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Research Students in Higher Education Globally

Global Inter-Agency Working Group on Postgraduate Affairs

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Abstract

This policy paper has reviewed various aspects of higher education research, specifically the research student involved in it at the entry level, i.e. postgraduates, doctorate students, and early career researchers. The aim of this policy paper is to analyze, evaluate and put forward a summary and recommendations regarding a number of systematic problems and inequalities faced by research students across the world today, with the hope of providing clear solutions to these.

This policy paper addresses the issues of research students in higher education by studying various important stages of the research process through which they pass, and proposes ideas to improve and enhance the processes - from hiring of a research student or researcher to their mental well-being - to name a few examples.

This paper presents comprehensive recommendations and suggestions for the improvement of the same based on three key sites of researchers' and research students' journey to degree and post-degree skill development: the research student experience; the research student process; and the professional development of the research student journey.

Acronyms

AAUP	American Association of University Professors
AF	Academic Freedom
CoP	Community of Practice
vCoP	virtual Community of Practice
ECR	Early Career Researcher
EDI	Equality, Diversity, and Inclusion
FAs	Functional Areas
HE	Higher Education
HEI(s)	Higher Education Institution(s)
ESOMAR	European Society for Opinion and Market Research
ILO	International Labour Organisation
INGO(s)	International Non-Governmental Organisation(s)
NGO(s)	Non-Governmental Organisation
RI(s)	Research Institution(s)
SDG4	Sustainable Development Goal 4
SSE	Supervisees' Supervision Experience
STEM	Science, Technology, Engineering, and Mathematics
UDL	Universal Design for Learning
UNESCO	United Nations Economic, Social and Cultural Office
URE	Use of Research Evidence
WIL	Work-Integrated Learning

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It is high time that ECRs should openly, in the face of the whole world, publish their views and aims and meet these challenges with our own manifesto. Researchers of all countries, unite!

Vargo, 2017, A Manifesto for Early Career Researchers¹

Introduction

Research education is central to the traditional identity of higher education institutions (HEIs).² It is the process that legitimises the existence of an HEI, sets standards in research excellence and quality assurance, develops career pathways in various employment sectors, and provides knowledge innovation and economic development at a local, national, regional and global level.³ The research student experience is embedded in the purpose of the HEI, in particular the university, where academic teaching and researching staff are considered: “communities of scholars preserving, disseminating and expressing freely their opinions on traditional knowledge and culture, and pursuing new knowledge without constriction by prescribed doctrines”⁴.

Research students, particularly postgraduates or graduates, doctoral students, and early career researchers (ECRs), contribute to this community of scholars, in the pursuit of knowledge to contribute to the “publication and dissemination of the research results obtained by higher-education teaching personnel [which] should be encouraged and facilitated [...] with a view to assisting them to acquire the reputation which they merit, as well as with a view to promoting the advancement of science, technology, education and culture generally”⁵, inclusive of the student's publication of research and scholarship in books, journals, databases and under their own names if they are the authors or co-authors, with the appropriate legal protection provided by national and international law.

¹ Vargo, E. J. (2017, 9 October). A manifesto for early career researchers. <https://www.timeshighereducation.com/blog/manifesto-early-career-researchers>

² Bryne, J., Jorgensen, T., & Loukkola, K. (2013). Quality Assurance in Doctoral Education – results of the ARDE project. <https://eua.eu/downloads/publications/quality%20assurance%20in%20doctoral%20education%20%20results%20of%20the%20arde%20project.pdf>

³ European Commission. (2011). Principles for Innovative Doctoral Training. https://euraxess.ec.europa.eu/sites/default/files/policy_library/principles_for_innovative_doctoral_training.pdf

⁴ UNESCO. (1997) Recommendation concerning the Status of Higher Education Teaching Personnel. <https://en.unesco.org/about-us/legal-affairs/recommendation-recognition-studies-and-qualifications-higher-education>

⁵ *ibid*

The research student experience therefore is proposed to contribute to HEI accountability mandated in the *1997 UNESCO Recommendation concerning the Status of Higher Education Teaching Personnel* including: contribute publicly to the educational mission of their institution; commitment to quality in teaching, research, and scholarship; effective support of academic freedom and human rights; furthering high quality education for others; commitment to the provision for lifelong learning opportunities; ensure students are treated fairly not targeted by injustice or discrimination; aid in the adoption of policies and procedures to protect and support gender, ethnic or cultural minorities from all forms of violence; honest and effective scholarship; engage in the use of resources and contributing to understanding of their efficiency; create a collegial process with colleagues; assist in the fulfillment of economic, social, cultural and political rights while upholding ethical standards; address contemporary problems in society; contribute to local, national, regional and international collaboration and cooperation; and aid in implementing accountability systems within their HEI institution.

This policy paper aims to address this through investigating key stages of the research process for research students, providing recommendations to promote accountability and enhancement of the research process. It is set in a global context to encourage the fair and sustainable development of such principles to guide research education for research students in postgraduate and doctoral studies, in all nations. It does this by guiding through the three key sites the research student will encounter on their journey towards degree and post-degree skills development: the research student experience; the research student process; and, professional development of the research student journey.

Such is important not simply for the upholding of knowledge and education in HEIs. It is essential for the actualisation of Article 26 in the *Universal Declaration of Human Rights*, where HE is accessible on the basis, and for the realisation of Sustainable Development Goal 4 (SDG4), to achieve inclusive and equitable education and promote lifelong learning opportunities for all.⁶

⁶ United Nations. (1948). Universal Declaration of Human Rights. <https://www.un.org/sites/un2.un.org/files/udhr.pdf>

Definitions

Early career researcher is defined as someone who is completing a doctoral qualification or is within eight years of the award of a Doctorate; it is inclusive of doctoral student, immediate post doctorate, and transition to independent researcher.

Doctoral student is defined as a student completing a piece of research through a dissertation or thesis, in order to obtain a doctoral degree; it is inclusive of the initial stages of enrolment into a doctoral programme, doctoral student-related coursework, doctoral candidacy post-coursework, and the immediate period following research submission up until when the research is housed in the institution's library.

Postgraduate (or in some contexts, **graduate**) is defined as a student who has already taken a Bachelor degree and is studying for a more advanced degree up to a Doctorate; it may be inclusive of Bachelor Honours students in some contexts.

Post doctorate is defined as an individual undertaking temporary research after they have completed their doctoral degree, to further their training in research processes.

Research is defined as an original scientific, technological and engineering, medical, cultural, social and human science or educational research, indicating critical and disciplined inquiry, varying in nature and method according to the investigation identified, aimed towards the resolution of a problem within an institutional framework and infrastructure.⁷

Research Office is defined as the faculty, department or school, who oversee the enrolment, professional development, and awarding of postgraduate students, and on occasion, a Bachelor Honours students.

Research student is a collective term for all students who may be involved in research processes but still requires some supervision, and is not limited to: second or third year undergraduate students; Bachelor Honours students; graduate students; postgraduate students; doctoral students; and on occasion, post doctorates.

Scholarship is defined as the way qualified academic staff members and members of faculty keep up to date with their subject, engage in scholarly editing, disseminate their work, improve their pedagogical skills, and further their professional development.⁸

⁷ UNESCO. (1997) Recommendation concerning the Status of Higher Education Teaching Personnel. <https://en.unesco.org/about-us/legal-affairs/recommendation-recognition-studies-and-qualifications-higher-education>

⁸ ibid

Scholarships are defined as a grant of financial aids for research, awarded to a student wanting to study a particular discipline or area based on merit, diversity financial need, inclusion and skill.

Supervisor is defined as a qualified academic staff member and member of faculty, with experience in research who is overseeing a research student for a period of time on a specific project such as a dissertation or thesis; their purpose is to guide the student through their research and assessment, until completion of the research and degree.

Supervision is defined as the systematic process between a research student that assesses the standard and quality of the student's written work according to international academic quality standards, and supports the professional development of the student towards the completion of their degree.

Undergraduate is defined as a student who has not taken their first degree up to a Bachelor degree; it may be inclusive of Bachelor Honours students in some contexts.

1. Nurturing the Researcher Experience

It is often difficult to interpret the difference between the term “student”, “staff” and “research” given that HEIs differ in their determination of whether a postgraduate or doctoral student are staff. Inability to define the key stages of the research process for research students - particularly postgraduates and early career researchers (ECRs) - limits the ability to sufficiently map clear pathways in research training to equip the research student with the sufficient skills to be successful, but also to provide a clear process for training and professionalisation within HEIs.⁹ This can complicate pathways to postdoctoral research and eventual integration into academia as a profession. Such can also increase the vulnerability for research students by minimising the equity and accessibility of the research process for low-socioeconomic individuals and first-in-the-family researchers, researchers from developing nations, researchers whose gender is not well represented in their region or field of scholarship, minority ethnic groups and refugees, indigenous and First Nations peoples, and researchers with a disability. Thus, it is proposed that the research student experience must be addressed in policy and practice, to further the success of research in HEIs.

a. Addressing “Imposter Syndrome” and Attrition

Effective methods and clear procedures to equip the research student with new research skills through engagement with supervision, in a field of the student’s choice, are necessary to secure access to a discipline or career.¹⁰ These skills can often be initially unfamiliar to a research student, including new forms of writing skills, strategies for research implementation, time management, organisation, motivation, and the development of an academic voice and identity.¹¹ This is further complicated in that while undergraduate students undertake some element of research that may still maintain a cohort experience to share knowledge with, the majority of postgraduates undertake significant periods of solitary work.¹² This isolation in addition to if the research student experience is poorly structured or designed - whether in the structure at an individual level with their supervisor, or a community level concerning their engagement with the Department or wider academic community - can impact a research students’ feelings of their worthiness of participating in the research process.

⁹ ibid

¹⁰ Sverdlik, A., Hall, N. C., & McAlpine, L. (2020). PhD imposter syndrome: Exploring antecedents, consequences, and implications for doctoral well-being. *International Journal of Doctoral Studies*, 15, pp. 737-758.

¹¹ ibid

¹² ibid

The “imposter syndrome” is a well-documented psychological feeling of being an intellectual fraud that impacts many capable postgraduate and ECRs.¹³ A research student’s identity and work can already be called into question if there are not sufficient spaces within their HEI to apply their cultural, ethnic, gender, sexual, socio-economic, or political preferences to their research. This can create crippling self-doubt that contributes to attrition rates, which have been documented at as high as 70% of participants enrolled in postgraduate degrees for a variety of reasons.¹⁴

While some countries do not retain figures for student attrition, it is not clearly identified as to how the researcher experience contributes to non-completion of postgraduate and other research-related degrees. It is clear that to aid students to complete research, it is imperative that policy is implemented to gather attrition rates to combat the “imposter syndrome”. This is something that has not been fully addressed in the *UNESCO 2019 Global Convention on the Recognition of Qualification concerning Higher Education*, as transfer of knowledge for the research student experience is not visible, to explain why attrition exists and how it might be limited to inaccessibility, quality or recognition of a degree. This suggests that it is necessary that policy develop a more holistic understanding of the complexity of the research student experience.

Monitoring attrition rates needs to be at the local institutional level, national, regional, and global levels, while also recognising that while research is often an individual project, successful engagement in the research experience stems from a multiplicity of socio-cultural factors. These factors are embedded in the personal life of the research student, the HEI, and wider society, and can include but are not limited to: supervision; social lives; departmental structure; funding and financial opportunities; and scholarship development. Holistic analysis of accessibility to research programmes, research student isolation and self-doubt, attrition rates and non-completion of research degrees is therefore necessary to comprehend how research studies particularly for postgraduate students, may require further structure, funding, support and policy implementation in developed and developing countries.

b. Belonging and Research Communities of Practice

To combat feelings of self-isolation and self-doubt, the research student needs to be provided with a sense of belongingness within the research experience and academic community. Research students in postgraduate and particularly doctoral studies are one of the most diverse educational publics engaged at HEIs, drawing largely upon international and offshore students. Cultural and social isolation can then combine with intellectual isolation, with 65% of international students indicating that they experience feelings of loneliness while completing their studies.¹⁵ Attrition rates for research students

¹³ Cisco, J. (2018). Exploring the connection between impostor phenomenon and postgraduate students feeling academically-unprepared. *Higher Education Research & Development*, 39 (2), pp. 200-214.

¹⁴ Jones, M. (2013) "Issues in Doctoral Studies - Forty Years of Journal Discussion: Where have we been and where are we going?", *International Journal of Doctoral Studies*, Vol. 8, No. 1, pp 83-104.

¹⁵ Lin, S. H. and Huang, Y. C. (2012) "Investigating the Relationships Between Loneliness and Learning Burnout", *Active Learning in Higher Education*, Vol. 13, No. 3, pp 231-243; McLaughlin, C. J. and Sillence, E. (2018) "Buffering Against Academic Loneliness: The Benefits of Social Media-Based Peer Support During Postgraduate Study", *Active Learning in Higher Education*, Vol. 2018, No. 1, pp 1-14; Sawir, E., Marginson, S., Deumert, A., Nyland, C. and Ramia, G. (2008) "Loneliness and International Students: An Australian Study", *Journal of Studies in International Education*, Vol. 12, No. 2, pp 148-180.

at HEIs can be high, where stress and loneliness have been identified as major causes of attrition.¹⁶ This indicates without creating an inclusive academic community or cohort to support the research student experience, the research student may struggle.

Research Offices at HEIs often provide professional development and training modules to support research students - particularly postgraduate and doctoral students - in their intellectual growth, but can lack community-based support. This can be due to a lack of national and regional funding for the development of research-based initiatives in HE, but also for the public funding of research on the research student experience itself. Poor public funding for Research Offices has also contributed to the corporatisation of HEIs in research, witnessed in the trend of digital “course-based” professional private development training courses for research students in postgraduate and doctoral studies. Such is now considered to replace direct student engagement with a faculty, school or department, and can challenge inclusivity, equity, and community.

A Community of Practice (CoP) is needed to provide a sense of research student belonging. A CoP is a knowledge management technique that has been used in companies and public organizations for the past twenty years to provide professionals with a platform to facilitate knowledge exchanges and interpersonal interaction.¹⁷ Important CoP principles include shared goals, reciprocal accountability, open communication, mutual engagement, sharing material and emotional resources.¹⁸ CoPs tend to be informal groups that can be facilitated in person or online and can be beneficial for both knowledge sharing and social interactions. Online or virtual CoPs are beneficial for a number of reasons: they can be used as document repositories; they are inclusive as students can log in when they have time; they can be used across time zones and can support students in their postgraduate research journey by reducing social and intellectual isolation. Developing policy to encourage and enable postgraduate research students to build CoPs to discuss research can only be seen as a positive step in connection, collaboration and shared knowledge.

c. Non-Discrimination and Research Student Inclusion

Research students sit under the entitlement to the rights and freedoms outlined in Article 2 of the *United Nations Declaration of Human Rights*: “without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status”. In accordance with Article 7 of the Declaration, research students like all persons, “are equal before the law and are entitled without discrimination to equal protection of the law”. Discrimination that excludes, disadvantages or simply differentiates between individuals or groups on the basis of physical appearances or personal attributes in HE is not tolerable. This may occur in the form of cultural norms, associated beliefs, prejudices, ethnocentrism, or “outgroup” behaviour within a HEI or RI, education-related organisations, or national-related bodies. Such can occur in

¹⁶ Jones, M. (2013) "Issues in Doctoral Studies - Forty Years of Journal Discussion: Where have we been and where are we going?", *International Journal of Doctoral Studies*, Vol. 8, No. 1, pp 83-104.

¹⁷ Bolisani, E., Fedeli, M., Bierema, L. and De Marchi, V. (2020) "United We Adapt: Communities of Practice to Face the CoronaVirus Crisis in Higher Education", *Knowledge Management Research and Practice*, Vol. 19, No. 4, pp 454-458.

¹⁸ *ibid*

scholarship, written or spoken language, policy or accessibility to representation, in addition to the research student's personal experience on campus. Combating such discrimination is essential for the realisation of SDG4, which seeks to “ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university”.¹⁹

Around the world, research students' gender, ethnicity, age, culture, and background can affect their journey and experience in HE. The Sutton Trust in the United Kingdom found that research student progression to taught higher degrees saw the highest transition rates among Other (16.1%), Black African (13.8%) and Chinese (12.9%), with graduates from White (10.7%), Indian (10.7%) and Bangladeshi (10.2%) backgrounds having lower rates. For progression to higher degrees by research, White graduates had the highest rate (1.7%), followed by Mixed (1.6%) and Chinese (1.4%). Black Caribbean graduates had low rates of progression to both taught (9.4%) and research (0.6%) higher degrees.²⁰

Gender disparities continue to exist internationally, with the UNESCO Institute for Statistics reporting that only 33.3% of researchers across the world were women from 2015-2018, despite increases of women researchers in developing nations.²¹ In alignment with SDG4, section 4.5 demands action is required to eliminate gender disparities in education, to ensure equal access for vulnerable members of society. The *European Research Area* policy framework identifies methods of doing this, suggesting that gender inclusion might included through employment methods. Paid maternity leave for research students - in addition to other forms of paid and unpaid leave such as parents leave - could be considered.²²

Research students with a disability, including but not limited to: vision impairment, deaf or hard of hearing, mental health conditions, intellectual disability, acquired brain injury, spectrum disorder, or physical disability; should be supported through various methods. Funding a universal design for learning (UDL) for reading, writing, researching, and teaching is important to encourage disabled research student inclusion, in addition to creating accessible HEIs and RIs. Monitoring engagement of disabled persons and the adoption of UDL in research studies is important to ensure fair representation.

Minorities, indigenous and First Nations peoples need to be able to express their culture within research and pedagogy. A study in 2020 of 1.2 million PhD recipients in various science studies from across the world found ethnic minorities, had to be more innovative in research than majorities at their HEI.²³

¹⁹ SDG4 Education 2030. Sustainable Development Goal 4 (SDG 4). <https://sdg4education2030.org/the-goal>

²⁰ Wakeling, P., & Mateos-Gonzalez, J. L. (2021). Inequality in the highest degree? Postgraduates, prices and participation. Sutton Trust. <https://www.suttontrust.com/wp-content/uploads/2021/06/Inequality-in-the-Highest-Degree-Final-Report.pdf>

²¹ UNESCO. (2021, 11 February). One in three researchers is a woman. <https://en.unesco.org/news/one-three-researchers-woman>

²² European Commission. (2022). European Research Area. https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/era_en

²³ Crew, B. (2020, 16 July). Women and minority researchers have more original ideas, but hwhite men are rewarded faster. Nature Index. <https://www.natureindex.com/news-blog/women-and-minority-researchers-have-more-original-ideas-but-white-men-are-rewarded-faster>

They were less likely to publish as a post doctorate, despite being involved in innovative research. Whereas indigenous and First Nations peoples battle marginalisation in HEIs and RIs, where their traditional teachings and educational models are less valued. A 2019 study found that Māori researchers made up less than 5% of the full-time academic staff and researchers at universities in Aotearoa New Zealand, while Native Americans are reported to hold full professorships in just 6 of 15 STEM fields.²⁴ This is not supportive of the inalienable rights and aspirations for self-determination outlined in the *United Nations Declaration on the Rights of Indigenous Peoples* in both the research student experience and research process, where knowledge on indigenous and First Nations peoples can be mishandled and disrespected.²⁵ Key indigenous and First Nations pedagogical practices are needed to respect self-determination. For example, student-centered instruction is key in Indigenous Australian pedagogy, which differs from the traditional teacher-centered instruction where research and pedagogy is community-oriented.²⁶ Such is required to combat decades of colonial oppression that has often encroached upon minority, indigenous and First Nations research students at HEIs and RIs.

The inclusion of Equality, Diversity, and Inclusion (EDI) governance models and policies is therefore essential to protect these vulnerable research student publics, and to aid in the creation of accessible HE campuses. Creating a culture of inclusion within higher education institutions does not simply equate to an EDI model that enables students to access higher education regardless of their gender, race, culture, or socio-economic level. EDI requires HEIs to embrace all students by creating a culture that fosters actual actions around non-discrimination, universal accessibility, and creating an holistic research environment that meets students' needs to ensures that they can learn and achieve their goals. Creating safe spaces for cultural, social and economic inclusion whether socially or structurally within a HEI, is essential to develop research student belonging.

d. Research Student Wellbeing and Mental Health

Research students are part of the global research community that contributes to the development of the world across all the academic fields observed today. But this contribution does not come easily. A competitive task-oriented environment, unavailability of permanent contracts, working conditions, tough deadlines, and extensively long workweeks often make the researcher stand in a very tough position. What makes the researcher's job worse is that there are no set procedures for safeguarding their welfare as well as mental well-being when they fall at the hands of a less supportive environment.

International Labor Organization (ILO), World Health Organization, and the European Commission in their past reports have found that academic employees and postgraduate students face more

²⁴ McAllister, T. G., Kidman, J., Rowley, O., & Theodore, R. F. (2019). Why isn't my professor Māori? A snapshot of the academic workforce in New Zealand universities. *MAI Journal*, 8(2), DOI: 10.20507/MAIJournal.2019.8.2.10; Nelson, D. J., & Madsen, L. D. (2018). Representation of Native Americans in US science and engineering faculty. *MRS Bulletin*, 43, pp. 379-383.

²⁵ United Nations. (2007). Declaration on the Rights of Indigenous Peoples. <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>

²⁶ Referenced heavily from: Jo-ann Larkins, Federation University, and Michael Donovan, Macquarie University, for their research on Indigenous pedagogy to assist in developing culturally appropriate learning resources for First Nations students. Michaels' PhD topic was "What form(s) of pedagogy are necessary for increasing the engagement of Aboriginal school students?"

psychological disorders estimated between 32% to 42% when compared to the general population which faces approximately 19%. The comparison depicts that it does not only affect an individual's health but reduces the efficiency of the research which is being conducted and the overall community. To better identify the key problems and address them, the issue of mental well-being among research students, especially postgraduates and doctoral students, needs to be investigated and monitored at all levels by HEIs.

As is often seen in well-funded HEIs, that there is a disparity and unfair employment conditions between the contractual ECRs and permanent tenured researchers which leads to exploitation of the former resulting in compromised research or scientific work quality as well as mental well-being of the early-stage researchers. As is often witnessed, the contractual positions often filled by ECRs are the ones driving the research projects, therefore, the argument remains that when the workload of ECRs is often more than those supervising them with permanent positions, then why are the former not provided the same sustainability and privileges of employment? This further creates a disparity and harms the notion of equal and sustainable employment opportunities as per international standards and set policies.

It is therefore critical not to only revise the academic reward system but also the criteria based on which HEIs and RIs are accredited, incentivised, given rankings, or provided funded projects so the rights of the researchers could be safeguarded, and more sustainable employment opportunities could be provided to them with equal respect and stature that of the permanent employees. The result would contribute towards more strengthened institutes, high-quality scientific work, and a mental health-friendly environment which may in return increase the overall efficiency of the institutions and their work.

Rather than sympathizing, HEIs and governments need to work on awareness of mental well-being and the rights of research students as stakeholders in the success of their HEI. It is therefore important that research students and academic staff are equipped with an understanding of mental health and wellbeing, and how it can both individually and collectively be taken care of. Tactics for introducing such training might include: implementing and exchanging the personalized training; dialogue exchanges; performance assessment; evidence-based institutional practices; mentorship programs; person-centered training; and pro-mental health practices. If HEIs and supra-national education-related bodies were to introduce an integrated approach to mental health and wellbeing in partnership with research students, policies and procedures for physical and mental wellbeing could promote a more sustainable research environment for institutions across the globe.

2. Supporting the Research Process

The research process is at the heart of HE, as it contributes to the “advancement and transfer of knowledge and constitute an exceptionally rich cultural and scientific asset”²⁷ within HEIs. While research outputs are well known for the various stakeholders – such as governments, policy-writers, the private and public sectors – the research process is less understood. It includes the cultivation of postgraduate and doctoral students capable of serving their communities through effective scholarship, conscious use and development of HE curricula and research training, research ethics, and the exercise of the freedoms and the special responsibilities and duties associated with HEI research communities. Developing research student collegiality with academic staff – particularly supervision – plays a key role in training research students in important ethical and professional practices, to understand that teaching research and learning contributes to contemporary problems faced in society. Postgraduate and doctoral student representation in governance, policy, and quality assurance, also contributes to the co-creation of research spaces to maintain professional standards throughout the research process.

a. Creating Positive Supervision Experiences

The relationship between supervisor and research student is the most important and determining element in the success and completion of a doctoral or post doctoral research project²⁸. The high failure rates of doctoral studies in the social sciences have been partly attributed to dissatisfaction of research students with supervision, while good supervision is considered central to the success of a research student’s project and process.²⁹ Consequently, the quality of the research student or supervisees’ supervision experience (SSE) needs to be considered in all parts of the research process. SSE is argued to cover four parts of the research experience: Stage 1, development synopsis; Stage 2, data collection; Stage 3, writing the thesis or dissertation; and Stage 4, submission of the thesis or dissertation, up until it is stored in the HEI library.³⁰ It is also argued that there are six supervision aspects, including: project management, intellectual support, pertinent research skills, interpersonal communication skills, workload management, and supportive skills.³¹ Supervision should be seen as a series of diverse tasks and responsibilities that can be grouped together (expertise, coaching, facilitation, mentoring, etc.).³²

Yet the application of these skills are inconsistent locally, nationally and regionally, when comparing supervision management within and between HEIs. This is partly because supervision in the research

²⁷ UNESCO. (1997) Recommendation concerning the Status of Higher Education Teaching Personnel. <https://en.unesco.org/about-us/legal-affairs/recommendation-recognition-studies-and-qualifications-higher-education>

²⁸ Mainhard, T., Rijst, R.V. D., Tartwijk, J. V., & Wubbles, T. (2009). A model for the supervisor-doctoral student relationship. *High Education*, 58, 359-373.

²⁹ Armstrong, S. J. (2004). The impact of supervisors’ cognitive styles on the quality of research supervision in management education. *British Journal of Educational Psychology*, 74(4), 18.

³⁰ Allama, T. S., & Mehmood, N. (2018). Assessing the Quality of Supervision Experiences in the Different Research Stages at Postgraduate Level. https://www.researchgate.net/publication/330773143_Assessing_the_Quality_of_Supervision_Experiences_in_the_Different_Research_Stages_at_Postgraduate_Level

³¹ *ibid*

³² Pearson, M., & Kayrooz, C. (2004). Enabling critical reflection on research supervisory practice. *International Journal for Academic Development*, 9(1), 99-116.

process should evolve over time as the research student's needs change. Yet it is also due to the fact that SSE sits within the context of the professional demands placed upon academic staff between learning, researching and teaching, including increased workplace responsibilities, minimal pay, and career advancement. There has been a significant increase in collective academic supervision rather than one-to-one learning. Such can be advantageous in terms of research student cohort experiences, but also can significantly decrease the quality of the SSE if specialist research expertise for the research project and process is not clearly transferred to the student.³³ Supervision is therefore a balancing act between various factors: expertise in the field of research, support to the student, critique of the research, etc.³⁴ Successful supervision is characterised by agreed standards, professionalism, consideration of the needs of the parties involved, and ethical behaviour. Therefore, the expectations of both supervisor and research student need to be clear throughout the research process, to aid the success of the project.

The professionalising of the supervision experience through fellowship programmes for supervisor accreditation processes, indicate an interesting shift in the evolution of the SSE relationship. The rise of public and private accreditation services identify a need for standards in supervisor training to aid the SSE, but also evidence the trends in corporate influence on HEIs as articulated in the *2021/2022 Global Education Monitoring Report: Who Chooses, Who Loses?*³⁵

b. Research and Postgraduate Student Representation

Student representation in HEI governance, policy-making and quality assurance is a well-accepted principle of HE.³⁶ While undergraduate student representation and engagement is well developed through student unions, associations, councils, governments, caucuses, and senates at HEIs, there is typically a lack of representation for the research postgraduate cohort. Postgraduate student engagement and partnership practices vary greatly between and within institutions. There are a multiplicity of reasons for this. Firstly, this is because postgraduate study becomes an expectation regarding employment advancement, requiring representation to consider research funding models and scholarship.³⁷ Secondly, this is because doctoral students and post doctorates are often considered the equivalents of academic staff members, giving them membership access to their relevant trade union when employed at their HEI or RI. Given that their employment status is often inconsistent around studies due to inflexible hours, teaching and carrying out research, their engagement in institutional representation is often poor. Where research student and postgraduate representation is included, it is often within a representation structure that is aimed at the educational experience of undergraduate

³³ Nordentoft, H., Thomsen, R. & Wichmann-Hansen, G. (2013). Collective academic supervision: A model for participation and learning in higher education. *Higher Education*. 65. DOI: 10.1007/s10734-012-9564-x.

³⁴ Lessing, A. C., & Schulze, S. (2002). Graduate supervision and academic support: Students' perceptions. *South African Journal of Higher Education*, 16(2), 139-149.

³⁵ UNESCO. (2021). *2021/2022 Global Education Monitoring Report: Who Chooses, Who Loses?* <https://unesdoc.unesco.org/ark:/48223/pf0000379875>

³⁶ Matthews, K. E., & Dollinger, M. (2022). Student voice in higher education: the importance of distinguishing student representation and student partnership. *Higher Education*. <https://link.springer.com/article/10.1007/s10734-022-00851-7>

³⁷ Grant-Smith, D., Irmer, B., & Mayes, R. (2020). Equity in Postgraduate Education in Australia: Widening Participation or Widening the Gap? https://www.ncsehe.edu.au/wp-content/uploads/2020/09/GrantSmith_2020_FINAL_Web.pdf

students. Furthermore, postgraduate and ECRs are the most diverse student public, whose different linguistic and cultural backgrounds do not always integrate simply into the domestic student representation structure.³⁸

Where postgraduate representation does not remain consistent across the research degree journey, it is found that equity issues arise for research cohorts.³⁹ Developing a partnership between staff and students to create a connected learning community where collaboration and co-creation are key influences to empowering positive tangible change which will enhance the educational experience within their HEI.⁴⁰ Research postgraduate student representation with their HEI could be broken down to the following: governance and management; teaching and learning; quality assurance and enhancement; student representation and organisation; it is importance to develop strategies to interconnect these areas within representation.⁴¹ Such can be integrated into all levels of HEI student representation, including councils, senates, boards, committees, working groups and task forces at the faculty, school or departmental level, the institutional level, local, regional and international levels in research bodies. HE should use the opportunity to foster student engagement locally within their HEIs, nationally engaging with state bodies and internationally building and fostering communities where knowledge can be shared. At the national level, this can be integrated into political campaigning, academic quality processes, working groups, committees, and task forces. Postgraduate research student representation is vital in an education system that wants to develop a sustainable knowledge economy. Beyond systems of representation, governance, and quality assurance/improvement, it is critical to emphasize that the establishment and enhancement of meaningful PGR student participation and partnership structures has considerable potential to enrich the postgraduate research student experience.

c. Training in Research Scholarship & Ethical Standards

Regardless of the debates as to whether research students are “students,” “staff” or “learners” - which often differs depending on institution and region - professionalism of practice and process of academia as a discipline itself, should be considered relevant to the entire research process.⁴² Intellectual rigour, scientific inquiry, and ethical research is essential to research scholarship. Such demands the development of a student-centred learning approach to training in research scholarship, extending to the pedagogical, scholarship and technological development of standards at local, national, regional, and global levels, to inform and instruct new research students.⁴³

³⁸ Velautham, L. (2015). Voice and representation: a postcolonial approach to higher education promotional media and the international postgraduate student experience. <https://digital.library.adelaide.edu.au/dspace/handle/2440/106783>

³⁹ Grant-Smith, D., Irmer, B., & Mayes, R. (2020). Equity in Postgraduate Education in Australia: Widening Participation or Widening the Gap? https://www.ncsehe.edu.au/wp-content/uploads/2020/09/GrantSmith_2020_FINAL_Web.pdf

⁴⁰ Algeo, N. (2021). Postgraduate student engagement in decision-making: Fostering connected learning communities. National Student Engagement Programme. <https://studentengagement.ie/wp-content/uploads/2021/04/Postgrad-Paper-WEB.pdf>

⁴¹ *ibid*

⁴² Draft 6 of the Rome Ministerial Communiqué, 2020, 10 September.

⁴³ Eurodoc. (2022, 17 Nov). Eurodoc Policy Input for European Higher Education Area: Focus on Doctoral Training and Doctoral Candidates. <http://eurodoc.net/sites/default/files/news/2020/11/17/attachments/eurodocpolicyinputforehea-2020.pdf>

It is essential that researchers understand the ethical import of HE as a common good, dependent on “the free search for truth and its free exposition” as outlined in the *AAUP 1940 Statement of Principles on Academic Freedom and Tenure*.⁴⁴ Ethics also extend to the dissemination and application of best practice pedagogical, scholarship, and technological standards for new research students. Understanding professional responsibility, collegiality, and institutional autonomy is necessary to not only comprehend the HEI a research student is engaged in, but to understand how to participate in the exercise of academic freedom in both pedagogical and technical environments.⁴⁵ Ensuring ethical standards in research itself is also an essential part of the research student experience, to maintain public confidence in the quality of research. Understanding ethical norms, particularly regarding the treatment of human and animal subjects, heritage, and the environment, and knowing how to apply ethical practice to sensitive research data is essential. Introduction of the ethical standards developed by institutions, governments, regional bodies, and supra-national or intergovernmental institutions is important, not because these represent enforceable rules but because they provide a course of action that equips a research student with the necessary skills to uphold professional conduct, and minimize injustice and civil liability.⁴⁶ Research students should be provided with and taught to action ethical standards which clearly outline human rights, integrity, responsibility, and nonmaleficence.⁴⁷

d. Academic Freedom

Academic freedom (AF) is a central tenet of an HEI, without which nations evidence intellectual regression, social alienation, and economic stagnation.⁴⁸ Advances in HE in scholarship and research are identified within the 1997 *UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel*, to depend upon infrastructure and resources - human and material - and academic qualifications in research and pedagogy, that are grounded in AF. Yet in recent times, the Academic Freedom Index has shown that only 20% of the world’s population lives in a country where AF is protected. Since the move to distance and offshore learning due the pandemic, there have been “increased opportunities for surveillance of research, teaching, and discourse, as well as sanctions, restrictions, self-censorship, and isolation”.⁴⁹ This is suggested to weaken academic autonomy in several ways, in: the freedom to research and teach; the freedom of academic exchange and dissemination; institutional autonomy; campus integrity; and freedom of academic and cultural expression.⁵⁰

⁴⁴ AAUP. (1940). *Statement of Principles on Academic Freedom and Tenure*.

⁴⁵ UNESCO. (1997) *Recommendation concerning the Status of Higher Education Teaching Personnel*. <https://en.unesco.org/about-us/legal-affairs/recommendation-recognition-studies-and-qualifications-higher-education>

⁴⁶ American Psychological Association. (2017, 1 January). *Ethical Principles of Psychologists and Code of Conduct*. <https://www.apa.org/ethics/code>

⁴⁷ *ibid*

⁴⁸ UNESCO. (1992) *Academic freedom and university autonomy: Proceedings*. (<https://unesdoc.unesco.org/ark:/48223/pf0000092770>)

⁴⁹ Education International. (2021, 14 April). *Global index finds most countries do not respect academic freedom and shows signs of decline*. <https://www.ei-ie.org/en/item/24856:global-index-finds-most-countries-do-not-respect-academic-freedom-and-shows-signs-of-decline>

⁵⁰ *ibid*

More importantly, the weakening of AF minimises the intergenerational engagement with academia for incoming research students. Scholars At Risk's *Free to Think 2020* report analysed 341 attacks on HE communities in 58 countries between September 2019 to August 2020, many of which impacted research students, with some suffering from arbitrary arrest, wrongful imprisonment, restriction of travel, and pressures on student expression.⁵¹

For those research students not suffering human rights violations, many are not even aware of how AF applies to them in the *1997 UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel*. AF therefore serves as its own form of research scholarship concerning the special duties and responsibilities - and obligations to respect other members in the academic community - in addition to being a protection for research students. Protection of the research student and their research process therefore requires input from several stakeholders, including: policy-makers influencing AF in legislation; government and supra-national bodies indexing AF violations; advocacy groups and international non-governmental organisations; HEIs; and their academic staff.

⁵¹ Scholars at Risk. (2020). Free to think: Report of the Scholars at Risk Academic Freedom monitoring project. <https://www.scholarsatrisk.org/wp-content/uploads/2020/11/Scholars-at-Risk-Free-to-Think-2020.pdf>

3. Professional Development in the Research Student Journey

In this ever-changing world, characterised by scientific and technological advances, new demands are being placed on HE and, in particular, on the training of higher education professionals. It becomes an imperative to be aware of professional development required in the research student journey to incorporate market trends and appropriate pedagogical approaches. Student researchers often need to anticipate future trends in education and curricula. Attention needs to be paid to: the characteristics of research programmes; funding opportunities for said programmes; student requirements in resources and the workplace itself; research student mobility; and integration into different sectors. This helps contribute to the research student's self-improvement and skill development to integrate with the market, and develop critical skills relevant to HEIs. Monitoring and implementation of such systems can be overseen by HEIs and RIs at a departmental and the management level, and by policy-makers, governmental and regional bodies.

a. Scholarships and Stipends

Research studies, specifically postgraduate and doctoral studies, are widely regarded as a social "luxury" when in reality they are expensive and often create indebtedness. Cost for research students is also inconsistent in its financial support between governmental bodies, ranging from free courses to courses that can cost up to tens of thousands. In the UK, research studies have been known to cost up to as much as £50,000.⁵² There are also additional costs such as enrolment fees, professional development fees for attending conferences or traveling for research, membership to certain academic groups, applying for scholarships and grants, accommodation, living costs, and hidden fees for subscriptions, access to certain journal articles or books, or the latest technologies. For international students or those with dependents, these costs may also require funding other persons while completing their research. Funding these costs typically takes one of three forms: fully-funded, with enrolment and living costs covered by a stipend or scholarship; partially-funded, with partial scholarships for either enrolment or living costs but not both; and self-funded, when a research student is funding between employment and student loans.

There are different funding models for research students across the world. These have not been well monitored by nations, to provide transparency on research student funding processes and origins. Merit, diversity, first-in-family, gender, interest, and focus-based scholarships remain one of the predominant methods for funding research students. While scholarships can be provided by HEIs, RIs, corporations, NGOs/INGOs, governments, regional bodies, and supra-national organisations, a number still come from private businesses and philanthropy. The origins of these scholarships are becoming

⁵² Postgrad Solutions Ltd. (2022). The ultimate postgraduate student funding guide. https://www.postgrad.com/fees_and_funding/funding/postgraduate_student_funding_guide/

increasingly important in public conversation regarding issues of decolonisation, gender representation, and the issues of neoliberalism. Disparities of wealth within particular regions also contribute to inequity when funding research students, as evidenced in the *2021/2022 Global Education Monitoring Report: Who Chooses, Who Loses?* studying the influence of non-state actors in HE and RIs.⁵³ Such becomes a barrier to research student inclusion in less wealthy regions.

Research student stipends also remain inconsistent across the globe, despite effective stipend targeting of key infrastructure areas in research being argued to directly influence sustainable development. For example, building infrastructure in science and technology for developing nations is argued to be directly connected to stipend funding for STEM subjects.⁵⁴ Many nations have not invested in this type of funding, while others who do offer stipend support have not adjusted funding to account for inflation related to living costs. Progressive stipends have become an increasingly popular way to engage with funding research students, with the recognition that the research journey includes the equipping of skills over time. But this may not account for additional financial needs relevant to the research student experience, where allowances may be necessary for specific interests, such as attending a particularly relevant conference, or traits, such as a disability, requiring additional financial support to aid the research process.

b. Research Student Mobility

The literal, physical journey of the research student often needs to be further considered. International mobility in the academic world is an excellent driver for improving the human and social capital of researchers and, consequently, scientific output in general. Inbound mobility, as articulated in the *Bologna Process*, identifies the importance of allowing students to study in other parts of the world. This degree of mobility is of significant importance for research students who typically travel overseas in pursuit of particular forms of scholarship or supervision, and professional development and career opportunities. Although, in other cases, research student mobility may be due to being displaced or having refugee status, which is articulated in the *UNESCO Global Convention on the Recognition of Qualifications concerning Higher Education*.⁵⁵

While networks of national implementation structures have emerged from such conventions, there remain several issues.⁵⁶ The different patterns of research student mobility are still very poorly known and often do not record citizenship or mobility according to research programmes, yet demonstrate various socio-demographic characteristics. Such characteristics include inequalities in access to academic networks across national borders, at least for countries in the South, which leads to disparities

⁵³ UNESCO. (2021). *2021/2022 Global Education Monitoring Report: Who Chooses, Who Loses?*
<https://unesdoc.unesco.org/ark:/48223/pf0000379875>

⁵⁴ Bhattacharjee, Y. (2004). Weak Economy, Higher Stipends Send More to Graduate School. *Science*, 305(5681), pp. <https://www.science.org/doi/full/10.1126/science.305.5681.173>

⁵⁵ UNESCO. (2019). *Global Convention on the Recognition of Qualifications concerning Higher Education*.
<https://unesdoc.unesco.org/ark:/48223/pf0000373602.locale=en>

⁵⁶ Teichler, U. (2012). International student mobility and the Bologna Process. *Research in Comparative and International Education*, 7(1), pp. 34-49.

in scientific progress. Individual factors for research students continue to drive mobility, such as citizenship, stage of the research process, and research field.⁵⁷ Studies have shown that researchers from North America and sub-Saharan Africa, in particular women, have respectively the lowest, respectively highest, tendency to international mobility.⁵⁸ Research students in the physical sciences have the highest mobility rate and researchers in the social sciences the lowest.⁵⁹ There is a higher mobility of social scientists at an advanced stage of their career, while researchers in other fields prefer to move at an earlier stage of their career.⁶⁰ Indeed, researchers who started their mobility at an advanced stage of their career obtained better scientific results. The comparison of the centrality of mobile and non-mobile researchers in co-author networks reveals a higher social capital advantage for mobile researchers.⁶¹ Clear solutions for equity need to be found by governments and regional bodies, to ensure that research students have equal access to mobility to further their journey. National implementation structures not only need to focus on infrastructure for mobility, but capture an understanding of what the research student journey looks like, in-person.

c. Sustainable Workplace Practices for Research Students

The precarity of research careers is acknowledged globally with the rise of a population of researchers who are either in or have recently completed a doctoral degree, while holding multiple short-term, temporary and insecure positions at their HEI.⁶² The international trend in the stagnation of research funding, the massification of education increasing the awarding of doctorate degrees, and the inconsistency of the global market are acknowledged to have contributed to a growing non-permanent ECR workforce.⁶³ While research careers are known to be highly influenced by digitisation and societal inequality, workplace precarity for aspiring academics and researchers is increasing. The growing international trend in workplace casualisation in various sectors is not exclusive to academia. Yet it must be recognised that research student workplace precarity includes a plethora of possible inequities, ranging from: temporary contracts; undefined work schedules; poor compensation; minimal workplace protection; harassment and discrimination; misuse of hierarchical workplace structures; and excessive competition for positions. While the “research precariat” has been traditionally associated with the post doctoral workforce, it is increasingly encroaching upon the postgraduate and even undergraduate student journey. Precarity also ranges across a variety of different jobs that research students might engage in at their HEI or at a RI, including: teaching or teaching support; marking or assessment; invigilation; research support or junior researcher; laboratory technician or demonstrator; administration; equity or welfare; and various other roles.

⁵⁷ Momeni, F., Karimi, F., Mayr, P., Peters, I., & Dietze, S. (2022). The many facets of academic mobility and its impact on scholars' career. *Journal of Informetrics*, Volume 16, Issue 2.

⁵⁸ *ibid*

⁵⁹ *ibid*

⁶⁰ *ibid*

⁶¹ *ibid*

⁶² OECD. (n.d.). The precarity of research careers. <https://www.oecd.org/sti/science-technology-innovation-outlook/research-precariat/>

⁶³ *ibid*

In some nations, precarity and casualisation has been labeled as “systematic wage theft,” where set payment rates for research students for specific tasks, such as assignment grading, do not account for the time spent on work.⁶⁴ Whereas in other nations, entire research workforces are voluntary other than senior managerial positions, due to poor infrastructure funding at a governmental level. Consequently, to stabilise research capacity within and between nation states, it is essential that HEIs and RIs are firstly considered foundational for research quality and excellence, data collection, analysis and technological development to aid in knowledge production, acquisition, adaption, and diffusion for sustainable development.⁶⁵ Secondly, is to create sustainable organisational structures within these institutions for equal access to technology and digital resources, physical libraries, testing stations and laboratories, and professional development opportunities. Failure to this is to contribute to the insecurities in academic employment for research students illustrated during the pandemic, with mass job losses of researchers due to funding cuts.

It is important that precarious work and workplace are minimised for research students locally, nationally, regionally and globally. Prescribing to the protections provided in the *1994 ILO Convention Concerning Part-Time Work*, the *1996 ILO Convention Concerning Home Work*, and the *1999 ILO “Decent Work” Initiative* is important to ensure research students are enculturated into a workplace of fair wages, incentives and benefits, clear working hours and conditions, health and safety training, and freedom from harrassment or discrimination.⁶⁶

d. Professional Development Opportunities

Research students must maximize the value of each new experience they get as part of their professional growth. Professional development might include tutor or junior lecturer training programmes; leadership programmes; attending conferences, workshops, and seminars; attending research or graduate network or forums; publishing in journals and books; interfacing with local, national, or regional media for the dissemination of research findings; attending alumni groups; participating in courses on soft skills, social skills, and teamwork. It also requires access to physical resources including, where relevant, new technologies, databases, teaching and learning spaces, stationary, the library, workplace facilities, and transportation. Research students also may need access to support mechanisms such as peer mentorship, coaching programs, and involvement in action learning sets. These should be clearly articulated between the research student and their faculty, department or school, embedded in policy with their HEI or RI, and provided with funding at a national and regional level, to normalise it in the research student’s journey.

⁶⁴ Hare, J. (2021, 20 October). Wage theft is systematic: 21 universities under investigation. Financial Review. <https://www.afr.com/work-and-careers/education/wage-theft-is-systemic-21-universities-under-investigation-20211020-p591kw>

⁶⁵ New Technologies and Innovation Section Special Initiatives Division United Nations Economic Commission for Africa. (2017). Building Research infrastructure capacity in Africa to achieve the SDGs. https://archive.uneca.org/sites/default/files/images/vers_6aug2017-draft_concept_note_egm_on_research_infrastructures_october_2.pdf

⁶⁶ ILO. (1994) Convention Concerning Part-Time Work. https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C175 ; ILO. (1996). Convention Concerning Home Work. https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312322

A formal discussion about development needs with the research student at the outset of their contract would therefore be beneficial. Discussions on expectations regarding resources for professional development demonstrates student and institutional commitment to the research student journey. It is the obligation of both the research student and their supervisor to strike the proper balance between the demands of the project and the needs of the research student. Depending on institutional structures or financing circumstances, a certain number of days may be required to be set aside for development activities. Identifying the most useful or pressing development requirements and determining how to best integrate them into the timetable is a process that may be done collaboratively. Supervisors should also urge research students to examine the variety of skills they may need to develop to realize their full potential as a qualified researcher.

It may be useful to employ a model similar to the Vitae Researcher Development Statement, which gives examples of topics concerning resources that can be developed.⁶⁷ It proposes that requirements identification can occur officially during assessment or review sessions of the research student's journey formally and informally, through the use of 'Training Needs Analysis' tools or the creation of a Skills Profile. This allows for important that resource disclosures for professional development occur, and are recorded at a departmental, institutional and potentially national level, to aid in the training of research students as outlined in VIII. Preparation for the Profession in the *1997 UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel*.⁶⁸

e. Research Integration with Various Sectors

The adoption of the Functional Areas (FAs) by the Education 2030 High Level Steering Committee makes evident that regional and global cooperation in research is essential to accelerate effective development. The interface between research and policy is essential in the development and delivery of relevant social, cultural, economic services and structures. This is because it is recognised that all 'industry', whether governments, I/NGOs, businesses, cultural and social institutions, have an influence on and are impacted by research.⁶⁹ Use of research evidence (URE) in various sectors - specifically in policy which typically drives sector engagement - is therefore important to address contemporary issues in today's society. The FAs recognise this, seeking to establish clear pathways to work with regional and global RIs and initiatives with various, related sectors.

Research is no longer confined to HEIs or the private sector, with increasingly diverse and even democratised spaces, such as open access, open research or open source projects. The evolution of data analytics has increased data accessibility to various publics, who are now contributing to social

⁶⁷ Vitae. (2022). The Vitae researcher development statement. <https://www.vitae.ac.uk/researchers-professional-development/about-the-vitae-researcher-development-framework/the-vitae-researcher-development-statement>

⁶⁸ UNESCO. (1997) Recommendation concerning the Status of Higher Education Teaching Personnel. <https://en.unesco.org/about-us/legal-affairs/recommendation-recognition-studies-and-qualifications-higher-education>

⁶⁹ European Commission. (2011, 27 June). Principles for innovative doctoral training. https://euraxess.ec.europa.eu/sites/default/files/policy_library/principles_for_innovative_doctoral_training.pdf

dialogue and policy development.⁷⁰ Standards of research professionalism are also being set in social, market and opinion-based research, as witnessed in the *2016 ESOMAR International Code on Market and Social Research*.⁷¹ Work-Integrated Learning (WIL) has become increasingly important not only for the undergraduate student experience, but for the research student's journey. This journey is diverse depending on the relevant sectors, and could include: research placements; inclusion of industry-specialists who are non-academics in supervision processes; sector-specific funding and financial support for postgraduate and ECRs; mentoring programmes; and research alumni networks in various industries.⁷²

While the influence of non-state actors in the *2021/2022 Global Education Monitoring Report: Who Chooses, Who Loses?*⁷³, clearly articulates the concerns of private sector engagement within education, including research-based HEIs. But it must also be acknowledged to achieve effective URE locally, nationally, regionally and globally, intersectionality and collaboration between HEIs, RIs, and policy-writers in various sectors is of great import. As identified in FA 1, this requires building research capacity through effective research student scholarship and training, building coalition funding practices to support new generations of research students, and creating platforms to showcase research student engagement in inter-sector partnerships. It must be recognised that to achieve sustainable development supported by influential research, equity must be achieved by supporting and furthering the capacity of developing nations' data and technological accessibility, stable infrastructure for sustainable employment for ECRs in local and regional research hubs.

⁷⁰ Dally, J., & Downey, F. (2017, 7 August). Jisc Futures: What will research look like in 2035? Times Higher Education. <https://www.timeshighereducation.com/blog/jisc-futures-what-will-research-look-2035>

⁷¹ ESOMAR. (2016). International Code on Market and Social Research. <https://iccwbo.org/publication/iccesomar-international-code-on-market-and-social-research/>

⁷² European Commission. (2011, 27 June). Principles for innovative doctoral training. https://euraxess.ec.europa.eu/sites/default/files/policy_library/principles_for_innovative_doctoral_training.pdf

⁷³ UNESCO. (2021). 2021/2022 Global Education Monitoring Report: Who Chooses, Who Loses? <https://unesdoc.unesco.org/ark:/48223/pf0000379875>

Recommendations

The Research Student Experience:

- There is a need to monitor attrition rates for research students at a local, national, and regional level, particularly for postgraduates and for doctoral students, to understand key barriers to student degree completion in a time-sensitive manner. This can also aid putting in place structures and systems to combat psychological feelings of “imposter syndrome,” which may undermine an effective research experience for students.
- Funding needs to be allocated at a faculty, school, or department level – paying particular attention to equipping Research Offices – by HEIs and governments, to aid in the development of research student cohort experiences. It is proposed that funding can promote a CoP model to encourage student belonging, collaboration, and relational connection.
- There should be no tolerance of discrimination of any race, colour, sex, language, religion, political opinion, social origin, birth or status at HEIs or RIs, with the relevant institutional and national policy and legislation to protect persons from any discriminatory practice in research or the research student experience.
- To establish equity, EDI needs to be supported through financial incentives, policy, and operational planning within HEIs and RI and from government ministries, to support the aspirations of vulnerable publics including women, disabled persons, ethnic minorities, indigenous and First Nations research students. This may also include the co-creation of pedagogy and curriculum to creating inviting research and educational spaces, such as a UDL.
- The development and dissemination of evidence-based institutional strategies to promote research student well-being and address the influence of working circumstances on mental health and well-being. This needs to occur within HEIs and RIs, and at a national level for the support for health and well-being infrastructures. It involves effectively training academic staff and general HE staff to recognise mental health concerns and symptoms among research student cohorts, and actively support change initiatives and interventions through student peer-to-peer mentoring, coaching, and health services. Special emphasis should be placed on encouraging bottom-up efforts and establishing a high-level mental well-being officer with enough resources and a clear mission, involving local stakeholders, such as principal investigators, researchers, and managers, to speak up, debate, and/or report concerns by fostering trusting local contexts for open communication.

Supporting the Research Process:

- To ensure successful and effective SSE, the purpose of supervision and the role of the supervisor in the research process needs to be clearly identifiable to the supervisor and the supervisee. To ensure professionalisation of supervision practices, they should be regulated through accreditation and fellowship programmes to identify the diverse skills required in supervision. But responsibility for these programmes should not be isolated to the private or public sectors and could be instructed at an HEI, national or regional level, to avoid further corporatisation of HEIs.
- The SSE needs to be clearly outlined by the supervisor and the supervisee at the beginning and throughout the research process, which can be included as part of the imparting of research scholarship upon the research student. This could include the faculty, school or department encouraging regular discussions on supervision on the research process, and setting out expectations for the relationship as it develops over time.
- There needs to be encouragement of postgraduate cohorts in student representation in student unions, associations, councils, governments, caucuses, and senates. Resourcing these organisations at an institutional and government level is essential to ensure that postgraduate voices can contribute, collaborate, and co-create with HEIs in the research process. Doctoral students should not simply be subsumed as academic staff members, minimising their visibility on an institution's councils, senates, boards, committees, task forces, and working groups at a faculty, service or management level. Representation for postgraduate students should also be made available on the relevant national, regional and global student bodies, regional, supra-national and global organisations.
- A student-centred learning approach is needed to aid in the training of research scholarship for research students in ethics, pedagogy, and technology development standards at local, national, regional, and global levels. The development of ethics norms in policy and practice in accordance with national and international legislation, is essential to inform the treatment of human and animal subjects, heritage, and the environment, to ensure intellectual transparency and scientific rigour.
- AF should be considered its own form of scholarship for research students and exercised in HEIs in both policy and practice. It should be upheld in HEIs local policies for academic staff and students and reinforced at a national and regional level in legislation, who may encounter violations to their human rights through exercising their freedoms within the research process.

- Various stakeholders in AF including: policy-makers influencing AF in legislation; government and supra-national bodies indexing AF violations; advocacy groups and international non-governmental organisations; HEIs; and their academic staff; should be involved in the monitoring and mapping of the violations of human rights among research students, to find ways to strengthen and safeguard research students to protect the inflow of new HE teaching and research personnel.

Professional Development in the Research Student Journey:

- The funding system of research students level should be reviewed and reformed at a national and regional level, to remove financial barriers to postgraduate study. Currently there is a disparity in postgraduate funding which is a barrier to inclusion. To improve funding for research students, particularly postgraduate and doctoral students, HEIs, RIs, corporations, I/ NGOs, governments, regional bodies, supra-national organisations need to be included in the provision of research grants. Stipend targetting or progressive stipends should also be introduced, and regularly monitored and adjusted to account for inflation where relevant. Funding also requires increasing transparency regarding the origins of research student funding.
- Workplace practices for research students who are employed at their HEI or RI should actively combat the creation of a “research precariat”. This includes aligning all employment practices at HEIs and RIs with national legislation on workplace practices, including health and safety. Employment practices should also align with regional and national legislation concerning the protections afforded for staff members. Permanent contracts should be encouraged for research students employed at HEIs or RIs, including clarity on remuneration and hours.
- Professional development for research student should be encouraged, with funding made available at the local institutional, national and regional level to encourage the likes of: junior lecturing, leadership programmes, attendance at conferences or workshops, membership at graduate networks or forums, publishing in journals or books, and other relevant forms of engagement. This requires provision of basic resources at a faculty, school, or department level, provided for by the HEI in partnership with the relevant government ministries.
- Professional development of the research student can also include self-management and self-assessment processes that the student can employ to identify and review their journey formally within their faculty, school, or department, to provide feedback to the HEI concerning their training needs as they acquire skills over time.
- Clear solutions need to be achieved for research student mobility between various regions to encourage research development. Where regional agreements currently exist in between some nations, there needs to be clear monitoring and mapping systems provided by regional and supra-national organisations, to uphold equity not simply for less represented groups – such as

women or ethnic minorities – but also how mobility reflects citizenship, the stage of the research process, and the research field of the student.

- To achieve effective research that contributes towards local, national, regional and global sustainable development, research students should interface with a number of relevant stakeholders in the research journey. This requires building research capacity through effective research student scholarship and training, building coalition funding practices to support new generations of research students, and creating platforms to showcase research student engagement in inter-sector partnerships. It should promote and provide a balanced engagement between the corporate sector, rather than the corporatisation of HEIs.

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