

TEACHING ADVANCEMENTS AT UNIVERSITIES
INSTITUTIONAL PROJECT REPORT

JULY 2023



Teaching Advancements at Universities

EVALUATING DIGITAL COMPETENCE FRAMEWORKS THROUGH A SOCIAL JUSTICE LENS

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1. Introduction

Purpose and objectives of the report

This report provides an overview of the findings and recommendations of TAU_DUT IKHONO¹ pilot project, an evaluation of digital competence frameworks using a social justice lens. An optional executive summary of the report may be accessed [here](#).

Background information on the institutional project

The global introduction of generative AI following the rapid adoption of technology-enabled teaching and learning during emergency remote teaching (ERT) amidst the recent pandemic has drawn attention to the substantial need for digital technologies related professional development for academics at the Durban University of Technology (DUT). Globally, the ‘social envelope’ (Helsper, 2008; Warschauer, 2016) that supports the digital learning environments has been acknowledged, bringing into sharper focus issues of social justice and digital equity in the learning environment. It has been widely accepted that the inequities of digital participation and access need to be recognised to ensure the effective and fair use of learning technologies. In the sphere of higher education, it has become important to appropriately design academic staff development programmes that are informed by a thorough assessment of needs and draw attention to social justice issues, digital equity as well as the digital competence of academic staff to advance digital inclusion for all.

2. Project Description

Brief overview of the project and its goals

This project serves as a pilot phase of the larger and ongoing DUT IKHONO Project, based on the premise that the unprecedented rate at which the opportunities provided by IT are growing confirms the need for institutional and professional readiness to ensure thoughtful digitalization. There is a need for a utilization of a social justice lens to evaluate existing digital competence frameworks that recognise how strongly social inequalities are intertwined with digital inequalities. The TAU_IKHONO pilot project began with an evaluation of the European Union’s digital competence framework for educators (Punie & Redecker, 2017). It’s key focus was to identify areas of convergence and possible gaps in the framework to provide a general reference frame to support the development of educator-focused digital capabilities at DUT.

The principal research question for the pilot project:

How can existing digital competence frameworks be utilised to inform and enhance academic professional programmes at DUT?

Aims

This project hoped to provide insights to inform staff development needs as well as the design and delivery of academic staff development programmes that are aligned to DUT’s strategy for technology enhanced learning. Accordingly, the IKHONO pilot project sought to:

- Establish an equity and digital capabilities focused special interest Group (SIG).
- Engage with student and academic development practitioners and educational technologists on the nature and breadth of digital equity at DUT.
- Use existing competence frameworks as a common ground for dialogue and reflection.
- Conceptualise the first iteration of a digital competence self-reflection tool for academics at DUT as a follow up phase.

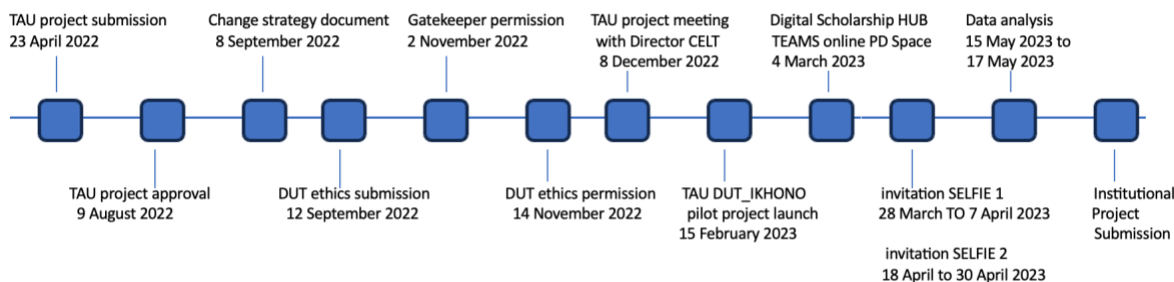
¹ IKHONO is an isiZulu term loosely translated as capability/ies in English.



- Identify focus areas for professional development to inform the design of short courses for self-directed learning opportunities.

3. Project timeline

Below is a diagrammatic representation of the key phases of the TAU_IKHONO pilot project:



4. **Key stakeholders and partners** involved in the project included: the mentors and advisors at TAU, The director and academic development and student support teams at DUT's Centre for Excellence in Learning and Teaching (CELT), as well as faculty-based Academic Development Practitioners at DUT. The research population for the IKHONO pilot study workshops included a total of 26 participants comprising 7 academic staff development practitioners, 2 educational technologists and 17 support staff at CELT.

5. Benchmarking

The digitisation of teaching and learning during emergency remote teaching (ERT) during the recent pandemic has undoubtedly drawn attention to the substantial need for digital technologies related to professional development for academics globally (Basilotta-Gómez-Pablos, Matarranz, & Casado-Aranda, 2022; Caena & Redecker, 2019) and at DUT. Moreover, it has been acknowledged that the inequities of digital participation and access (Czerniewicz et al., 2020; Selwyn, 2020) should be addressed to move beyond digitalization toward digital transformation in higher education in South Africa (Mhlanga, Denhere, & Moloji, 2022).

Currently, there are pre-existing, well-researched digital competence frameworks, such as the

- DigCompEdu framework (Punie & Redecker, 2017) from the European Union,
- Acceleration Plan: Educational Innovation with IT, a framework for digital competences of lecturers (Uerz et al., 2021) from the Netherlands,
- Holistic Framework of Teaching Competence for a Digital World (reviewed) (Castañeda, Esteve-Mon, Adell, & Prestridge, 2021) from Spain.

In this project, the focus on digital capabilities viewed through a social justice lens to foster digital inclusion was guided by Amartya Sen's Capability Approach (1979), which draws attention to enabling conditions that foster equivalent learning opportunities and the development of capabilities that contribute to both individual and collective goods (Marginson, 2014). In particular, the distinction between *capability* as an opportunity to achieve and *functioning* as the actual achievement (Sen, 1979; Walker & Unterhalter, 2007) was noteworthy.

For the institution, the appraisal of existing competence frameworks and research findings in the IKHONO pilot, as a preliminary step in the conceptualisation of requisite digital capabilities for educators at DUT, would be in alignment with the strategic objective of ENVISION2030 (Durban



University of Technology (DUT), 2020) to maximise digital systems and processes that advance 'innovative curricula and research' to be 'creative, distinctive and impactful'.

6. Methods and strategies

As a pilot study, the TAU_IKHONO project was guided by the principles of Design-Based Research accommodating the exploration of key contextual issues and allowing for multiple iterations in its design and development. The initial phase of the pilot project was guided by McKenney and Reeves' (2012) questions:

- a) What do we want to know about the problem?
- b) What do we want to know about the context?
- c) What do we want to know about stakeholder needs and wishes?

The data gathering comprised a short online survey following the first experience of completing the [European Union's Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies](#) (*SELFIE 1 in timeline*). This was followed by focus group discussion concentrating particularly on areas of convergence and identifying gaps in the digital competence framework for the DUT context. Access to the digital competence framework was made available for a second period (*SELFIE 2 in timeline*) for those who wished to revisit the framework and for those who may have missed the opportunity in the first access period. Individual conversations were also arranged with those who were unable to attend the focus group meeting.

The analysis of data emerging from the survey response document and focus group discussions was guided by the six evaluation criteria adapted from the Organisation of Economic Cooperation and Development (OECD, 2021, p. 37) viz.

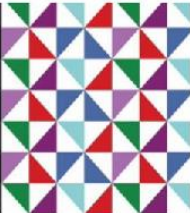
- *Impact*: Will the evaluation of international frameworks contribute toward professional development at DUT?
- *Effectiveness*: Does the examination of existing international frameworks inform the conceptualisation of digital competence at DUT?
- *Coherence*: Does the examination of the international frameworks viewed through a social justice lens help to identify synergies and gaps in the conceptualisation of digital capabilities for academics at DUT?
- *Relevance*: Does the existing competence framework/s function as a reflection tool and provide a common ground for dialogue?
- *Efficiency*: Is the utilisation of existing competence frameworks a time and cost-effective exercise?
- *Sustainability*: Will a digital competence framework result in significant and long-lasting benefits for DUT?

7. Outcomes achieved

A key outcome of this pilot project was the engagement with academic staff development practitioners on digital competence and the heightened awareness on the nature and breadth of digital in/equity at DUT. The launch of the Digital Scholarship Hub as an online special interest group provided the space for engagement on digital competence as a measure of institutional readiness for digital transformation.

Below is a list of selected suggestions emerging from the data toward the first iteration of a digital competence self-reflection tool for academics at DUT:

- *It must be useful*



- *It must not be too lengthy*
- *Academic staff and student development on digital fluency*
- *The digital competence tool must be designed to accommodate updates*
- *It should include social justice awareness as a focus areas.*
- *Promote increased awareness of the impact of limited access on students' learning opportunities*
- *Increase awareness of bias, discrimination, and misinformation in digital environments*
- *Potential use of AI for social good, e.g. translation tools*
- *A self-assessment digital competence tool for students would be good*
- *Include micro-credentialling or digital badges*

Below is a summary of areas of overlap and gaps that were identified by participants.

SELFIE_ FOCUS AREAS OF OVERLAP

Leadership
 Collaboration and networking.
 Infrastructure and equipment.
 Continuing professional development.
 Pedagogy, support, and resources.
 Pedagogy, implementation in the classroom.
 Assessment practices.
 Student digital competence.
 Factors inhibiting the use of technology.
 Factors enabling the use of technology.

SELFIE _ GAPS_DIVERSITY, EQUITY, AND INCLUSION & SOCIAL JUSTICE

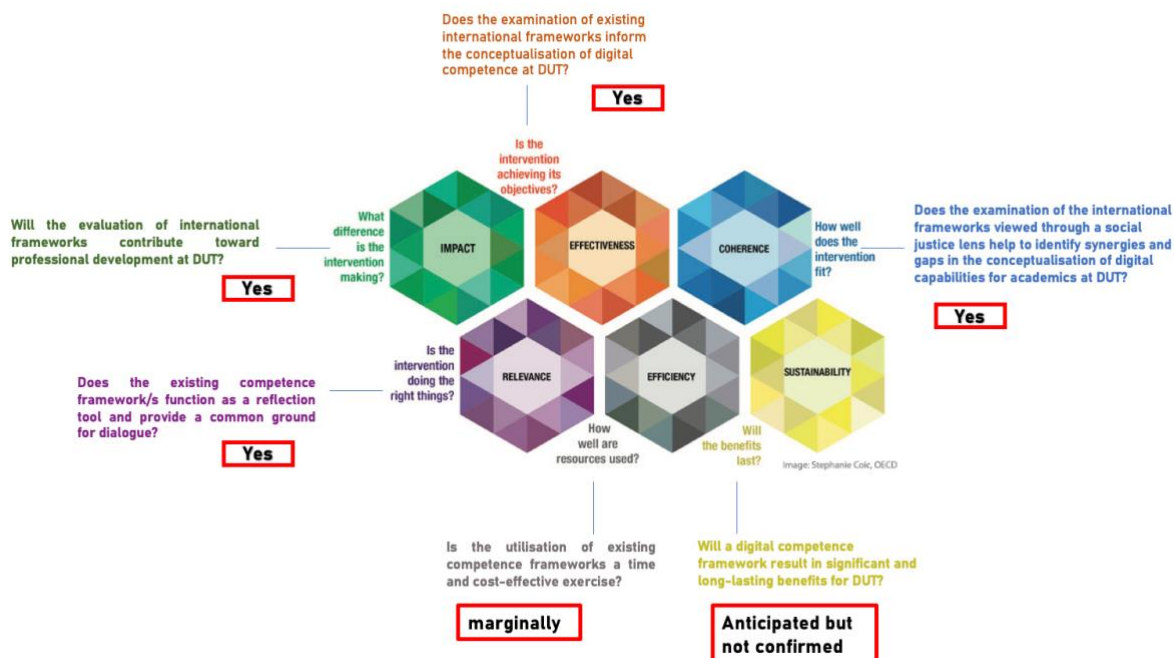
Access and Infrastructure.
 Diversity, Equity & Inclusivity focus.
 Digital Literacy and Skills Development.
 Culturally Responsive and Multilingual Approaches.
 Critical Engagement on the Technology.

Below is a list of social justice-related competencies relevant to a South African University of Technology as emerged from the focus group discussion:

- awareness of the inequalities implicit in online education.
- need for pedagogic flexibility as a capacity for digital improvisation.
- the need for teachers to display high levels of digital empathy, care, and compassion towards their students.
- awareness of preparation time and planning required for well-designed online classes.
- awareness of knowing what not to do with technology as a key digital competence.
- The need for compassion is the core competency of being able to exercise digital restraint.



8. Summary of findings based on OECD (2021) criteria



9. Strengths and weaknesses of the project

The choice and use of the design-based research approach for the pilot has been a strength allowing me to redesign and realign the outcomes of the larger DUT_IKHONO project. While a pilot project can serve as a foundation for evidence-based decision-making, allowing for data-driven adjustments and improvements to maximize the impact of the digital competence framework, it must be noted that the population sample (*details in a footnote on page 3*) of this pilot was not representative of the general academic staff population. Conclusions, therefore, could not be made on the value of a digital competence framework for the academic institution as a whole.

10. Challenges and Opportunities

The delay in acquiring ethical clearance affected the project timeline and limited the evaluation to one digital competence framework. The pilot project was unable to identify specific focus areas for professional development to inform the design of short courses for self-directed learning opportunities. This has been included in the design of the next phase of the larger DUT_IKHONO Project which includes amongst others: i) to conduct an institution-wide assessment of current digital competence levels, ii) to develop faculty-specific targeted interventions, iii) to promote participation in the digital scholarship hub to foster a digital-friendly environment that encourages research, collaboration, innovation, and knowledge sharing.

Should there be growing interest, it would be good to follow the European Union (EU) example by proposing a provincial or national interest group for the development of a digital competence framework for university management, academics and students.



11. Recommendations

Recommendations for the first iteration of a digital competence self-reflection tool for academics at DUT include ensuring its usefulness and conciseness, providing opportunities for academic staff and student development in digital fluency, accommodating regular updates, and incorporating social justice awareness as a focus area. Furthermore, promoting awareness of limited access impact on students' learning opportunities, addressing bias and discrimination in digital environments, and exploring the potential use of AI for social good were identified as essential considerations.

However, it should be noted that the pilot project's population sample was not fully representative of the general academic staff, limiting the ability to draw conclusive insights about the value of a digital competence framework for the entire institution. Additionally, delays in acquiring ethical clearance impacted the project timeline and evaluation of multiple digital competence frameworks. To address these shortcomings in the next phase, it is recommended that all academics at DUT be invited to voluntarily participate in the Digital Scholarship Hub (SIG) to explore the value of a digital competence framework specifically for DUT academics. This strategy could help overcome the limitations of the pilot project and ensure broader input.

12. Appreciation

A special note of appreciation to Professor Maphalala (Director: CELT) and Professor Lewis (Advisor: TAU) for their support and encouragement and to all my colleagues at the Durban University of Technology who willingly shared their time and suggestions on a digital competence framework via the activities designed for the TAU_IKHONO pilot project.

Links to EU DigCompEdu and SELFIE resources:

DigCompEdu Check in for Higher Education
https://ec.europa.eu/eusurvey/runner/CheckIn_HE_v2021_EN

European Union's Self-reflection tool for Effective Learning by Fostering the use of Innovative Educational Technologies
<https://education.ec.europa.eu/selfie>



REFERENCES

- Basilotta-Gómez-Pablos, V., Matarranz, M., & Casado-Aranda, L. (2022). Teachers' digital competencies in higher education: a systematic literature review. *International Journal of Educational Technology in Higher Education*, (19). Retrieved from <https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-021-00312-8#citeas>
- Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (DIGCOMPEDU). *European Journal of Education*(54), 356-369. doi:DOI: 10.1111/ejed.12345
- Castañeda, L., Esteve-Mon, F. M., Adell, J., & Prestridge, S. (2021). International insights about a holistic model of teaching competence for a digital era: the digital teacher framework reviewed. *European Journal of Teacher Education*. doi:10.1080/02619768.2021.1991304
- Czerniewicz, L., Agherdien, N., Badenhorst, J., Bellugi, D., Chambers, T., Chili, M., . . . Wissing, G. (2020). A Wake-Up Call: Equity, Inequality and Covid-19 Emergency Remote Teaching and Learning. *Postdigital Science and Education*, 2(3), 946-967. doi:10.1007/s42438-020-00187-4
- Durban University of Technology (DUT). (2020). *DUT strategy map interpretation guide*. Retrieved from Durban <https://www.dut.ac.za/wp-content/uploads/2020/03/Envision-2030-strategy-map.pdf>
- Helsper, E. J. (2008). *Digital Inclusion: An Analysis of Social Disadvantage and the Information Society*. Retrieved from West Yorkshire: https://www.researchgate.net/publication/41308950_Digital_Inclusion_An_Analysis_of_Social_Disadvantage_and_the_Information_Society
- Marginson, S. (2014). Higher Education and Public Good. In P. Gibbs & R. Barnett (Eds.), *Thinking about Higher Education*. London: Springer.
- McKenney, S., & Reeves, T. C. (2012). *Conducting Educational Design Research*. London: Routledge.
- Mhlanga, D., Denhere, V., & Moloi, T. (2022). COVID-19 and the Key Digital Transformation Lessons for Higher Education Institutions in South Africa. *Education Sciences*, 12(7). doi:
- OECD. (2021). *Applying Evaluation Criteria Thoughtfully*. Retrieved from Paris: https://www.oecd-ilibrary.org/development/applying-evaluation-criteria-thoughtfully_543e84ed-en
- Punie, y., & Redecker, C. (Eds.). (2017). *European Framework for the Digital Competence of Educators: DigCompEdu*. Luxembourg: Publications Office of the European Union.
- Selwyn, N. (2020). Online learning: Rethinking teachers' 'digital competence' in light of COVID-19. *Lens*. Retrieved from <https://lens.monash.edu/@education/2020/04/30/1380217/online-learning-rethinking-teachers-digital-competence-in-light-of-covid-19>
- Sen, A. (1979). *Equality of What?* Paper presented at the The Tanner Lecture on Human Values, Stanford University. https://www.ophi.org.uk/wp-content/uploads/Sen-1979_Equality-of-What.pdf
- Uerz, D., van Zanten, M., van der Neut, I., Tondeur, J., Kral, M., Gorissen, P., & Howard, S. (2021). *A digital competences framework for lecturers in higher education*. Retrieved from Utrecht: <https://www.versnellingsplan.nl/wp-content/uploads/2022/03/A-framework-for-digital-competences-of-lecturers.pdf>
- Walker, M., & Unterhalter, E. (Eds.). (2007). *Amartya Sen's Capability Approach and Social Justice in Education*. New York: Palgrave Macmillan.
- Warschauer, M. (2016). Addressing the Social Envelope: Education and the Digital Divide. In C. Greenhow, J. Sonnevend, & C. Agur (Eds.), *Education and Social Media. Toward a Digital Future* (pp. 29-48): The MIT Press.