsoft Project**

Link: [Using Trello to Manage Your Research Ecosystem](#)

DIGITAL TOOLS 1.2. MAKING GUIDELINES AND POLICIES FINDABLE

Practical session 4 can be used to collect and develop materials that are useful across all PhD programmes. Check with your administrative support office to see if they already have some of these resources available. If they are not easily accessible, collaborate with your support office to establish a comprehensive set of materials for early guidance and orientation, ensuring they are provided at the start of the PhD journey. This can be effectively achieved through relatively simple digital means, such as:

A PROGRAMME WEBPAGE

Ensure that all essential information is clear and easily accessible for researchers. The webpage should provide comprehensive and well-structured content, including a “*Downloads*” section where all key materials are readily available (regulations, guidelines, codes of practice, etc.).

ESSENTIAL RESOURCES KIT

Collect the documents in PDF format and organise them into a simple folder. You can upload the folder to your teaching environment, your chosen document-sharing platform, or simply compress it into a ZIP folder and send it via email. Make sure to provide a brief explanation of what each tool is meant to be used for.

2. Ongoing Supervision

The Ongoing Supervision section offers guidance on maintaining a structured, adaptive approach to supervising PhD students, focusing on regular meetings, progress monitoring, feedback, and writing support. As PhD research is a multi-year, intensive journey that demands originality and depth, supervisors play an essential role in keeping students on track, providing the strategic insights needed to address complex research challenges, and ensuring the student's work progresses meaningfully. The ongoing supervision process aims to create a collaborative environment in which PhD students receive the guidance, resources, and encouragement necessary to reach key milestones and complete their thesis successfully.

2.1. Regular Meeting Schedules

Establishing a well-structured meeting schedule is important in PhD supervision, ensuring that supervisors and students stay engaged in ongoing and strategic discussions. For PhD students, meetings should go beyond immediate tasks to address broad and long-term goals. These discussions often involve theoretical exploration, detailed methodological considerations, and deep dives into emerging issues in the student's research. Meetings should be scheduled frequently enough to allow for consistent updates and troubleshooting, while still providing the student with sufficient time between sessions to work independently and make significant progress. Supervisors may find it beneficial to start with a weekly or biweekly meeting schedule, adjusting the frequency as the research evolves and specific needs arise. Effective meeting structures help PhD students build the skills needed to self-direct their research, reinforcing their ability to set goals, self-assess progress, and independently address challenges.

2.2. Progress Monitoring

Monitoring students' progress is essential to ensure timely completion and provide necessary support. The university should adopt a structured plan to monitor student progress, as follows:

Annual Progress Reviews: PhD students' progress must be formally assessed at least once a year, supplemented by informal interim checks to identify potential issues early and provide timely feedback.

First-Year Review: the annual review should take place in the third term, involving written reports from both the student and supervisor. Additionally, students should present their work orally at least once during the year. Failure to submit the report on time may result in warnings and, if unresolved, lead to formal procedures.

Second-Year Review: evidence for confirmation, including the student's written report and a follow-up interview. Supervisors provide additional written feedback as part of the review process.

Monitoring the progress of a PhD project requires a structured approach that integrates both strategic questions and practical tools to track and support a student's progress over time. Unlike shorter research projects, PhD timelines encompass extended periods of data collection, in-depth analysis, and extensive synthesis. Each phase of the research may present unique challenges, from navigating complex methodologies to balancing the evolving demands of a multi-year investigation. To ensure these challenges are managed effectively, supervisors are encouraged to establish well-defined milestones and checkpoints that are both aligned with the student's research objectives and compliant with university requirements.

A useful approach to progress monitoring starts with setting regular review points, where specific questions help guide the assessment of a student's current position and next steps. At each stage, supervisors and students can ask:

Are research milestones being met as planned?

Is the pace sustainable given the timeline?

What specific barriers or challenges, such as limited resources or unforeseen data issues, could affect the trajectory?

These questions ensure that each phase is progressing realistically and alert both supervisor and student to any adjustments needed for successful completion.

Effective tools to aid in this process include detailed research plans, milestone charts, Gantt charts, and task-oriented checklists. These visual aids serve as clear reminders of upcoming goals, reinforcing the trajectory of the research project. For example, a Gantt chart can provide a clear visual overview of the project's phases, indicating key deadlines for data collection, analysis, and drafting sections of the thesis. Similarly, checklists are beneficial for tracking daily or weekly tasks, giving students small, manageable targets that build toward their larger goals. Supervisors can encourage the use of these tools to break down complex tasks, helping students stay motivated by marking incremental progress. In addition to setting and monitoring goals, it's helpful for supervisors to create an environment where students feel comfortable discussing potential obstacles or setbacks openly. Regular meetings should provide students with a space to voice concerns, discuss any deviations from the initial plan, and collaboratively brainstorm solutions. By combining strategic questions with accessible monitoring tools, supervisors can play an active role in helping PhD students achieve a balance between structure and flexibility, ultimately guiding them toward a successful thesis completion.

2.3. Supporting Writing

Academic writing is a complex process, especially at the doctoral level, where the student is tasked with producing an original, comprehensive thesis. This section of ongoing supervision emphasises the supervisor's role in supporting students as they manage large-scale writing tasks, develop coherent and logical structures, and refine their arguments. For many PhD students, the transition from research to writing can be challenging, as it requires synthesising years of work into a clear, organised, and persuasive document. Supervisors can support this process by offering guidance on structuring arguments, maintaining clarity and consistency, and ensuring that the thesis meets the standards of academic originality. Supervisors should also encourage students to develop their own voice and scholarly identity within their writing, helping them find a balance between originality and academic rigour. Regular reviews of draft sections, discussions on writing strategies, and targeted

PRACTICAL SESSION 5. IDENTIFYING MILESTONES AND DELIVERABLES



feedback on writing style and organisation are all effective ways to support PhD students in developing a well-crafted thesis.

This paragraph provides supervisors with a roadmap for sustained, effective engagement with their PhD students. Through structured meetings, careful monitoring, constructive feedback, and writing support, supervisors can play a pivotal role in guiding students through each stage of their PhD journey, helping them to overcome challenges, achieve milestones, and produce meaningful research.

According to Delamont et al., there are two key principles to emphasise when guiding students through the writing process¹:

Write Early and Write Often

The more you write, the easier it becomes.

Writing every day helps establish a productive habit.

Small, consistent writing sessions accumulate into significant progress. The longer you delay writing, the more overwhelming the task becomes.

Don't Get It Right, Get It Written

No progress can be made in refining ideas until something is written down.

Drafting is essential for organising and clarifying thoughts.

Begin by writing the sections of your thesis that are clearest in your mind—don't worry about the order.

Drafting helps identify areas needing more attention more effectively than any other method.

Additional suggestions to support the writing process²:

- **Encourage Consistent Documentation:** Motivate students to document their practical and empirical work as they progress. Regular writing ensures that data, methods, and reflections are captured while fresh, facilitating a smoother thesis-writing process.
- **Promote Publication and Academic Engagement:** Actively encourage students to publish parts of their work in peer-reviewed journals or present at academic conferences. Participation in these activities not only refines their writing but also builds their academic profile and network. Develop a Thesis Framework Early: Suggest drafting a preliminary framework for the thesis early in the process. This could include a detailed table of contents or an extended summary, helping to shape the overall structure and identify gaps.

¹ Delamont et al., 2004.

² Berry, 2017; Delamont et al., 2004.

- **Support Diverse Writing Outputs:** Encourage students to write various reports, summaries, or academic articles. These activities develop their ability to articulate research findings clearly and contribute to a broader academic conversation.
- **Foster Familiarity with Reference Management Tools:** Introduce students to bibliographic tools, ensuring they can efficiently manage citations and references throughout their research. Demonstrate Academic Writing Standards: Collaborate with students to draft and refine sections of their work, providing clear examples of the academic style expected for their discipline.
- **Recommend Exemplary Academic Writing:** Suggest high-quality papers, theses, or articles as models of good practice, offering inspiration and a benchmark for academic standards.
- **Ensure Access to Writing Resources:** Facilitate students' access to necessary tools, including computers, writing software, and reference management systems, ensuring they have the infrastructure to work effectively.
- **Provide Constructive Feedback:** Deliver regular, timely, and constructive feedback on students' written drafts. Highlight strengths while offering actionable suggestions for improvement, focusing on clarity, coherence, and academic rigour.
- **Address Writer's Block:** Be mindful of potential signs of writer's block or burnout. Offer practical strategies to overcome these challenges, such as breaking tasks into smaller goals, setting daily writing targets, or using mind-mapping tools. If needed, refer students to additional resources, such as the Graduate School's Researcher Development Programme or institutional writing support services.
- **Encourage Peer Review Engagement:** Support students in participating in peer review processes, whether as authors, reviewers, or collaborators, to enhance their critical analysis skills and improve their own writing.
- **Monitor Progress Through Writing Milestones:** Establish regular writing milestones, such as the submission of draft chapters or key sections, to ensure steady progress and maintain momentum.

2.3.1. Providing Guidance for Referencing

Adherence to a consistent and field-appropriate referencing system is vital in academic research. Different disciplines and journals favour specific citation styles, and PhD students must familiarise themselves with these conventions to ensure their work meets disciplinary standards. Some common referencing systems include:

- **APA (American Psychological Association):** Frequently used in social sciences, education, and psychology, this style emphasises author-date citations and provides clarity in sourcing.
- **MLA (Modern Language Association):** Favoured in the humanities, particularly in literature and language studies, MLA provides a clear, text-focused approach to referencing.
- **Chicago Style:** Widely used in history and some humanities disciplines, offering flexibility with author-date and footnote citation systems.

- **Harvard Referencing:** A simple and accessible system popular across various disciplines, using an author-date format.
- **IEEE (Institute of Electrical and Electronics Engineers):** Common in technical fields like engineering and computer science, relying on numerical citations.
- **Vancouver Style:** Preferred in medical and health sciences, featuring sequential numerical citations in the text.

Supervisors should guide students in selecting and mastering the referencing style most appropriate for their field of study. Recommending reliable citation guides and ensuring students understand the nuances of these systems is crucial to avoiding errors or inconsistencies. By emphasising proper referencing practices early on, supervisors help students uphold academic integrity and maintain professionalism throughout their research.

In addition, to address the logistical challenges of managing extensive literature and data, supervisors should encourage the use of advanced tools. Actively motivating PhD students to adopt these tools early and incorporate them into strategies for efficient literature reviews and data management is essential. With these systems in place, students can easily retrieve critical resources, ensuring their research remains methodical and well-supported.

Effective citation and data management practices not only streamline the thesis-writing process but also enhance the overall quality, accuracy, and professionalism of the student's academic work. Supervisors play a key role in providing timely support and constructive feedback, helping students stay on track and develop the organisational skills necessary for both academic and professional success.

2.4. FAIR Principles in Research Data Management

Research data management concerns the organisation, archiving, exchange and storage of data collected or generated during research activities. To ensure that research is reliable and meets high standards, that is well documented, and that it can be found and shared it is important to follow certain principles in data management and storage.

These principles come under the acronym FAIR that stands for:

- Findable
- Accessible
- Interoperable
- Reusable

Though most occasions at this early stage the student will not be required to follow advanced storage and management protocols, it is very useful to get acquainted with the main practices to start working with basic organisation tools and to find out more about the potential of open research management and data consultation on

open online repositories. To get an idea about the importance of correct data management and sharing you can watch this fun video. To find out more about FAIR and open data management, you can consult the dedicated Open Aire webpage.

2.5. Providing Feedback

Feedback is a cornerstone of effective supervision, offering students the guidance they need to refine their work and deepen their understanding of complex theoretical and methodological elements. For PhD students, feedback should go beyond surface-level edits to focus on the depth, originality, and rigour of their research. Supervisors should aim to provide detailed, constructive critiques that encourage students to think critically and independently about their work. Feedback sessions can cover areas such as theoretical alignment, research methodology, and the coherence of arguments, always keeping in mind the student's broader contribution to their field. Given the intensity of the PhD process, timely and thoughtful feedback is essential to helping students maintain momentum and stay motivated. Supervisors may also find it helpful to periodically review written drafts, presentations, or preliminary analyses to identify areas for improvement and to celebrate the student's progress³.

When providing feedback on students' work, consider the following guidelines to ensure its effectiveness:

- Clarify the purpose of feedback as a tool for progress.
- Start with positive aspects to encourage and motivate the student.
- Maintain a balance between praise and constructive criticism.
- Deliver criticism objectively, focusing on the work, not the person.
- Provide clear and unambiguous feedback to prevent misunderstandings.
- Ensure that students understand the feedback and are able to act on it.
- Discuss a plan for addressing negative aspects, including a clear way forward.



Fig. 2.1. Mentoring Explained (Courtesy of APU Edge)

³ Berry, 2017.

It is crucial that students receive timely feedback on their written work, typically within three weeks. If there are delays (e.g. due to excessive exam marking), inform students in advance about when they can expect feedback. Delayed feedback, especially when it extends beyond two months, is one of the most common complaints about PhD supervision and can negatively impact students' progress and morale.

2.6. Joint Supervision

Joint supervision, a standard practice in universities, typically involves a primary and one or more secondary supervisors, either from the same department, another department, or an external organisation (e.g. in Professional Doctorates). The roles of supervisors may vary, such as equal contributions, specialised expertise in methodology, or supervisory experience with a minor role in the project (Berry, 2017).

To ensure effective joint supervision, clarity of roles and responsibilities is crucial. Supervisors should:

- Define their respective roles clearly for all parties.
- Leverage complementary expertise and networks.
- Maintain good communication, clear reporting lines, and agreed records of meetings.
- Avoid providing conflicting advice.
- Establish a monitoring process aligned with institutional policies.
- Address any tensions transparently and collaboratively to resolve issues.

2.7. Supervisory Meetings

Supervisory meetings can take various forms, including face-to-face, digital communication (e.g. email or video conferencing), or other methods. At the outset, supervisors and students should agree on the frequency and nature of meetings and communication, ensuring clarity on reasonable expectations regarding access to the supervisor's time. Supervisors must ensure adequate contact to provide appropriate guidance and monitor student progress effectively⁴.

Key points to consider include:

- **Meeting Frequency:** While meeting frequency may vary based on the research stage, a minimum of ten formal meetings per year is recommended, with monthly meetings as a baseline and more frequent meetings at the start of the programme. Regular email contact is also encouraged.
- **Shared Supervision:** In cases of joint supervision, roles should be clarified, including which supervisor attends specific types of meetings and whom the student should contact for particular concerns.

⁴ Berry, 2017.

PRACTICAL SESSION 6. BEST PRACTICES FOR SUPERVISION MEETINGS

These practices foster an effective supervisory relationship, ensuring clear communication, structured progress monitoring, and responsiveness to both academic and personal challenges.

Suggestions for the First Meeting

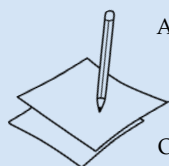
Discuss **mutual expectations for supervision**, including roles and responsibilities.

Agree on **meeting logistics**: frequency, timing, format, and feedback mechanisms.

Emphasise the **value of constructive criticism** as a tool for development.

Outline **practical arrangements** for scheduling, cancellations, and communication protocols.

Share key **periods of unavailability** due to supervisors' workload (e.g. marking, conferences).



Best Practices for Meetings

Schedule meetings in advance but allow flexibility to cancel if unnecessary.

Incorporate time to discuss pastoral issues that may impact academic progress.

Use **brief written inputs** from students as a basis for discussions.

Balance **positive feedback with constructive criticism**, while fostering intellectual engagement.

Set **clear objectives for progress** before the next meeting.

Follow up promptly if a student loses contact, informing the relevant departmental or graduate school authorities as needed.



- **Record-Keeping:** A brief note of all formal meetings should be agreed upon and maintained by both the student and supervisors.

2.8. Supervisory Styles

Supervisors naturally differ in their styles, and even an individual supervisor may need to adjust their approach to suit the specific needs of different students⁵.

Suggestions for Adapting Supervisory Styles:

Identify the most effective style for both you and the student.

Strive for a balance between being overly directive and overly distant. Reflect on key questions, such as:

- How much should you assert your views versus allowing the student to learn through mistakes?
- How involved should you be in their work?

Observe how students respond to your approach and be willing to adjust as necessary.

Seek advice from experienced colleagues if challenges arise.

It is crucial to recognise that a single style will not suit all students. Supervisors should be sensitive to the diverse backgrounds, motivations, and circumstances of their students. For example:

A young, full-time student without dependants may have different needs compared to:

- A full-time international student with a family.
- A staff member embarking on research for the first time.
- A research assistant pursuing a PhD alongside employment.
- A Professional Doctorate candidate with extensive industry experience.

By tailoring supervisory styles to individual students, supervisors can create an environment that supports their progress, acknowledges their unique contexts, and fosters a productive working relationship.

⁵ Berry, 2017.

DIGITAL TOOLS 2

ONGOING SUPERVISION

DIGITAL TOOLS 2.1. USING DIGITALISATION TO EFFECTIVELY MONITOR YOUR PROGRESS AND WORKFLOW

CUSTOMISING YOUR CHOSEN E-LEARNING PLATFORM

Platforms like Moodle and Notion contain a variety of features you can use to customise your teaching activities, setting specific options for organising and monitoring different projects.

A good example of this is Moodle's "Completion Progress" plug-in, which provides a visual and intuitive portrayal of work progress --> [Completion Progress Moodle](#).

Another useful tool is [Notion's Thesis Dashboard](#) - a particular template designed for managing thesis writing, organising the different phases of the process, tracking progress, and collecting useful resources.

Useful links: [Create a Learning Path with the Help of Completion Tracking in Moodle](#)

COLLABORATIVE TRACKING AND MONITORING

Digital project management platforms such as Google Sheets offer dynamic ways to track progress collaboratively. By allowing both students and supervisors to update and adjust timelines in real time, these platforms make it easy to adapt to unforeseen changes or delays. Supervisors can use these tools to leave comments, flag tasks for further review, and ensure the visibility of each major step, helping students maintain accountability.

DIGITAL TOOLS 2.2. USING SOFTWARE FOR ANALYSIS AND DATA MANAGEMENT

SOFTWARE FOR MANAGING REFERENCES AND DATA

Efficient citation and data management are essential for organising the vast amount of literature, datasets, and research materials encountered during a PhD journey. These practices are not merely administrative but are integral to ensuring the accuracy, coherence, and credibility of academic work. Proper citation upholds the integrity of research by crediting prior studies and avoiding plagiarism, while effective data management ensures research findings are precise, reproducible, and well-documented.

PhD students can greatly benefit from using advanced tools for citation and data handling. Reference management software such as Mendeley, Zotero, and EndNote allows students to categorise, annotate, and seamlessly integrate citations into writing platforms. These tools support the creation of bibliographies, efficient tracking of sources, and formatting of citations in multiple referencing styles, significantly reducing the manual workload during thesis writing.

For handling complex datasets, software like SPSS, NVivo, and Excel, as well as coding-based solutions such as Python, R, and MATLAB, help students organise, analyse, and present their findings effectively.

Supervisors play a pivotal role in equipping students with these tools and fostering best practices in organising references and datasets. By introducing students to these resources early in their research journey, supervisors help them establish workflows that ensure efficient tracking, categorisation, and retrieval of research materials. Additionally, guidance on creating annotated bibliographies, structuring literature reviews, and developing systematic approaches to thesis writing further supports students in managing their research resources effectively.

DATA ANALYSIS AND VISUALISATION

DataRobot: Simplifies AI-driven data analysis and predictive modelling for researchers without extensive coding expertise.

Tableau: Provides advanced data visualisation options to present findings effectively.

Voyant Tools: A web-based text analysis tool for researchers in the humanities and social sciences fields.

TOOLS FOR DATA ANALYSIS

Data analysis tools are essential for managing, analysing, and interpreting the often large and complex datasets that form the foundation of PhD research. These tools not only support statistical analysis but also assist with project management, data visualisation, and the effective tracking of research progress. By utilising these tools, supervisors can help students structure their analyses, identify trends, and ensure that their findings are presented clearly and accurately.

Key Tools:

- **Statistical Tools** (e.g., SPSS, R)
- **Project Management Tools** (e.g., Trello, Asana)
- **Data Visualisation Tools** (e.g., Tableau, Microsoft Power BI)

These tools not only improve the accuracy of data analysis but also help students track their research progress, organise tasks effectively, and communicate results more clearly. Supervisors play a key role in recommending the right tools based on the nature of the research, ensuring students have the resources they need to manage data and projects efficiently.

DIGITAL TOOLS 2.3. USING ARTIFICIAL INTELLIGENCE TO SUPPORT WRITING

Key resources for enhancing research and writing include platforms like Google Scholar and JSTOR for accessing academic literature, AI writing assistants such as Grammarly and QuillBot for improving grammar and clarity, and AI research tools like ChatGPT and Scite.ai for generating insights, evaluating citations, and streamlining the research process. Some of these tools are free to use, others offer free versions with limited features, and some require a subscription or payment for full functionality, allowing users to choose options that best suit their needs and budgets.

Following a brief acknowledgement of responsible use, here is a list of resources that PhD students can use throughout their research journey:

RESPONSIBLE USE OF GENERATIVE AI

AI is making research increasingly efficient at a very fast pace, providing great opportunities. However, it is essential to use AI in a responsible and ethical way. To do so, here are some recommendations from the **ERA Living Guidelines**:

1. Remain ultimately responsible for scientific output.
2. Use generative AI transparently.
3. Pay particular attention to issues related to privacy, confidentiality, and intellectual property rights when sharing sensitive or protected information with AI tools.

For more on this, you can consult the [ERA Living Guidelines for Responsible Use of Generative AI in Research](#)

AI LITERATURE SEARCH AND ANALYSIS

- **Google Scholar:** A comprehensive platform for accessing scholarly articles, theses, and patents.
- **JSTOR:** Provides access to academic journals, books, and primary sources across various disciplines.
- **Connected Papers:** Helps researchers discover related papers and visualise the connections between them.
- **Litmaps:** Offers dynamic citation mapping to track how research evolves over time.
- **Semantic Scholar:** Utilises AI to highlight key insights, influential citations, and emerging topics in scholarly literature.

AI WRITING ASSISTANTS

- **Grammarly:** Enhances grammar, clarity, tone, and style, ensuring professional-quality writing.
- **Quillbot:** Assists with paraphrasing, summarising, and improving sentence structure.
- **Wordtune:** Provides context-aware rewriting suggestions to improve text flow and readability.
- **Scribbr:** Focuses on grammar and citation checks, along with offering a plagiarism detection service.
- **Writefull:** Aids academic writing by suggesting improvements based on language patterns found in published papers.

AI RESEARCH TOOLS

- **ChatGPT:** Supports brainstorming, drafting, and critical analysis with contextually relevant content generation.
- **Scite.ai:** Highlights supporting, contrasting, and neutral citations to help researchers evaluate the strength of evidence.
- **Elicit:** A tool for literature discovery and extraction of evidence to answer research questions efficiently.
- **Research Rabbit:** Facilitates the discovery of related articles and researchers, helping to expand knowledge networks.
- **Perplexity.ai:** Combines conversational AI with citation-based insights to assist with research inquiries.

ONLINE REPOSITORIES

A repository is an online archive where researchers can deposit digital research outputs and provide (open) access to them. Repositories help manage and provide access to scientific outputs, such as publications, data, software, among others. They also contribute to the long-term preservation of digital assets.

Links: [Open Science - ERC](#), [Zenodo](#), [Figshare](#), [HAL](#), [CORE](#), [OAPEN Library](#)

AVOIDING PLAGIARISM - CHECKERS AND DETECTORS

Plagiarism checkers are essential tools for anyone involved in writing, whether you are a student, researcher, or professional. These tools help ensure that your work is original and free from unintentional plagiarism, which can have serious academic and professional consequences. They assist in recognising sections that may need rephrasing or proper citation and may even suggest better paraphrasing techniques or highlight areas requiring clearer citations.

Plagiarism Detection and Research Integrity:

- **Turnitin:** Detects potential plagiarism and helps maintain academic integrity in writing.
- **Copyscape:** Provides advanced checks for duplicate content across the web and within documents.
- **iThenticate:** Tailored for researchers, offering in-depth plagiarism detection for academic manuscripts.

Links: [Plagiarism: What It Is and Why You Should Avoid It, Protect Your Work: A Comprehensive Guide for Students and Researchers on Avoiding Plagiarism](#)

DIGITAL TOOLS 2.4. PLATFORMS AND TOOLS FOR EFFECTIVE MEETINGS

CONFERENCING PLATFORMS

The versatility of conferencing platforms has been appealing to universities since their online start in the 2000s, due to a series of advantages such as making it easier for international researchers from different countries to meet and to discuss their projects, favouring the participation to international seminars, offering online classes, and facilitating collaborative and interactive learning.

All these aspects are interconnected and even integrated within the relationship between a PhD supervisor and their students, making these software tools fundamental for a digital strategy in education.

Key platforms: **Google Meet, Zoom, Teams**, which are basic software.
Ex Ordo, Go To Webinar, which are more technical.

Links: [Easy - to - Use Technologies to Support Distance Learning](#)

NOTETAKERS

Notetakers are simple digital tools which can help students and researchers track lessons, conferences, seminars, and other educational events. Beyond this, they provide an easy way to share and to exchange notes with colleagues and to visually sketch ideas or plans on a digital platform.

Key platforms: **Microsoft OneNote, SimpleNote, FreeForm**.

3. Managing Challenges

The Ongoing Supervision section offers guidance on maintaining a structured, adaptive approach to supervising PhD students, focusing on regular meetings, progress monitoring, feedback, and writing support. As PhD research is a multi-year, intensive journey that demands originality and depth, supervisors play an essential role in keeping students on track, providing the strategic insights needed to address complex research challenges, and ensuring the student's work progresses meaningfully. The ongoing supervision process aims to create a collaborative environment in which PhD students receive the guidance, resources, and encouragement necessary to reach key milestones and complete their thesis successfully.

3.1. The Emotional Journey of a PhD: Ups and Downs

Pursuing a PhD is a challenging and transformative process that often involves navigating a wide range of emotions. As a supervisor, it’s essential to understand that these emotional fluctuations can significantly impact a student’s performance and the type of support they require from you at different stages of their journey. Phillips and Pugh identify a common pattern of emotions that many PhD students experience throughout their studies¹:

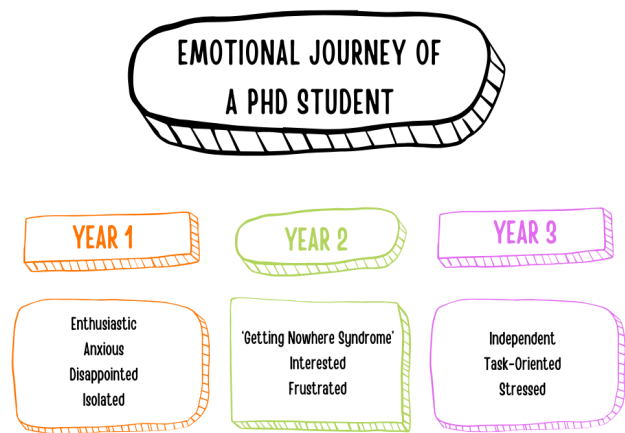


Fig. 3.1. Emotional Journey of a PhD Student. (Courtesy of the Authors)

YEAR 1

Enthusiastic: Excitement and optimism at the start of the project, fuelled by high expectations and ambitions.

Anxious: Self-doubt creeps in—“Am I clever enough? Will they realise I don’t belong?”

Disappointed: A gap between expectations and actual achievements sets in.

Isolated: Despite other PhD students being around, a sense of loneliness emerges

YEAR 2

‘Getting Nowhere Syndrome’: The routine of research can feel monotonous and unproductive.

Interested: Growing confidence and deeper engagement lead to problem-solving breakthroughs.

Frustrated: Time constraints limit the ability to explore all areas of interest.

YEAR 3

Independent: Students rely less on their supervisors for subject knowledge as their expertise deepens.

Task-Oriented: The thesis becomes a practical goal to complete rather than an abstract project. Stressed: Deadlines, expectations, and the final push often bring significant pressure.

¹ Phillips & Pugh, 2000.

3.2. Dealing with Common Issues

PhD students often face unique challenges over the extended period of their research, including maintaining motivation, managing the broad scope of their project, and balancing their studies with teaching or other responsibilities. Supervisors can help by identifying these potential issues early and suggesting strategies to address them. Motivation may fluctuate throughout the PhD journey, especially during challenging phases; supervisors can provide regular encouragement, recognise achievements, and suggest ways for students to stay engaged, such as setting smaller, achievable goals. Scope creep, or the expansion of a project beyond its initial parameters, can be managed by periodically reviewing the research plan and reinforcing the importance of focusing on core objectives. Supervisors should also encourage students to prioritise their time and energy, particularly if they are involved in teaching or other commitments, helping them to set boundaries and manage their workload effectively.

3.3. Conflict Resolution

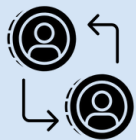
Conflicts can arise within the supervisor-student relationship or among research teams, often due to differences in expectations, communication styles, or research direction. Supervisors play a critical role in both preventing and resolving these conflicts, fostering a supportive environment based on trust and open dialogue. Establishing clear agreements on expectations and responsibilities from the outset can minimise misunderstandings. If conflicts arise over research direction or collaborative work, supervisors should facilitate constructive conversations that allow each party to express their views openly. For disagreements between the supervisor and the student, it may be beneficial to involve a neutral third party, such as another faculty member, to mediate. Supervisors should also work to create a collaborative culture in research teams, emphasising mutual respect, communication, and adaptability.

3.4. Supporting Wellbeing

Supporting the wellbeing of PhD students is a key component of effective supervision, as the demanding nature of doctoral research often leads to stress and burnout. Supervisors should recognise the signs of stress and anxiety in their students and actively encourage a balanced approach to work and personal life. Practical steps include promoting work-life balance, encouraging breaks, and understanding the pressures students face from funding uncertainties, impending deadlines, and career concerns. Supervisors should provide information on mental health resources available through the university, such as counselling services, support groups, or workshops on managing stress and anxiety. Being approachable and empathetic can also create a safe space for students to discuss personal challenges that may impact their academic performance. Supervisors must be equipped with tools to proactively recognise and address challenges, fostering a supportive environment that

PRACTICAL SESSION 7. STRATEGIES FOR MANAGING EMOTIONAL CHALLENGES

Supervisors can play a vital role in addressing the emotional challenges students face during their PhD journey. Here are some strategies to help students stay motivated, overcome obstacles, and maintain emotional well-being:



Foster Peer Support: Encourage participation in discussion groups or peer forums where students can share experiences and realise they are not alone.



Reduce Isolation: Discourage students from working exclusively at home by suggesting library or office spaces to foster a sense of connection.



Set Achievable Goals: Work with students to create a realistic timetable with clear, attainable milestones. Celebrate their achievements to build momentum and confidence.



Promote Social Engagement: Recommend participation in academic and social activities, such as seminars, workshops, or department gatherings.



Encourage Rest: Advocate for regular breaks and proper holidays to avoid burnout and sustain productivity.

If emotional difficulties persist despite these efforts, supervisors should **encourage students to seek professional counselling or mental health support**. Providing a supportive environment and recognising when to involve specialised resources can significantly improve the PhD experience, helping students stay on track both academically and emotionally.

helps PhD students manage their workload effectively, resolve conflicts constructively, and maintain their mental and emotional health throughout the PhD journey.

DIGITAL TOOLS 3

MANAGING CHALLENGES

DIGITAL TOOLS 3.1. ONLINE AND OFFLINE SOCIAL RELATIONS

THE IMPORTANCE OF WORK - DISCONNECTION: FRIENDLY PLACES TO WORK, ATTENDING ONLINE AND IN-PERSON EVENTS

From its foundation, the university is not only conceived as a place of academic work and study but also as a community. Postgraduate students form a vital - and perhaps the most dynamic - part of the university population, as they do not easily fit into the single status of either students or teachers.

They are continuously in training, often with a high degree of autonomy, and thus need to establish a healthy work-life balance. University institutions play a central role in their daily lives, so it is vital for them to provide safe workspaces and various stimuli to ensure both well-being and productivity.

A good example of this is provided by friendly workplaces, both online and physical, which offer environments conducive to collaboration and relaxation. Moreover, organising online or in-person events, like academic meetups, team outings, or themed gatherings, can strengthen community bonds and promote a sense of belonging, allowing students to connect with peers, share experiences, and seek advice.

Key platforms: **Headspace, Calm**

Links: [PhD Supervision: Good Practice Guide - University of Reading \(pages 9-10\)](#), [Promoting Graduate Student Wellbeing: Cultural, Organizational and Environmental Factors in the Academy](#).

BREAKING DOWN ACHIEVEMENTS, USING BADGES, AWARDS, CERTIFICATES

While universities are typically associated with large-scale credentials (such as degrees or PhDs), which are fundamental for practising most high-level professional jobs, micro credentials (such as online course certificates and badges) have risen in importance within the contemporary job market, as they demonstrate a continuous and diverse conception of professional activity.

Especially for postgraduate researchers, the acquisition of micro credentials during their academic career - breaking down large achievements into smaller goals and celebrating them with badges or certificates - can significantly boost motivation and productivity. This approach enhances self-efficacy, reduces stress, and improves time management.

Links: [What is a micro-credential?, A European Approach to Micro-Credentials](#), [What Are Micro-Credentials? What to Know About This Learning Trend](#), [ORCID - Accreditations and Qualifications](#)

4. Thesis Writing and Completion

This section offers supervisors detailed guidance on supporting PhD students through the final stages of their thesis, a phase that requires significant academic, organisational, and emotional support. As students near the completion of their research, supervisors help them shape and refine their findings into a cohesive, rigorous document. This support includes detailed review and feedback on drafts, structural advice to ensure a clear and compelling argument, and guidance on meeting formatting and submission requirements. Additionally, supervisors prepare students for the submission and defence processes, helping them navigate institutional guidelines and instilling confidence for their oral defence.

4.1. Final Stages of Writing

In the final writing stages, PhD students benefit greatly from their supervisors' guidance on structuring a comprehensive, well-organised thesis that makes an original contribution to their field. Supervisors play a key role in helping students manage the extensive scope of their research by offering detailed feedback on draft sections, ensuring each chapter clearly supports the thesis argument and adds value to the broader field. This support includes helping students with organisation, guiding them to arrange their findings logically, and reinforcing argumentation so that the thesis is both persuasive and well-supported by evidence. Supervisors should also advise on the clarity and depth required for the literature review, methods, and results sections, ensuring the thesis thoroughly addresses its research questions and contributes new insights to existing scholarship.

In addition, the use of generative AI tools can assist PhD students in refining their thesis drafts. These tools can support the writing process by suggesting improvements to sentence structure, providing grammar and style recommendations, and even offering insights into how to strengthen arguments or clarify complex ideas. Generative AI can also help students synthesise large amounts of literature, identify gaps in their analysis, or generate ideas for further elaboration (see Digital tools 2.3 Using Artificial Intelligence to Support Writing). However, it is crucial for supervisors to guide students in the responsible use of AI, ensuring that it enhances, rather than substitutes, their critical thinking and writing skills. Supervisors should encourage students to use AI as a tool for efficiency and refinement, while also maintaining ownership of their intellectual work and ensuring that the thesis reflects their original research and insights.

4.2. Preparing for the Thesis Defence

The thesis defence is often the culmination of a PhD student's work, and thorough preparation is essential. Supervisors can help students prepare by reviewing potential defence questions and advising on how to respond effectively, particularly on theoretical and methodological implications. Encouraging students to create a concise and impactful presentation of their research findings can be valuable in establishing a solid foundation for their defence. Mock defences or practice sessions are helpful, allowing students to articulate their arguments confidently and refine their presentation skills. Supervisors should remind students to prepare to defend their research choices and discuss how their findings contribute to the field, strengthening their ability to respond to questions on complex aspects of their work.

4.3. Submission Process

The thesis submission process often involves strict institutional requirements, and supervisors play a crucial role in guiding students through each step to ensure compliance with all guidelines. Before submission, they should notify their supervisor(s)

of any special circumstances that may have impacted their research and share the final draft of the thesis for review. Supervisors can assist students with formatting requirements, such as citation styles, font sizes, and layout considerations, and provide advice on binding options if hard copies are required.

Supervisors should also inform students about submission deadlines and the procedures for both digital and physical submissions, as many universities require both formats. To ensure timely submission, a checklist can be helpful to guide students through tasks such as final proofreading, formatting adjustments, and the necessary administrative paperwork. Supervisors should also ensure that they send a written report to the examiners via the Examinations Office when the thesis is submitted.

By providing clarity, encouragement, and practical advice throughout this process, supervisors help students ensure that their thesis meets all academic standards and is submitted confidently, preparing them for the next stage of their academic or professional journey.

5. Helping Researchers Make the Best of Their Research

This section focuses on the essential steps and resources available to help PhD graduates transition smoothly from their doctoral studies into their professional careers. Completing a PhD is a significant achievement, yet it also marks the start of new challenges and opportunities, as graduates navigate career paths in academia, industry, research organisations, or other sectors. Supervisors can play a crucial role in this transition by providing guidance on publishing their research, exploring diverse career options, and connecting them with valuable professional networks.

One of the first post-thesis steps is often to publish the findings, whether through journal articles, book chapters, or conference presentations. By publishing their research, graduates can increase the visibility of their work, contribute new insights to their fields, and establish themselves as experts. Supervisors can advise on selecting reputable journals, crafting submissions, and navigating the peer review process, helping graduates gain recognition for their contributions. These publications can also become a strong foundation for future research, grant applications, and academic positions.

5.1. Publishing Research

Given that completing a doctorate requires making an original contribution to knowledge and understanding, it is essential that the outcomes are shared with the disciplinary and/or professional community to facilitate scrutiny and advance research in the field. Encouraging PhD students to publish their research is a cornerstone of their academic development. Publishing not only establishes their academic presence but also ensures that their findings contribute to the broader field of knowledge. Supervisors play a crucial role in this process, providing guidance and strategies to navigate the publishing landscape effectively¹.

Key strategies include identifying appropriate target journals, considering the scope, impact factor, and audience of the publication. Supervisors can also assist students in adapting sections of their thesis into standalone journal articles, book chapters, or other publishable formats. By doing so, students can learn to tailor their work for different academic and professional audiences.

Presenting research at conferences is another valuable avenue, enabling students to share their findings, receive constructive feedback, and enhance their professional visibility. Conference proceedings and posters often serve as stepping stones to more formal publications, while networking opportunities at such events help foster collaborations and open doors to future publishing projects.

Publishing during the PhD journey is not merely an academic exercise but a strategic move for career advancement. It enhances students' CVs, strengthens their position in academic or professional job markets, and raises the impact of their work. Publishing also reinforces the students' contributions to their discipline, promoting the dissemination of new knowledge and innovation.

Efficient citation and data management are equally critical for organising the extensive literature and data involved in PhD research. Supervisors can support students by introducing them to tools that simplify the storage, organisation, and citation of references, as well as software for managing and analysing complex datasets (see Digital Tools 2.2 Using Software for Analysis and Data). Such tools ensure that relevant literature and data are well-organised, easily accessible, and seamlessly integrated into their thesis writing.

Supervisors are encouraged to actively motivate students to publish during their PhD by:

- Highlighting the benefits of publishing for academic and professional growth.
- Advising on journal selection and submission processes.
- Providing feedback on draft manuscripts to ensure high-quality submissions.
- Encouraging participation in conferences, symposia, and workshops for initial exposure.
- Discussing co-authorship opportunities to involve students in collaborative projects.

¹ Taylor, n.d.

By fostering a publishing mindset and equipping students with the tools for efficient citation and data management, supervisors can help students maximise the impact of their research, laying the groundwork for a successful academic or professional career.

5.2. Integrating Micro-Credentials into PhD Training and Career Development

In the evolving landscape of higher education and professional development, micro-credentials are emerging as a powerful tool to support lifelong learning. These small, focused learning experiences are designed to help individuals acquire specific skills and competences in response to the rapid changes in society and the labour market. Unlike traditional qualifications, micro-credentials are complementary, offering targeted learning opportunities that enhance existing expertise or address emerging needs. The European approach to micro-credentials establishes a common framework to ensure their quality, transparency, and recognition across borders. This framework provides clear definitions and standards, making the learning outcomes easily understood and accepted by employers, learners, and educational institutions. By promoting trust in micro-credentials, the European standards support their integration into formal and non-formal education systems, as well as in the workplace².

Micro-credentials are characterised by their flexibility and portability. They capture the record of learning outcomes assessed against defined standards, equipping learners with skills that are directly applicable to personal, cultural, societal, or labour market needs. These credentials may stand alone or be combined into larger qualifications, depending on the learner's goals. Furthermore, they are owned by the learner, can be shared, and are transferable across institutions and employment contexts. For recent PhD graduates, micro-credentials offer opportunities to refine their expertise, expand their skill sets, and adapt to diverse career pathways. Whether enhancing technical competencies, mastering new technologies, or acquiring leadership and project management skills, micro-credentials complement doctoral training and prepare graduates for the demands of an evolving professional environment.

By encouraging PhD students and graduates to pursue micro-credentials, universities and supervisors can support their transition to professional roles while fostering a culture of lifelong learning.

5.3 Social Media for Research Visibility

Social media is an essential tool for PhD graduates, particularly those involved in EU-funded projects, to enhance the visibility and impact of their research. It enables immediate, low-cost communication from the outset of a project, allowing graduates

² European Commission, 2021

to share their findings with a global audience and engage directly with citizens, researchers, and potential collaborators. By building an online presence, PhD graduates can manage their professional reputation on a daily basis and ensure their work reaches the appropriate stakeholders, meeting communication and dissemination requirements, such as those set out in Horizon Europe grant agreements.

To make the most of social media, it is important to select the right platform based on the target audience. Graduates should consider whether to set up a new account or collaborate with partners to run a joint account, ensuring the content is focused and tailored to their research. Organising posts through an editorial calendar linked to key milestones, events, and publications helps maintain a steady flow of communication. Interaction with other projects, stakeholders, and the audience is vital to boost engagement and expand the network. Additionally, varying content, such as posting short videos, showcasing the human side of the research, and highlighting partnerships, helps maintain interest and reach a broader audience. By posting regularly and at peak times, such as during the commuter hours in the morning or evening, PhD graduates can keep their audience engaged and further promote their research and its impact³.

5.4. Career Advice

Transitioning from PhD studies to a professional career involves understanding and exploring various career paths where advanced research skills are highly valued. Supervisors can offer insights into academic career opportunities, including postdoctoral positions, faculty roles, and research positions within universities, as well as non-academic options in industry, government, and consulting. This section provides tailored advice on leveraging the specialised knowledge, problem-solving abilities, and project management skills gained during the PhD. Encouraging students to network, build a strong CV, and apply to targeted positions enables them to take advantage of diverse career possibilities aligned with their expertise.

Supervisors play an essential role in guiding PhD students through the critical post-thesis phase. Their support extends beyond thesis submission, helping students navigate the next steps in their academic or professional journey. Encouraging students to publish their research is a key aspect of this transition, as it allows them to contribute to the academic community, establish their professional reputation, and build their network. Supervisors should advise students on the best strategies for targeting appropriate journals, presenting their findings at conferences, and engaging in other forms of academic dissemination.

In addition to publishing, supervisors should guide students in connecting with relevant professional networks, both within academia and in industry. This could include recommending professional organisations, alumni networks, and research collaborations, as well as providing advice on building relationships with potential employers or research teams. These connections can open doors to new opportuni-

³ European Union, 2023.

ties, foster professional growth, and ensure students remain up to date with developments in their field.

Finally, supervisors should help students plan their careers, whether they aim to pursue further academic research, seek postdoctoral opportunities, or move into industry roles. By providing career advice, mentorship, and guidance on job applications and interviews, supervisors can help students navigate this transition with confidence. This phase is an important time for students to reflect on their skills and research experiences, and supervisors can help them articulate their strengths and plan for a successful career beyond their PhD. Through continued support, supervisors can help students not only complete their PhD but also set the stage for future professional success and personal growth.

5.5. Networking for Career Growth

Networking is an essential skill for new PhDs, enabling them to connect with the broader academic and professional community. Building a strong network can lead to collaborations, mentorship opportunities, and access to career prospects that might otherwise remain out of reach. Engaging with academic, professional, and alumni networks not only broadens one's horizons but also fosters a sense of belonging in the often-solitary journey of doctoral research.

Supervisors play a pivotal role in facilitating these connections by introducing students to relevant contacts within their own networks, recommending conferences, and encouraging participation in professional organisations. By doing so, supervisors help students develop their professional identity and visibility in their field.

Networks and events offer a range of benefits, from exposure to cutting-edge research to career development resources, and can be instrumental in fostering long-term professional relationships. Through these networks and events, graduates gain insights into emerging trends, discover job openings, and connect with colleagues who may later become collaborators or mentors. Engaging in professional communities through memberships in organisations, presenting at conferences, or joining alumni groups allows graduates to establish a professional identity beyond their doctoral institution. These connections foster a sense of community and provide valuable resources for long-term career growth.

Finally, supervisors can help graduates navigate various career paths, from academia to industry and beyond. They can provide insights into postdoctoral opportunities, academic tenure tracks, and non-academic careers that leverage research skills. For PhD graduates considering roles in industry, consulting, or public policy, supervisors may recommend networking with industry professionals, joining interdisciplinary groups, or obtaining relevant certifications. By staying engaged with these networks and resources, PhD graduates can continue to develop professionally, ensuring that their hard-won expertise remains impactful and relevant across a range of professional environments.

PRACTICAL SESSION 8. NETWORKING OPPORTUNITIES

By actively participating in these networks, PhD graduates can cultivate relationships that will benefit their academic and professional trajectories. Supervisors and institutions can further support networking efforts by providing students with resources, guidance, and access to opportunities tailored to their research interests and career goals. To support recent PhD graduates in this endeavour, the following list highlights key networks and organisations that offer valuable opportunities:

Academic Societies and Organisations

These societies often host conferences, provide funding opportunities, and publish journals where graduates can contribute and learn. Examples include field-specific societies.

Professional Associations

Joining associations aligned with one's research or career interests can facilitate connections with industry professionals, policymakers, and academics.

University Alumni Networks

Alumni networks provide a platform for connecting with former students who may offer guidance, share experiences, or collaborate on research and professional projects.

Collaborative Platforms

Online platforms like ResearchGate, LinkedIn, and X (ex Twitter) enable graduates to showcase their work, engage with peers, and stay updated on new developments in their field.

Graduate Programmes and Networks

Many institutions host programmes specifically for early-career researchers, offering networking events, skill development workshops, and mentorship schemes.

Conferences and Workshops

Attending and presenting at conferences not only disseminates research but also provides opportunities for meaningful interactions with experts and peers.

Interdisciplinary Forums

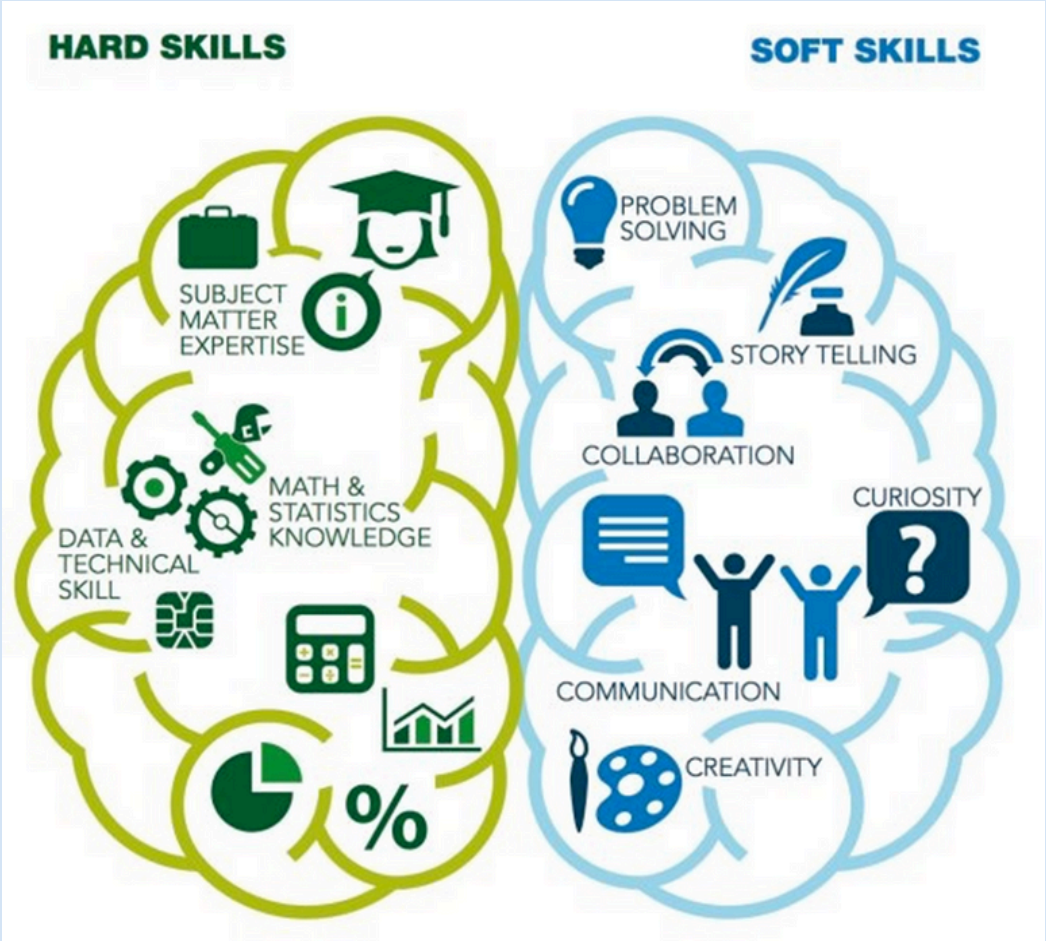
Forums and networks focusing on interdisciplinary collaboration can open doors to innovative projects and partnerships that cross traditional academic boundaries.

Local and Regional Groups

Engaging with local research or professional communities helps graduates remain connected while exploring opportunities close to home.

PRACTICAL SESSION 9. SOFT SKILLS FOR RESEARCHERS

Make sure to integrate soft skills for researchers throughout the training. THE EUROPEAN COMPETENCE FRAMEWORK FOR RESEARCHERS is an extremely useful tool for identifying key skills at different stages of a researcher's career.



Graphic of the brain showing left and right hemispheres. Hard skills such as knowledge and skills are in the left brain, soft skills such as communication and creativity are in the right brain. (Courtesy of CETC, Australia)

DIGITAL TOOLS 5
HELPING RESEARCHERS
MAKE THE BEST OF THEIR
RESEARCH

DIGITAL TOOLS 5.1. BUILDING UP A FINDABLE PROFILE ON THE WEB

BUILDING UP A FINDABLE RESEARCH PROFILE

Building and updating your digital profile as an international researcher is now a fundamental part of your academic and post-academic career path. It provides the opportunity to expand your professional networks and stay connected with other researchers. Developing a recognisable digital profile can help guide your career choices, not only by increasing your visibility but also by broadening your perspective on the job market, both within and beyond academia.

Key platforms: **ResearchGate, Google Scholar, LinkedIn, ORCID**

Link: [Building Your Online Research Presence](#)

PROJECT WEBPAGE AND SOCIAL MEDIA

If used effectively, social media can play a key role in disseminating your research findings and enhancing your professional profile as a postgraduate researcher. While networks like LinkedIn and Google Scholar are primarily designed for professional connections, social media platforms offer a more hybrid digital environment, where practices such as cultural and scientific dissemination have recently become a popular “genre.”

Link: [Communicating About Your Research Project Using Social Media](#)

6. Continuous Professional Development

Continuous Professional Development (CPD) is essential for supervisors to maintain excellence in their role and adapt to the ever-evolving demands of academic research. By engaging in CPD activities, supervisors can stay informed about the latest developments in their fields, explore innovative teaching and supervision practices, and enhance their ability to meet the diverse needs of PhD students. Proactively investing in CPD equips supervisors to navigate challenges such as interdisciplinary research, cultural diversity, and shifting institutional policies. It also strengthens their capacity to prepare students for the rigours of doctoral research and future careers, fostering a collaborative and enriching academic environment.

CPD is not just a responsibility but a cornerstone of effective supervision. Through active engagement in training, reflective practices, and peer support, supervisors ensure they remain effective mentors and valuable contributors to the academic community. Encouraging participation in CPD helps cultivate a culture of excellence, ensuring that PhD students receive guidance that is informed, adaptable, and aligned with the highest standards of research supervision.

6.1. Workshops and Training

Workshops and training programmes are structured opportunities for supervisors to develop targeted skills and stay abreast of best practices in supervision. These sessions can focus on a variety of relevant topics, including:

- Effective supervision strategies for early-stage and advanced PhD students.
- Navigating supervisor-student relationships and addressing power dynamics.
- Conflict resolution and communication skills.
- Supervising across disciplines or working with international students.
- Incorporating new technologies and methodologies into the supervisory process.

Workshops can be offered by universities, professional organisations, or academic conferences and can range from in-person events to online modules. Supervisors should be encouraged to engage in these opportunities regularly to build a comprehensive skill set that supports both their own development and the success of their students.

6.2. Reflective Practice

Reflective practice is a powerful tool for supervisors to critically evaluate their approaches, identify areas for improvement, and foster personal and professional growth. It involves actively analysing experiences and feedback to refine supervision methods. Practical ways to incorporate reflective practice include:

- **Supervision Diaries:** Maintaining a record of supervisory meetings, key decisions, and challenges to identify recurring patterns and areas for improvement.
- **Mentoring Relationships:** Engaging with more experienced supervisors for guidance or mentoring junior colleagues to share insights and learn from their perspectives.
- **Peer Discussions:** Participating in group discussions or workshops with fellow supervisors to share experiences, troubleshoot challenges, and exchange strategies.

Reflective practice promotes a mindset of continuous learning and adaptability, helping supervisors remain responsive to the needs of their students and the demands of academic environments.

6.3. Peer Support and Networks

Peer support and professional networks are invaluable for building a community of practice among supervisors. Engaging with colleagues through informal discussions, formal peer support groups, or academic organisations allows supervisors to share challenges, celebrate successes, and explore innovative approaches. Key benefits include:

- **Knowledge Sharing:** Access to diverse perspectives and strategies that enrich supervisory practices.
- **Collaborative Problem - Solving:** Opportunities to discuss and address common challenges collectively.
- **Emotional Support:** Acknowledgement of the complex and demanding nature of supervision, creating a supportive environment.

Supervisors can also benefit from participating in academic networks, such as national and international associations for doctoral education, which offer resources, training opportunities, and forums for exchanging best practices. Building and maintaining these connections enhances not only the quality of supervision but also the professional development of supervisors themselves.

7. Golden Rules

Extracted from the guide developed by Leiden University¹.

	Supervisor	PhD Candidate
Be profes- sional	<p>Be aware that all PhD candidates are different, with their own individual story, culture, competences and needs.</p> <p>Being a supervisor is a demanding job. There is no template for supervision. Keep an open mind and adapt to the PhD candidate.</p> <p>Co-supervision can be difficult. Ensure that you come to a joint view on the process so that the PhD candidate is not left in a quandary.</p>	<p>Be aware that all supervisors are unique human beings with their strengths and weaknesses.</p> <p>You will need to adjust to certain ways of behaving and, if something bothers you, address it.</p>

¹ University of Leiden, 2019.

Be committed	<p>Be aware that doing a PhD is a lengthy process that requires long-term commitment from both sides.</p> <p>PhD candidates need to feel that you care about the project’s progress and outcome. Even if the project is meant to develop the candidate’s competences, you are also involved in this journey, and your input on the project, topic or execution is essential.</p> <p>Take responsibility for the project. Be up to date and collect material with which you can give your PhD candidate valuable scientific input.</p>	<p>Be aware that the PhD journey will be lengthy and not always easy, and that your initial motivation can be hard to maintain.</p> <p>If things are tough, don’t despair. Carry on and talk to your colleagues or supervisors. It is a stage most PhD candidates go through.</p>
Be available	<p>Be aware that your regular availability is key to the success of the project.</p> <p>As part of your responsibility as a supervisor, you are to take initiative in planning regular supervision meetings.</p> <p>You are also expected to, in general, be sufficiently available to the PhD candidate in a way that is mutually beneficial, as well as professional.</p> <p>You should consider that, due to personal circumstances, individual PhD candidates may have different needs/ restrictions, e.g., in terms of meeting hours.</p>	<p>Be aware that the success of your project is a joint responsibility.</p> <p>Be aware that it is your PhD project and it is also your responsibility to arrange meetings with your supervisor.</p> <p>Be well prepared when meeting with your supervisor and ensure that your supervisor can be prepared, too.</p> <p>Make sure that you get the time you need from your supervisor while being aware of his/her time constraints.</p>

Be consistent and clear	<p>Be aware that the (perception of) research progress should be addressed. It is crucial to be open about your expectations from each other.</p> <p>Doing research is, by definition, charting unknown territory. Thus, it is unavoidable that the research evolves, including the supervisor’s view of what the next step(s) should be. Be honest about this and show ownership of your changing views. Remember what you say and advise.</p>	<p>Be aware that being honest about your progress and your expectations is key to the success of your project. Use wisdom and tact to address possible issues.</p> <p>Be clear and honest about your research progress and struggles. For instance, prepare the meeting with your supervisor by sending him/her a list of discussion points beforehand. Use the meeting with your supervisor to clarify your research problems. Make notes of the discussion and what next steps to take.</p>
Be time aware	<p>Be aware that realistic planning is essential for a PhD candidate.</p> <p>Obviously, the plan as initially foreseen, will change during the course of the project. Be prepared for a change by thinking about a plan B when the original plan needs revision.</p> <p>Set short term goals and celebrate the successes with the PhD candidate.</p> <p>Make certain that the PhD candidate knows what, in terms of thesis content, is sufficient to graduate.</p>	<p>Be aware that planning is one of the harder things to do in research and that the original plan is almost certainly going to change.</p> <p>Keep track of the time you spend on a particular issue. On a regular basis, discuss this with your supervisor and what next steps to take. Discuss short term goals with your supervisor and celebrate your success together.</p>

Be willing to receive feedback	<p>Be aware that for any professional relationship to work, feedback must be a two-way exchange.</p> <p>You should expect feedback from the PhD candidate just as the latter expects it from you.</p> <p>Be open to the feedback you receive and take it seriously. If no feedback is given, ask for it. You are encouraged to do so a couple of times a year, but in any case, during the yearly progress interview with the PhD candidate.</p> <p>Remember that your reaction on the feedback will have an impact on the openness of your discussions with the PhD candidate.</p>	<p>Be aware that receiving feedback is very helpful for your progress.</p> <p>Keep in mind that feedback is meant to help you and is not targeted against you as a person.</p> <p>Feedback is needed to advance your project. If it is not forthcoming, ask for it and use the feedback to your best advantage. Don't be afraid to ask for feedback in an early stage, this prevents you and your supervisor from going in separate directions.</p> <p>If you experience the feedback as unhelpful, reflect on it for a while (with others) and discuss it with your supervisor in a professional and inoffensive way.</p> <p>When your supervisor has helped you or has been complimentary, show your appreciation.</p>
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Be willing to give feedback	<p>Be aware that a PhD candidate needs regular feedback that must be professional, objective, constructive, and balanced.</p> <p>Feedback may have a large (emotional) impact on the PhD candidate, thus you should be cautious in choosing where and when to give feedback, especially when the feedback is person-oriented and would not benefit others.</p> <p>You should be aware of the cultural/ethnic/gender/etc. variation in the research group and should employ language that is inclusive and not hurtful to people with different backgrounds and traditions.</p> <p>Positive feedback is as important as critical comments.</p>	<p>Be aware that feedback on supervision can always be helpful.</p> <p>Supervising a PhD candidate is a hard job. You can help your supervisors by giving open feedback about their supervision, always with respect and consideration.</p>
Be aware of stressors	<p>Be aware that as a supervisor you are a role model for the PhD candidate, and should set a good example in terms of stress management.</p> <p>Be aware that your (potentially unhealthy) work attitudes are easily seen as a professional standard. Stimulate the PhD candidates to take breaks. Be aware that the PhD candidate's personal life story can affect their work.</p>	<p>Be aware that your life involves more than your work.</p> <p>Manage your stress level and respect your boundaries.</p> <p>Also talk to your colleagues and peers about their struggles with doing research, sharing the same experience helps to manage the difficulties of life as a PhD candidate.</p> <p>Maintain the communication with your supervisor and remember that your supervisor has followed the same path before you and can also help you to put things in perspective.</p>

Be future-oriented	<p>Be aware that a PhD student might need stimulation to think about his/her career after graduation.</p> <p>Many PhD candidates do not think much about their next career step before their last year, nor</p> <p>do they know much about what comes after the PhD, especially outside academia.</p> <p>Having no prospects for future career development triggers and increases stress. Thus, it is very important to timely discuss this point with your PhD candidate.</p> <p>Make your professional network available to your PhD candidates.</p>	<p>Be aware that you need to think about your career after graduation.</p> <p>There are very few jobs in academia. Take this into account. Most PhD candidates start thinking about their next career step during their 3rd or 4th year, which is late. Spend some dedicated time on this issue already in your 2nd year.</p> <p>Your supervisor, who is the person who knows you the best professionally, can advise you. The university is regularly organizing events that can provide you with more information.¹</p> <p>Work on your network. Let the outside world know who you are. Don't underestimate the time this takes.</p>
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PRACTICAL SESSION 10. USING SURVEYS: GETTING FEEDBACK ON THE QUALITY OF SUPERVISION

SURVEY TEMPLATE

The following is a list of questions that may be included in a survey for students upon completion of their PhD. Additional questions can be generated using AI tools and subsequently adapted to suit the specific context of the survey.

General

Was this PhD program your first choice? (Yes/No)

How would you rate your overall experience with your PhD supervision? (1-10 scale)

General Satisfaction

Overall, how satisfied were you with the quality of supervision you received during your PhD?

To what extent did your supervisor(s) meet your expectations regarding supervision?

Availability and Accessibility

How available and accessible were your supervisor(s) for meetings and consultations?

Did you feel that your supervisor(s) provided timely feedback on your work?

Guidance and Support

To what extent did your supervisor(s) provide clear guidance and direction for your research?

Did your supervisor(s) help you develop your research skills and methodologies?

Did your supervisor(s) provide support with non-academic issues, such as career planning and personal development?

Communication and Feedback

How effective was the communication between you and your supervisor(s)?

Did you feel that your supervisor(s) provided constructive and helpful feedback on your work?

Did your supervisor(s) encourage you to present your research at conferences and workshops?

Professional Development

To what extent did your supervisor mentor you in becoming an independent researcher?

Did your supervisor provide you with adequate opportunities for networking and collaboration with others in the field?

Did your supervisor(s) support your career aspirations after your PhD?

Additional Comments

Please provide any additional comments or suggestions regarding your supervision experience.

Additional Considerations:

- You may add specific questions related to the unique aspects of your PhD programme / field of study.
- Consider using a Likert scale for quantitative responses (e.g., 1-5, where 1 = strongly disagree and 5 = strongly agree).

You may also include open-ended questions to allow for more detailed feedback.

Examples of Open-Ended Questions:

- What aspects of your PhD supervision would you have liked to see improved?
- What was the most positive aspect of your relationship with your supervisor?

If you want to collect anonymous feedback, consider using an online survey tool that allows for anonymous responses.

DIGITAL TOOLS 7

GOLDEN RULES

DIGITAL TOOLS 7.1. USING WEB SURVEYS AND GETTING FEEDBACK

HOW TO CREATE A SURVEY, COLLECTING RESULTS AND WHERE TO MAKE IT AVAILABLE

A digital survey is a valuable resource in PhD supervision, facilitating timely feedback and progress tracking. Moreover, a well-structured use of surveys can serve as a tool for analysing students' academic profiles and enhancing peer interaction, both between supervisors and PhD students and among PhD students themselves.

Once you have created your survey and set up all the questions you wish to ask, you can easily share it via a digital link through email or common digital spaces (e.g., chats, forums). Survey responses can then be tracked using connected spreadsheets or other visualisation tools.

Key platforms: **Google Forms**, **MicrosoftForms**, **SurveyMonkey (user-friendly)**, **Qualtrics (technical)**, **Moodle**.

Links: [Google Forms](#), [SurveyMonkey](#), [DigiGrad WP3 Survey Template](#), [Digi-grad Wp3 Survey Results](#), [Moodle Feedback activity](#)

Conclusion

In conclusion, this toolkit equips supervisors with essential tools and strategies to enhance the PhD research experience, supporting students in every phase of their academic journey. By integrating these resources, supervisors can help students work more efficiently, manage complex research tasks, and engage meaningfully with both their projects and the academic community. Understanding and recommending the right tools for each project's unique demands enables supervisors to provide tailored guidance, fostering an environment where students can achieve their research goals and contribute original insights to their fields.

Supervising a PhD student is a multifaceted responsibility that goes beyond academic guidance; it is a mentorship that develops critical thinking, resilience, and professional growth. Each chapter of this toolkit reflects the diverse challenges and opportunities inherent in supervision, from setting clear expectations and monitoring progress to supporting wellbeing and navigating the emotional ups and downs of the doctoral journey.

Supervision is as much about developing the student's skills and independence as it is about guiding them through the rigours of research. By adopting best practices in feedback, collaboration, and professional development, supervisors can empower students to excel academically while also preparing them for a dynamic and competitive professional landscape.

In an era of rapid technological advancement and shifting academic norms, the integration of innovative resources such as AI tools, micro-credentials, and digital platforms for collaboration has become increasingly important. Supervisors who embrace these tools enhance not only the research process but also the broader academic and professional preparedness of their students.


Ultimately, PhD supervision is a partnership built on trust, respect, and a shared commitment to knowledge creation. By fostering this partnership, supervisors contribute not only to their students' success but also to the advancement of their disciplines, leaving a lasting impact on academia and society at large. This toolkit serves as a guide and a resource to ensure that this vital role is carried out with excellence,

empathy, and effectiveness.


Finally, we asked ChatGPT, Perplexity, and Gemini: “Describe a toolkit for PhD supervisors in a digital era?” (29/11/2024)

Question	Describe a toolkit for PhD supervisors in a digital era
 ChatGPT	<p>A toolkit for PhD supervisors in the digital era refers to a set of tools, strategies, and resources that enable academic mentors to effectively guide, support, and manage PhD students in an increasingly digital and technologically advanced research environment. This toolkit incorporates both traditional supervisory practices and the advantages offered by digital technologies. Key components include:</p> <p>1. Digital Communication Tools</p> <p>Video Conferencing (e.g., Zoom, Microsoft Teams): Facilitates remote meetings, particularly important for international collaborations or students working remotely.</p> <p>Instant Messaging (e.g., Slack, WhatsApp): Enables quick communication, encouraging regular interaction and informal discussions.</p> <p>Email Management Tools: Helps organize communication with students, track email conversations, and ensure timely follow-ups.</p> <p>2. Project and Research Management Tools</p> <p>Task Management Software (e.g., Trello, Asana): Helps supervisors and students track milestones, deadlines, and ongoing research tasks.</p> <p>Document Sharing and Collaboration (e.g., Google Drive, Dropbox): Allows easy sharing of research papers, notes, and data for collaborative work, even when working remotely.</p> <p>Reference Management Software (e.g., Zotero, EndNote, Mendeley): Ensures that both supervisors and students maintain a well-organized reference library for literature and citations.</p> <p>3. Data and Research Tools</p> <p>Data Analysis Software (e.g., SPSS, R, Python, MATLAB): Supports both supervisors and students in performing complex data analysis and computational research.</p> <p>Version Control Tools (e.g., GitHub, GitLab): Helps track changes in research code, documents, and collaborative writing projects, ensuring consistency and transparency.</p> <p>Online Databases (e.g., JSTOR, Google Scholar, PubMed): Essential for accessing the latest research articles and publications.</p> <p>4. Virtual Learning and Teaching Resources</p> <p>Online Course Platforms (e.g., Coursera, edX, LinkedIn Learning): These platforms can be used to recommend supplementary courses for skill development (e.g., data analysis, academic writing).</p> <p>Webinars and Virtual Conferences: Supervisors can recommend or host virtual events that promote ongoing learning and engagement with the broader research community.</p>

	<p>5. Supervision and Feedback Tools</p> <p>Survey and Feedback Tools (e.g., Google Forms, SurveyMonkey): Collect feedback from students regularly, which helps improve supervision practices and overall student satisfaction.</p> <p>Plagiarism Checkers (e.g., Turnitin, Grammarly): Ensures the integrity and originality of research work submitted by students.</p> <p>Writing Assistance Tools (e.g., Grammarly, Hemingway Editor): Helps students with academic writing and language proficiency.</p> <p>6. Time and Workflow Management Tools</p> <p>Time Tracking Tools (e.g., Toggl, RescueTime): Supervisors can encourage students to manage their time effectively, track research progress, and identify areas of improvement.</p> <p>Calendar Management (e.g., Google Calendar, Outlook): Schedules meetings, research deadlines, and important milestones.</p> <p>7. Networking and Collaboration Platforms</p> <p>Academic Social Networks (e.g., ResearchGate, Academia.edu): Enables students to share their work, engage with peers, and explore potential collaborations within their research community.</p> <p>Online Collaborative Tools (e.g., Overleaf for LaTeX writing, Microsoft OneNote): Enhances collaboration in writing papers and research documents in real-time.</p> <p>8. Mental Health and Well-being Tools</p> <p>Mental Health Apps (e.g., Headspace, Calm): Supports students in managing stress, anxiety, and mental health challenges, which are common during PhD research.</p> <p>Well-being Resources: Provides access to university well-being services that help students cope with the pressures of doctoral studies.</p> <p>9. Ethics and Compliance Tools</p> <p>Research Compliance and Ethics Databases (e.g., IRBNet): Ensures that the research is ethically sound and complies with necessary regulations and guidelines.</p> <p>Data Protection Tools: Secure data storage and sharing systems that protect sensitive research data, especially in the era of digital research.</p> <p>10. Professional Development Tools</p> <p>Career Guidance Platforms (e.g., LinkedIn Learning, Vitae): Provides resources and advice for students on career development, including academic and nonacademic career paths.</p> <p>CV and Job Application Tools (e.g., Canva, Novoresume): Helps students craft professional CVs and cover letters as they prepare for post-PhD careers.</p>
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	<p>In the digital era, a PhD supervisor’s toolkit not only includes the academic expertise and mentorship but also the integration of these technological resources to foster a productive, engaging, and efficient research environment.</p> <p>Supervisors are encouraged to embrace these digital tools to support students’ growth, collaboration, and success, while maintaining flexibility and adaptability in response to new advancements.</p>
<div><p>Perplexity</p></div>	<p>A toolkit for PhD supervisors in the digital era is a comprehensive set of resources and strategies designed to enhance the supervision process and improve outcomes for both supervisors and doctoral candidates. This toolkit addresses the evolving needs of modern academia and leverages digital technologies to facilitate effective supervision.</p> <p>1. Key Components</p> <p>Digital Communication and Collaboration Tools</p> <p>Effective communication is crucial in the digital era. Supervisors should be proficient in using video conferencing platforms for remote meetings, collaborative document editing software for real-time feedback, and project management tools to track progress and deadlines. These tools help maintain clear lines of communication, ensuring that both supervisors and students are aligned on goals and expectations.</p> <p>Online Resource Repository</p> <p>A centralized digital library is essential for providing easy access to important materials. This repository should include templates for common PhD documents, such as research proposals and ethics applications, alongside guidelines for academic writing and publishing. Additionally, it should offer information on various research methodologies and data analysis techniques, serving as a valuable reference throughout the PhD journey.</p> <p>Digital Feedback Mechanisms</p> <p>Providing constructive feedback is a critical aspect of supervision. The toolkit should include tools and strategies such as screen recording software for detailed explanations, digital annotation tools for manuscript review, and online peer review simulation platforms. These resources enable supervisors to offer timely and effective feedback, fostering student development.</p> <p>Virtual Training Modules</p> <p>Self-paced learning resources can greatly benefit supervisors by covering essential topics such as effective supervision strategies, managing diverse student populations, and navigating the complexities of the PhD process. These modules help supervisors stay updated with best practices and continuously improve their skills.</p>

	<p>Progress Tracking and Documentation</p> <p>Digital systems for monitoring and documenting student progress are vital. This can include online milestone tracking, digital logbooks for recording meetings and decisions, and data visualization tools to illustrate research progress. Such systems help ensure accountability and facilitate meaningful discussions about students’ development.</p> <p>2. Addressing Modern Challenges</p> <p>Diversity and Inclusion</p> <p>To support a diverse student body, the toolkit should include resources like cultural sensitivity training modules, guidelines for creating inclusive research environments, and strategies for addressing unconscious bias in supervision.</p> <p>These resources help foster an equitable academic climate where all students can thrive.</p> <p>Mental Health and Well-being</p> <p>Supporting student well-being is increasingly important in academia. Digital resources such as online stress management tools, virtual support groups, and materials promoting work-life balance can make a significant difference in students’ mental health. Supervisors should be equipped to recognize signs of distress and provide appropriate support.</p> <p>Career Development</p> <p>Preparing students for diverse career paths is another critical component of supervision. The toolkit can include online skills assessment platforms, virtual networking opportunities, and guidance on creating digital portfolios to showcase research impact. These resources help students navigate their career options effectively.</p> <p>Ethical Considerations</p> <p>In today’s digital landscape, ethical considerations are paramount. The toolkit should provide resources addressing research integrity, data management, privacy concerns, and ethical considerations in online research methods.</p> <p>Supervisors must be well-versed in these areas to guide their students responsibly.</p> <p>3. Importance of the Supervisory Relationship</p> <p>The toolkit should emphasize the critical role of the supervisory relationship in doctoral students’ mental health and overall success. A supportive supervisory environment fosters effective communication between students and supervisors, which is vital for a positive experience. Resources should help supervisors develop an inspirational leadership style that encourages lower psychological distress among doctoral candidates.</p>
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	<p>Additionally, managing expectations is key to reducing discrepancies between supervisors’ and students’ views on progress and goals. This clarity helps prevent confusion, stress, and anxiety throughout the PhD journey. By fostering a positive supervisory relationship, supervisors can significantly enhance their students’ mental health outcomes.</p> <p>Incorporating these elements into a digital toolkit for PhD supervisors can significantly enhance the supervision process. It leads to more successful outcomes for doctoral candidates while contributing to the overall quality of academic research in the digital era. By equipping supervisors with the right tools and resources, we can create a more supportive and effective environment for doctoral education.</p>
	<p>A Digital Toolkit for PhD Supervisors</p> <p>The digital age has revolutionized the way we work, learn, and collaborate. For PhD supervisors, this means adapting to new tools and technologies to effectively guide their students. Here’s a comprehensive toolkit to help you navigate the digital landscape of PhD supervision:</p> <p>Communication and Collaboration</p> <ul style="list-style-type: none">• Project Management Tools: Use platforms like Trello, Asana, or Notion to organize tasks, set deadlines, track progress, and facilitate collaboration between supervisors and students.• Video Conferencing Tools: Leverage Zoom, Microsoft Teams, or Google Meet for remote meetings, making it easier to connect with students who may be located remotely or have scheduling conflicts.• Cloud Storage and Sharing Tools: Utilize Google Drive, Dropbox, or OneDrive to easily share documents, data, and resources, streamlining the collaboration process.• Communication Tools: Employ Slack, Microsoft Teams, or email for quick updates, discussions, and general communication. <p>Research Support</p> <ul style="list-style-type: none">• Reference Management Software: Use Zotero, Mendeley, or EndNote to manage citations, organize research materials, and generate bibliographies.• Data Management Tools: Employ software like R, Python, or specialized data analysis tools to assist with data collection, analysis, and visualization.• Online Research Databases: Access academic databases like JSTOR, Google Scholar, or ResearchGate through institutional subscriptions or personal accounts.• Data Visualization Tools: Utilize tools like Tableau, Power BI, or Python libraries (Matplotlib, Seaborn) to create visually appealing representations of data.

	<p>Student Development</p> <ul style="list-style-type: none">• Online Learning Platforms: Employ platforms like Moodle or Canvas to share resources, provide feedback, and offer online courses or workshops to supplement supervision.• Mentorship and Peer Support Platforms: Connect PhD students with mentors or peers through online communities or forums, fostering a supportive learning environment.• Career Development Resources: Utilize online tools and resources to help students explore career options, develop their CVs, and prepare for job applications. <p>Well-being and Support</p> <ul style="list-style-type: none">• Mental Health Resources: Provide access to counseling services, mindfulness apps, or online support groups to help students manage stress and maintain their well-being.• Time Management and Productivity Tools: Utilize calendars, task management apps, or time-tracking software to help students prioritize tasks and manage their workload effectively.• Work-Life Balance Resources: Offer online resources and workshops to provide tips on managing work-life balance, setting boundaries, and avoiding burnout. <p>Additional Considerations</p> <ul style="list-style-type: none">• Digital Literacy Training: Provide training or guidance on using digital tools effectively and ethically.• Data Privacy and Security: Ensure that data and sensitive information are handled securely and in compliance with relevant regulations.• Accessibility: Consider the needs of students with disabilities and ensure that digital tools and resources are accessible to all. <p>By incorporating these tools and resources into your supervisory practices, you can enhance the quality of supervision, foster student development, and create a more supportive and efficient research environment.</p>
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This Post-Graduate Research Supervision Toolkit is designed to assist supervisors in effectively guiding PhD students throughout the entire research process, including within digital environments. It provides practical resources, tools, and templates for every stage of supervision, from setting expectations and developing research plans to addressing challenges and preparing for thesis submission. The toolkit features guidance on essential software for managing references and data, collaborative platforms, data analysis tools, and cutting-edge AI resources. By offering structured support and integrating modern research tools, this toolkit empowers supervisors to foster student success and achieve high-quality research outcomes. While primarily focused on supervising PhD students, it also offers valuable insights and practical guidance applicable to supervision of young researchers, accommodating differences in research scope and expectations.

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