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Accreditation of Open Research Skills and Training Development

National Open Research Forum Policy Brief

Accreditation of Open Research Training and Skills Development

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Introduction

The focus of NORF's Accreditation subgroup was to explore and consider, in the context of proposals developed by related subgroups on a Standardised Framework for Open Research Skills and a National Open Research Training Programme, whether there is a role for accreditation, and if so, to explore opportunities and challenges, and where possible, to make recommendations.

In considering the role of accreditation, and arising from consultation by WG members with colleagues, combined with data collected during the production of the NORF Landscape Report¹ (2021), the subgroup was conscious of three important considerations:

1. Ireland and the educational sector generally have, under the auspices of the Quality and Qualifications Institute² (QQI), a recognised National Framework for Qualifications³ (NFQ), which sets standards for the primary, secondary, and third level educational sectors.
2. With respect to Open Research, some HEIs have already begun to develop training initiatives around Open Research. This subgroup was, therefore, interested in integrating training and development around Open Research into established educational programmes, for example, the structured PhDs, and to promote shared standards of training and development in the education sector. It is important not to inhibit the educational sector and individual schools, colleges and universities from continuing to develop initiatives around Open Research.
3. While the mainstreaming of Open Research into existing programmes would be a welcome initiative, it would not provide an immediate solution to the requirement for upskilling among stakeholders currently engaged in research and the support of research. Outside of formal structured education, there is a need for ongoing continuing professional development, especially for academic researchers who are post-PhD, and also as new skills and competencies emerge.

This subgroup had a number of areas of interest and concern:

- The development of a roadmap for the integration and mainstreaming of Open Research into appropriate educational programmes including educational/professional programmes for key personnel such as librarians;
- Beyond the mainstreaming of Open Research into existing educational programmes, the challenge of providing upskilling in the area of Open Research to those who will be expected to integrate Open Research into existing programmes, as well as in the longer term, the likely high demand for ongoing continuing professional development for all stakeholders;
- The resourcing, implementation and monitoring of the above.

¹ <https://norf.ie/index.php/publications/>

² <https://www.qqi.ie>

³ <https://nfq.qqi.ie/>

Rationale for Accreditation

While awareness of Open Science and Open Research has improved “there is still a lack of practical guidance and training to help researchers learn how to open up their research within a particular domain or research environment”.⁴ Equally in respect of professional staff supporting the research community, such as data stewards and research software professionals, there is growing recognition of the need to recognise and classify new and emerging roles, the competencies associated with these roles, and the provision of career development options. Importantly the need to define, develop and deliver tailored training programmes to match competencies is also recognised (National Programme Open Science NPOS 2021, end report of the NPOS-F project team “Professionalising data stewardship⁵”).

Existing frameworks, for example, Ireland’s National Framework for Doctoral Education articulated in the IUA’s Doctoral Skills Statement (2021)⁶ should give greater prominence to training and development in Open Research. Currently reference is made under the category of ‘Personal Effectiveness Transferable Skills’ that doctoral graduates should be able to:

Demonstrate excellent data management skills informed by legislative requirements (e.g. GDPR 2018) and frameworks such as FAIR (Findable, Accessible, Interoperable, Reusable) principles (IUA Doctoral Skills Statement, 2021)

We suggest that Open Research be more comprehensively addressed in the IUA’s Doctoral Skills Statement.

NORF believes that as far as practicable, Open Research education and training should be integrated into existing accredited educational and training programmes and/or professional qualifications as this approach offers a number of advantages:

- The mainstreaming of Open Research in the curricula at primary, second and third level will develop a national culture of engagement with Open Research among citizens, some of whom will also pursue careers as researchers or be employed in professional Open Research support and development roles;
- Mainstreaming Open Research, at the aforementioned educational levels, will set consistent standards across the educational and professional body sector;
- By its nature, the integration of Open Research into existing or new curricula will facilitate the monitoring of standards and the ongoing updating of curricula in line with emerging training and development needs in Open Research;
- As academic researchers and professional staff are likely to study and work in different HEIs, the inclusion of Open Research as an accredited module, for example, within a structured PhD Programme or professional qualification, will ensure that training and education standards are harmonised across the educational sector, especially the third level sector;

⁴ <https://www.fosteropenscience.eu/>

⁵

<https://www.openscience.nl/en/projects/project-f-professionalising-data-stewardship-competences-training-and-education>

⁶ <https://www.iaa.ie/wp-content/uploads/2021/07/IUA-PhD-Graduate-Skills-Statement-2021-final.pdf>

- The framework of structured programmes, such as structured PhDs, the building blocks of which are discrete modules attracting ECTS, offers the opportunity to provide flexible access to researchers and professional staff who can be facilitated to undertake a module for credits or to audit a module;
- The QQI's national framework also provides for supplemental and special purpose awards which offers another opportunity to enhance an existing award or develop a new accredited programmes targeted at a particular group with a specialised training and development needs;
- The integration of Open Research into existing or newly accredited programmes elevates Open Research as an essential competency for learners, and by virtue of accreditation, acknowledges learners' efforts and achievements.

Method and approach

Cognisant of the research and consultation already undertaken by WG members and NORF during the production of the NORF Landscape Report⁷ (2021), and as many of the members of the WG (Skills & Competencies) are already working in the area of Open Research within their institutions, this WG took the following approaches:

- Firstly, the WG focused on examining the QQI's National Framework for Qualifications, and how it would map to the recommendations by the Open Research National Training Programme Policy Brief, with consideration of the IUA's existing Doctoral Skills Statement (2021). This was achieved through desk based research and consultation with other policy brief subgroups.
- Secondly, this subgroup considered the higher educational qualifications specifically relevant and available to librarians in Ireland. This group was singled out as a cohort due to their role in supporting researchers and their activities around the training of relevant Open Research skills.
- Finally, this subgroup considered accreditation options for Continuing Professional Development outside of formal education pathways.

Review of current award mechanisms in Ireland

The National Framework for Qualifications (NFQ) was reviewed and mapped to areas under consideration by NORF. The following table displays the NFQ level, with the award type and the awarding body. The fourth column (NORF Focus) highlights which of the award types are under the purview of NORF, with a fifth column (Cohort) assigning a number to each cohort, which is then expanded upon in Table 2.

Note: For cohorts outside of the formal education pathways, this brief includes recommendations from the National Training Programme policy brief, which includes the National Training Programme and IORT Network (Irish Open Research Trainers), which, as yet, do not exist. Existing awarding bodies are also listed.

⁷ National Open Research Landscape Report (2021) <https://doi.org/10.7486/DRI.5q485c938>

NFQ level	Major award types	Awarding Body	NORF Focus	Cohort
1	Level 1 Certificate	QQI	No	N/A
2	Level 2 Certificate	QQI	No	
3	Level 3 Certificate	QQI	No	
	Junior Certificate	State Examinations Commission	No	
4	Level 4 Certificate	QQI	No	1
	Leaving Certificate	State Examinations Commission	Yes	
5	Level 5 Certificate	QQI	No	
	Leaving Certificate	State Examinations Commission	Yes	
6	Advanced Certificate	QQI	Yes	
	Higher Certificate 120 ECTS	Institutes of Technology, QQI, and some Universities.		
7	Ordinary bachelor's degree 180 ECTS	Institutes of Technology, QQI, and Universities	Yes	
8	Honours bachelor's degree 180-240 ECTS	Institutes of Technology, QQI, and Universities	Yes	
	Higher Diploma 60 ECTS	Institutes of Technology, QQI, and Universities		
9	Master's Degree Taught: 60-120 ECTS Research: 120 ECTS	Institutes of Technology, QQI, and Universities	Yes	3
	Post-Graduate Diploma 60 ECTS	Institutes of Technology, QQI, and Universities		
10	Doctoral Degree ECTs for Taught modules	Institutes of Technology, QQI, and Universities	Yes	

	Higher Doctorate	Institutes of Technology, QQI, and Universities		
Beyond Formal Education Pathways				
N/A	Standalone training and CPD for <ul style="list-style-type: none"> ● Researchers ● Professionals 	Recommended <ul style="list-style-type: none"> - NTP under QQI Other Sources <ul style="list-style-type: none"> - HEIs under QQI - Funders - Professional bodies - IORT (NORF) 	Yes	4
N/A	Standalone training and CPD for <ul style="list-style-type: none"> ● Trainers ● Data stewards ● Librarians 	Recommended <ul style="list-style-type: none"> - NTP under QQI Other Sources <ul style="list-style-type: none"> - Funders - Professional bodies <ul style="list-style-type: none"> - LAI - CILIP - Recognised training programmes <ul style="list-style-type: none"> - Epigeum - GoFair - IORT (NORF) 	Yes	5
N/A	Standalone training for Citizen Science	Recommended <ul style="list-style-type: none"> - NTP under QQI Other Sources <ul style="list-style-type: none"> - HEIs under QQI 	Yes	6

Table 1: Awarding Bodies and NFQ levels

Further considerations

The positioning of Open Research training within the NFQ will provide the necessary standardisation and harmonisation to ensure that all stakeholders engaged in formal education pathways receive consistent, recognised and quality-assured training in this area. Outside of the NFQ, quality assurance of training will be more varied, with the possibility that training provided by non-HEIs may be designed to satisfy specific requirements, and not necessarily a broad range of basic topics. The review and monitoring of these training programmes may fall under the remit of the National Training Programme (NTP) or under the wider umbrella of either NORF or another body.

Results

Following the review of the current mechanism, and expanding upon Table 1, below is a tentative outline of how Open Research might be accommodated within this Framework:

Cohorts	Potential Pathways	Framework
1 - Leaving Cert (Level 5)	Embed in a core subject for marks Digital Badge	State Examinations Commission
2 - Undergraduate (Levels 6-8)	Part of Final Year Project/Research Outputs	Institutes of Technology, QQI, and Universities
3 - Postgraduate (Level 9-10)	5 ECTS (Masters/PG Diploma etc) PhD module (part of National Framework for Doctoral Education ⁸)	Institutes of Technology, QQI, and Universities
4 - Researchers and Professionals	Audit HEI ECTS courses Undertake HEI ECTS courses Attend Funder mandated training (e.g. Epigeum, GO FAIR) Digital Badge ⁹ Other professionally recognised training pathway <ul style="list-style-type: none"> - UrbanTide Open Data Training 	<ul style="list-style-type: none"> - NTP under QQI - HEIs under QQI - Funders - Professional bodies
5 - Training Staff <ul style="list-style-type: none"> - Librarians - Data Stewards - Trainers 	Audit HEI ECTS courses Attend HEI ECTS courses Attend Funder mandated training Digital Badge Other professionally recognised training pathway <ul style="list-style-type: none"> - LAI or CILIP accredited training - CONUL Training & Development Group - LIR - RDA 	<ul style="list-style-type: none"> - NTP under QQI - HEIs under QQI - Funders - Professional bodies - LAI - CILIP - Recognised training programmes - Epigeum - GO FAIR
6 - Citizen Science	Audit HEI ECTS courses Attend HEI ECTS course Digital Badge	<p>Recommended</p> <ul style="list-style-type: none"> - NTP under QQI <p>Other Sources</p> <ul style="list-style-type: none"> - HEIs under QQI

Table 2: Recommendations

⁸ https://hea.ie/assets/uploads/2017/04/national_framework_for_doctoral_education_0.pdf, Part of National Strategy for Higher Education to 2030

⁹ <https://www.digitary.net/digital-badges-available-to-irish-higher-education-sector/>

EduCampus and Digitary have partnered to provide institutions in the Irish Higher Education sector, the ability to issue Digital Badges through the Digitary 'Student Credentials System' solution

Conclusion

This brief advocates for the mainstreaming of Open Research within the curricula of multiple level educational provisions. Specifically, in respect of library professionals, who have and continue to play a key role in advocating, supporting, and oftentimes driving the development and implementation of Open Research, it is important to ensure that Open Research skills are also mainstreamed in their qualifications. NORF, in consultation with other organisations, such as the Library Association of Ireland and HEIs, should ensure, if not already in place, that Open Research is included as a module/s within the curriculum. Not only will this ensure Ireland has a supply of appropriately qualified library professionals to support Open Research but it will also open up and support the development of new specialist roles and careers for professionals working in the broad profession of librarianship.¹⁰

The mainstreaming of the provision of education and training in Open Research raises the issue of the provision of resources to develop and support this initiative. Aside from resources to ensure mainstreaming, there is, and will continue to be, a requirement for resources to provide continuing professional development to existing personnel, especially to researchers who already possess a PhD, research support staff, data stewards, and library professionals, and to provide continuing professional development updates as these emerge.

Recommendations

Establish a national body, similar perhaps to Campus Engage,¹¹ or identify a suitable organisation, which through the involvement of stakeholders:

- Promotes and supports the development of a sustainable culture of Open Research among stakeholders;
- Promotes and supports the the mainstreaming of Open Research within the education sector via mainstreaming of Open Research where possible within existing accredited programmes and qualifications;
- In order to address the knowledge and skills deficit, considers the development of national initiatives, resources and tools enabling the education sector to reach a common standard;
- Is cognisant of the promotion of not just national standards but also seeks to promote standards that have worldwide recognition of best and latest practice.
- Includes the appointment of an National Programme Lead, Open Research Skills as a priority action to champion and support the development of best practice among stakeholders.
- Establishes a national Community of Practice that will inform, promote and share best practice emerging in Ireland and from abroad.
- Nationally monitors and reports on the progress of the development of Open Research skills, competencies and standards in Ireland.

A further recommendation is the creation of the National Open Research Training Programme, as outlined by the policy brief on this topic, with accreditation provided by either the national body referenced above if it has awarding powers, or by QQI, if deemed appropriate.

¹⁰ Roles that FOSTER state as being “essential in the creation of the Open Science movement”
<https://www.fosteropenscience.eu/content/libraries-roles-and-opportunities-open-science>

¹¹ <https://www.campusengage.ie/>

Abbreviations

CONUL	Consortium of National and University Libraries
CPD	Continuing Professional Development
HEI	Higher Education Institution
IORT	Irish Open Research Trainers
NFQ	National Framework for Qualifications
NORF	National Open Research Forum
NTP	National Training Programme
QQI	Quality and Qualifications Ireland (QQI) is the national agency responsible for qualifications and quality assurance in further education and training and higher education in Ireland.
RDA	Research Data Alliance