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UEM Guiding Principle 5 (Knowledge creation to application)

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UEM Essentials
Guiding Principle

5

At a glance

Guiding Principle 5
Knowledge - creation to application

Demonstrate commitment to knowledge creation, research and scholarship using leading edge knowledge in disciplines at all levels.

Deepen the knowledge of researchers as innovative workplace practitioners participating in leading edge and engaged research, and effective knowledge exchange.

KNOWLEDGE - CREATION TO APPLICATION

Technological Universities were signalled in the National Strategy for Higher Education 2030 (Anon, 2011), and their criteria and process for creation were further defined in the Towards a Future Higher Education Landscape document (Anon, 2012).

The development of Technological Universities were seen as pivotal to addressing the existing and future needs of a knowledge-based economy. Within this context a key motivation of a Technological University would be enhancing existing excellence in teaching, learning and assessment, and the curriculum overall, to support a core mission of graduate development with a specific focus on the world of work.

More recently, the Department of Further and Higher Education, Research, Innovation and Science Statement of Strategy 2021-2023 (Anon, 2021) reiterated this ongoing intent to *"develop Ireland's further and higher education and research systems to support people in reaching their full potential and to create value [and] prosperity"*.

Embedded in this is the continued enhancement of knowledge creation, research and scholarship and the translation of these into a strong knowledge-based, resilient economy that results in a "cohesive, sustainable and vibrant society" (Anon, 2021, p. 5).

INTRODUCTION

The Royal Irish Academy, Higher Education Futures Taskforce (2021) define the purpose of higher education as:

> the creation, transmission and preservation of knowledge…[and]… their combination in academia that creates unique value between research, innovation, scholarship and teaching

It is this mix of knowledge creation and transmission, in combination with knowledge documentation, and grounded in a nurturing and inclusive academic setting that allows learners and society to develop. With judicious curriculum design, knowledge creation, research and scholarship can take place at all levels and in all learning spaces in higher education. Integrating research, or research-like activities, into a curriculum can enhance knowledge creation; as can teaching through a research and scholarship lens (Barrnet, 2005).

Bridging the two pillars of higher education, teaching and research, has been explored in depth under the umbrella term of the "teaching-learning nexus". The seminal work of Jenkins and Healy (2005), which categorised the teaching-learning nexus as a matrix ranging from research-led learning to research-based learning, has been extended by Brennan and colleagues (2019) to consider the enabling role of communities of practice that symbiotically enrich the teaching and research experience of staff and the learning and research experience of the learners.

RELEVANCE TO THE UEM

A commitment to knowledge creation, research and scholarship is a central tenant of the ten Guiding Principles that form the foundation of the University Education Model (UEM). Within these Guiding Principles, the core concept of learners encountering leading edge, practitioner-based, knowledge at all levels and in all disciplines ensures learners are exposed to knowledge creation and application throughout their learning journey.

Building on this foundation, Guiding Principle 5 also values learners working directly with researchers during their learning journey.

This is a fundamental transition to encourage learners to deepen their knowledge, and also to support the development and sharing of new knowledge. Integrating, and valuing, research and research-like learning experiences for our learners will support them in becoming innovative workplace practitioners. By extending curricula that are designed based on research and scholarship, new opportunities for our learners will emerge to help develop them into researchers with the skills to participate in leading edge, as well as post-graduate, research culminating in effective and impactful knowledge exchange.

EMERGENT PERSPECTIVES

Under this Guiding Principle, students are valued as both knowledge creators and knowledge users. Students take participatory roles in research as well as shaping how knowledge is consumed and used, through a partnership model of teaching and learning. The impact of the integration of learners as valued partners in all aspects of TU Dublin echoes with Guiding Principle 1 (Student Centred and Student Engaged for Student Success) and Guiding Principle 6 (Highly Engaged Student Experience). Furthermore, the benefit of this approach is felt throughout, and beyond, the university, as detailed by Neary and Winn (2009, p. 193) in their definition of the student as producer:

There are many examples across TU Dublin of the integration of students as creators and

users of knowledge, working with leading researchers and sharing their collective findings leading to a promotion of academic advancement as well as for the betterment of society in general.

One of these examples is the SURE network: The Science Undergraduate Research Experience (SURE) Network was established by a community of Irish institutions interested in enhancing undergraduate research in the Sciences. The aim is to empower undergraduate student-focussed research activities that range from interacting with leading researchers (see SUREbyts) to publishing peer-reviewed, novel, research (see SURE_J):

> **"** undergraduate students working in collaboration with academics to create work of social importance that is full of academic content and value, while at the same time reinvigorating the university beyond the logic of market economics

SUREbyts

SUREbyts is a digital resource through with students in the early years of their undergraduate studies can engage with the research that is being undertaken by professional scientists and postgraduate research students. Students and their lecturers can select videos from our database for use in class, or in their own time. Each short video, called a SUREbyt, introduces a researcher who presents a problem related to their research. Students are invited to consider a number of possible solutions to the problem before the researcher explains their preferred solution.

SURE_J

The Science Undergraduate Research Experience Journal (SURE-J) is a high-quality, international, open access, online, double blind reviewed publication which publishes all aspects of undergraduate research in the broad Sciences. The main emphasis of the journal is on primary research articles written by the undergraduate student detailing their final year research project. SURE-J takes an inclusive, interdisciplinary and international approach and includes all aspects of undergraduate science research. The journal is open access; free of charge for all readers and is underpinned by a flexible Creative Commons licence whereby the authors retain ownership of their articles.

CHALLENGES FOR THE FUTURE

Bridging the teaching and research remits of a university can be challenging; however, it is required if all learners are to enhance knowledge creation and application, contribute to research and scholarship and concurrently positively impact on the world in which we live and society generally. Some challenging questions to reflect on when considering this Guiding Principle are:

- How might we empower students to be true partners in learning, research and scholarship throughout their learning journey?[1]
- How might we assure/enhance academic quality if students are integrated as active learning, research and scholarship partners? [1]
- How might we support academic and professional service staff to facilitate student learning as part of a partnership model? [1]
- How might we alleviate the tension between research and teaching in research-intensive/focussed institutions and foster positive synergies instead? [2]
- How might we develop policies to ensure a sustainable, beneficial and dynamic relationship between teaching and research? [2]

[#] Questions inspired by the following peer reviewed literature:
[1] (informed by Whittle, 2019), [2] (informed by Brennan, et al., 2019)

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