

Guide for supervisors
to support the use of the

Development Needs Analysis (DNA) for postgraduate researchers

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Introduction



We as academics and supervisors need to empower our PhD students with the necessary tools to develop both personally and professionally as well as providing them with appropriate advice, guidance and support during their PhD studies.

Supervisor survey response on their role in identifying students' professional and career development needs, University of Edinburgh 2024

Regular and engaging conversations between you and your postgraduate research students about the skills and experiences required for research projects and future careers are crucial in ensuring successful completion of the project and their degree. Equally important are the students' wider development needs and career aspirations.

A Development Needs Analysis (DNA) can support these conversations between supervisors and students. The DNA is a framework designed to enable postgraduate researchers to reflect in a holistic way on their research-project specific training needs; their professional development needs; and their career ambitions.

This handbook complements the Creating your Development Needs Analysis (DNA) form for research students and seeks to support you to help your student reflect on and plan for their professional development and future career throughout their research degree. The DNA form is also accompanied by a handbook for postgraduate researchers.

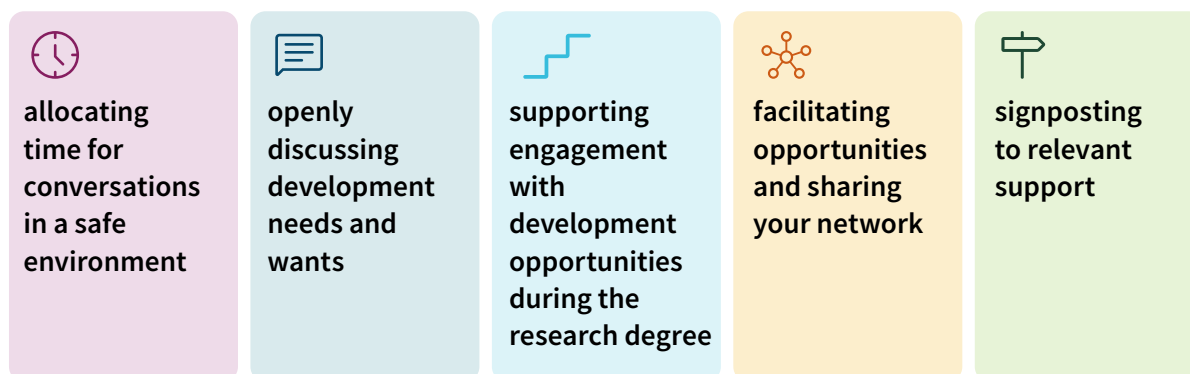
In this handbook you will find:

- guidance on your role in supporting students to reflect on and identify their professional and career development needs;
- guidance on how to use the Development Needs Analysis in your supervisory practice;
- a list of prompt questions that support the activities in the Creating your Development Needs Analysis form. These focus on having effective professional and career development conversations;
- information on career pathways for PhD students;
- a resource list of support services.

How to use the DNA in your supervisory practice

Your role as a primary point of contact is crucial in the Development Needs Analysis process in offering guidance, advice, and access to your network. This multi-faceted role is summarised in the following diagram:

You can support your supervisees by:



More specifically, as a supervisor, you can support the DNA process in the following ways:

1 Support engagement with the DNA

You have a vital role in influencing the engagement of your students with their professional development. To support students to reflect on their needs, you can:

- actively encourage them to engage with the DNA form
- use the DNA form as a starting point for a structured but flexible conversation.

To encourage engagement, it is important that you consider your student's learning culture and their assumptions and/or learned behaviour. Some research students may feel guilty about taking time away from research while others may feel that they need to figure things out on their own. The postgraduate research community is diverse, and it is essential that different individuals can be attuned to different learning styles and expectations.

Your role in being proactive in creating space and offering prompts for training, professional and career development conversations is important. Encourage your student to consider how to prioritise and balance their time appropriately.

2 Regularly engage in professional and career development conversations

The DNA process aims to improve the frequency of effective and meaningful conversations between students and supervisors so that reflecting on wider development becomes a habit rather than a tick-box exercise.

It is important to recognise that your student's DNA is a 'live' document and reflection is an iterative process as development needs change over time, and career aspirations may become clearer or change depending on personal circumstances. We recommend that both professional and career development conversations happen regularly throughout each year as well as forming a key part at the very beginning of a research degree journey and during annual progression reviews.

3 Encourage your student to connect their project-specific activities with their wider professional and career development

A research degree is an intensive endeavour and as such students can struggle to keep the big picture in view. Engaging with DNA activities and in regular training, professional and career development conversations can enable students to step back and reflect on their career aspirations, pathways, and opportunities. The WHAT / HOW / WHEN structure of the DNA form also pushes students to be intentional and take ownership of their career-related pathways and decisions.

4 Using powerful, open-ended questions

Developmental conversations benefit from some structure and powerful, open-ended questions can help enable your student to reflect on their needs, progress, and goals.

What, how and when questions allow you to:

- establish current context and needs;
- invite reflection on possible scenarios and opportunities;
- support students to identify actions for short- and long-term milestones;
- offer encouragement and share experience;
- assess which development needs fall within the expertise of the supervisory team and where alternative people/services (within the student's DNA ecosystem or beyond) can support.

The DNA activities

The four activities in the “Creating your Development Needs Analysis (DNA)” form have been developed to guide postgraduate researchers in building their tailored DNA step by step. For effective conversations, it can be valuable for the student to have engaged in the DNA activities prior to your conversation, but this is not essential.

The DNA form operates in a non-linear manner, so your student can start or end with any section. Your student can write into the form directly or they may prefer to use another method of recording their reflections and responses. This is something you should discuss with your student in an initial meeting as recording reflections and actions will act as an aide memoire and help support personal accountability and responsibility.

Activity 1: General reflection

This activity has two parts that focus on encouraging the student to reflect on three distinct but overlapping areas: their research project, their career, and their personal development.

A Taking stock – where are you now?



The activity focuses reflection on taking stock of where the student is at the present moment in time. They should be encouraged to reflect on what they have already achieved, and the skills and experiences they currently bring.

The prompts below are to aid discussion; they are not a list of what the student should have done or should do.

- What subject knowledge(s) and/or professional experiences do you bring to your research project?
- Have you had any experiences in the past, that although unrelated to your discipline, helped you acquire relevant skills?
- What skills do you have that have supported you in your career journey?
- What milestones (big or small) have made you feel a deep sense of achievement and confidence?
- What were the most challenging hurdles you've managed to cross to get here today? And how has that shaped your personal development?

B Vision – where do you want to go?



What? (inner circle):

The student should start from the centre of the diagram and write down their goals according to the three areas (research project, career and personal development). Here are some prompt questions to aid your conversation in each of these areas.

Research project

- Why are you doing a research degree? What are your intentions/motivations in choosing to embark on this journey?
- What do you enjoy or expect to enjoy the most in your research degree, and the least?
- What training does your research project require you to learn / develop? / What skills and knowledge do you need for your project?
- What's supporting your project progress at the moment? / What's going well?
- What's hindering your project progress at the moment? What would help you? Who can support?
- What knowledge do you feel you need to progress more effectively with your project?
- When would you like me to check on your progress on X?

Career

- What do you enjoy doing?
- What are you interested in?
- What are your plans at the end of the research degree?
- Are you aware of different career pathways that may be open to you?
- What type of work inspires you?
- Where would you like to work in the future? (location, sector, discipline etc.)
- What values are most important for you and your career?
- How do you want to work? (e.g. types of activities, in a team, leading a team, part-time/full-time, remote or in situ etc.)
- How does a satisfying work day and work environment feel? What sort of working arrangements would be inclusive for you?
- What are your thoughts about continuing a career in academia?
- What are your feelings about "being" an academic?
- Do you want to continue in research? What type of research or in what environment?

Personal development

- Do you have any specific physical/mental/ learning needs according to which you structure your day and lifestyle in general?
- Do you have any specific personal circumstances that influence how you structure your development goals and needs?
- What personal life goals do you have and how do those affect your career/development needs? (for example: having a family, living in a specific country, supporting family members, etc.)
- Where do you see yourself in the future? (in relation to priorities, national/international career ambitions)

● Development (middle circle):

Building on the responses above, the student can now think about the skills and experiences they need to reach their goals. These questions may be useful to aid discussion:

- Where are the current gaps in skills, qualifications or experiences?
- Which gaps do you need to fill to move to the next stage?
- What are longer term actions that you may need to take, that are not a priority now but that you'd like to work towards?
- What areas have you found most challenging, and would want to feel more confident in?

● How? (outer circle):

How can you acquire those skills and/or experiences?

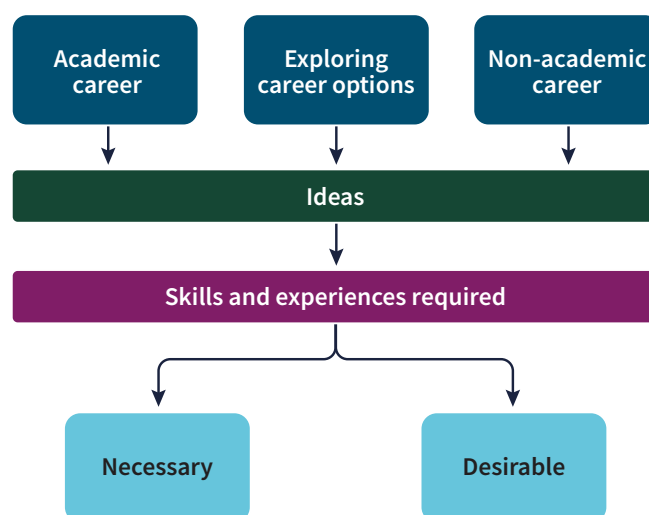
Students should be encouraged to think expansively about how they can acquire skills and experiences. It doesn't have to be solely limited to training or workshops, but can also include mentorship, conferences, research groups to join, internship opportunities, summer schools etc. You can aid them in this by sharing relevant experience and advice. Encourage students to identify small, targeted, and manageable tasks.

Activity 2: Career path

The career path flow chart invites students to start to define their career trajectory step by step. Whether they want to work within or outside academia, or they are unsure, the middle section (exploring career options) gives them the opportunity to frame their thinking around general milestones/objectives without the pressure of having to choose one or the other.

It is important to avoid assumptions about career direction but instead be open to learning more about the student's aspirations and intention, as well as the wider context that shapes their journey such as previous professional experience. Often supervisors will feel more comfortable speaking to students about academic career paths than careers outside academia. You are not expected to have all the answers for this, and to support your role there are resources and support available through the Careers Service. (See the final section of this handbook for information on resources.)

The student should start by thinking of ideas for their chosen career route. If they are uncertain of their career options or what interests them, they should be encouraged to engage with relevant resources and events to generate career ideas.



Once they have some ideas, they should turn their focus on the skills and experiences required for the chosen path(s). For each pathway, the reflection on the skills and experiences required can be further defined as necessary and desirable.

The necessary skills and experiences represent the training and competencies that are required for that particular career path.

The **desirable skills and experiences** may or may not be clearly related to the chosen career path. These are the ones that are based on individual interests and wider career objectives.

- **Necessary:** what skills and experiences do you need, regardless of your interest in them?
- **Desirable:** what skills and experiences do you want, and feel that they could contribute to your personal and professional goals?

Once they have defined a range of necessary and desirable skills and experiences, they can start creating a to-do list which answers the question: **what do I have to do to acquire those skills and experiences?**

Activities can include attending events, networking, seeking information, attending conferences, joining relevant groups/communities/learned societies, applying for internships, teaching at both undergraduate and postgraduate level and in different formats etc. You should encourage your student to think broadly here.

University of Edinburgh Graduate Outcomes Survey

To support careers discussions, you can access data on Edinburgh's graduate destinations which are collected 15 months post-graduation on this [SharePoint](#) (link requires Ease Login). You can filter data by degree level and School/College.

In recent years, of those postgraduate research students who responded to the survey who were in employment:

- Around one third were working in higher education (in research, teaching or professional services roles)
- Just over 10% were working as teachers in higher education (teaching fellows, lecturers, etc)
- Around 30% were working as researchers (within and outside of academia)
- Graduates were working in sectors as diverse as museums, finance, public admin, healthcare, advertising, pharma, business consultancy, journalism, tech & data, publishing and more.

Almost two thirds of postgraduate research graduates were working outside academia. This proportion varies significantly by subject area – you can see the breakdown for your School on the SharePoint site.

Activity 3: Timeline of priorities



You can support your student in completing this activity by discussing the following prompts and providing advice and information where relevant.

- Time left to complete the research degree (i.e. full-time or part-time).
- When and what are the hard deadlines in the degree (i.e. annual review, completion, etc.)?
- Discuss fieldwork, research trips, placements, internship(s) etc. and when they fit in the timeline?
- Which of the skills and experiences are your most immediate priorities to progress with your project?
- If funded, length of funding period.
- Visa requirements and/ or work restrictions and how they could impact the timeline.
- What other demands on your time do you have?

Activity 4: Building your DNA ecosystem

This activity is meant to help your student think purposefully about who they want (and need) to be part of their support system, both personally and professionally. You can support them by identifying possible networks, contacts, and communities, as well as making introductions through your network where appropriate.

Some prompt questions:

- Who might have relevant insights?
- Who could support you?
- What would you like guidance on, and who would best placed to help?



Central university resources

There is a lot of support at the university to support your student in their professional and career development. You can help them by signposting these during regular discussions. Those listed below may be of relevance to your student at different stages in their postgraduate research degree journey. The Doctoral College webpages also give an overview of these.

Doctoral College webpages

The Institute for Academic Development (IAD)

offers a comprehensive programme of workshops that support postgraduate researcher professional development. IAD provision includes:

- A monthly newsletter
- ‘Getting started with your postgraduate research degree’ - An interactive online course for all new postgraduate researchers that runs once per semester in October and February.
- Online modules on Research Ethics and Integrity
- A comprehensive offer of short workshops which cover a range of skills development
- Support and information on the University Three Minute Thesis (3MT) competition
- Online resources and guides on a range of topics

IAD – Postgraduate Researchers

The IAD also offers support and training for teaching.

IAD – Training for Tutors and Demonstrators

The Careers Service

The **Careers Service** supports your student in reflecting on their career ambitions, values, and strengths through:

- resources
- workshops on managing career ambitions, and
- Individual consultations.

It also provides resources on:

- options post research degree across sectors,
- career decision making,
- case studies of career histories from graduates,
- CVs and job applications.

The Careers Service organises events such as

- regular careers fairs and opportunities to network with employers,
- employer presentations, and
- hosts the annual PhD Horizons event (June) that highlights career pathways with alumni speakers in a range of different roles.

For professional experience, your student can find out about:

- graduate job vacancies,
- on-campus PhD internships via Employ.ed for PhDs.

Note: Your student has access to the Careers Service 2 years post-graduation.

Careers Service

Information Services has a range of workshops that can support you with your research data management and library resources and digital skills.

Information Services – Research Support

Information Services – Digital Skills and Training

Edinburgh Innovations offers training in commercialisation, start-ups and entrepreneurship. You can signpost your students to their dedicated student webpages.

Edinburgh Innovations – For Students

English Language Education supports postgraduate researchers whose first language is not English. Supervisors can refer students to this service.

English Language Education

The University's **Student Wellbeing Service** is made up of Wellbeing Advisers working across Schools to provide wellbeing support to students. All Students can access support from a Wellbeing Adviser tailored to their health, emotional and pastoral needs as part of the Wellbeing Service.

University of Edinburgh – Student Wellbeing Advisors

The University is committed to creating and sustaining **Equality, Diversity and Inclusion**.

University of Edinburgh – Equality, Diversity, and Inclusion for Students

The University provides **disability and learning study support** to students with a range of disabilities, learning differences, neurodiverse and health conditions.

University of Edinburgh – Disability and Learning Support Service

Edinburgh University Students' Association has an **Advice Place** with a team of caseworkers who can support students during their time in Edinburgh.

Edinburgh University Students' Association – Advice Place

There are many **PGR Societies and Peer Support Groups** at the University. The Doctoral College maintains a current list on its SharePoint.

Postgraduate Research Societies and Peer Support Networks [ease login]

There are various **Staff Networks** representing a variety of groups across the research community. Many of these networks also welcome postgraduate research students, such as the **Staff BAME Network**.

Staff Networks – Research Staff Hub – University of Edinburgh

Internships


You can direct your student to the following internship opportunities:

- UKRI funded student – Policy internships
- Employ.ed for PhDs – On campus internships

National Graduate Schools

Regardless whether your student is funded by one of the National Graduate Schools or not, you can direct them to the careers events and resources from the following:

- SGSAH – Arts and Humanities
- SULSA – Life Science
- SUPA – Physics
- SGSSS – Social Sciences



This handbook accompanies the 'Creating your Development Needs Analysis' form and the handbook for postgraduate researchers.

These resources were developed through a cross-University project 'Co-Creating a New Development Needs Analysis for Postgraduate Research Students'.

You can find out more about the process here:

[Co-creating a new DNA project information](#)

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