2022

A New Approach to Self-Assessment of Community Engagement: A Case Study of Technological University Dublin.

Emma O'Brien
Technological University Dublin, emma.obrien@tudublin.ie

Martina Brophy
Technological University Dublin, martina.brophy@tudublin.ie

Thomas M. Cooney
Technological University Dublin, thomas.cooney@tudublin.ie

A New Approach to Self-Assessment of Community Engagement:

Case Study of Technological University Dublin

Emma O'Brien, Martina Brophy, Thomas M. Cooney

Abstract

Building upon existing international tools, the TEFCE Toolbox for community engagement represents an innovative, robust, and holistic framework to support universities in reflecting upon their community engagement. Through a case-study approach this paper highlights the piloting of the TEFCE toolbox at Technological University Dublin (TU Dublin), Ireland. Through an inclusive and participatory methodology, the process facilitated the recognition of community engagement achievements and the identification of potential areas for improvement.

A New Approach to Self-Assessment of Community Engagement:

Case Study of Technological University Dublin.

The EU-funded project *Towards a European Framework for Community Engagement in Higher Education* (TEFCE, www.tefce.eu) sought to develop innovative and feasible policy tools at the university level for supporting, monitoring and assessing the community engagement of universities. The TEFCE project defines community engagement as a process whereby universities engage with external organizations to undertake joint activities that can be mutually beneficial even if each side benefits in a different way. This paper presents a case study of the implementation of this toolbox at Technological University Dublin (TU Dublin) and offers insights for any university seeking to undertake a participatory approach to self-assessment of their community-engagement activities.

Understanding Community Engagement

The engagement of universities[1] with external communities to address societal challenges has gained increased prominence in recent years (Larrán Jorge & Peña, 2017; Pinheiro et al, 2015). This is reflected in the debate on the roles of universities in meeting the UN's 2030 Agenda for Sustainable Development (Chankseliani & McCowan, 2021; GUNI, 2019) and on the importance of Responsible Research and Innovation (European Commission, 2020). The global Covid-19 Pandemic has further highlighted the importance of community engagement by universities, and the need to mobilise knowledge and resources in rapid response to the crisis (Farnell et al, 2021).

Community engagement is a multi-faceted, multidimensional term that may be applied to a vast range of activities, with little consensus regarding a common definition of community

---

[1] This paper uses the term 'university' to refer to all forms of tertiary higher education institutions.

engagement or set of principles (Ćulum Ilić, 2018). More recently, Community Engagement (CE) refers to partnerships between universities and their external communities to address societal needs. From this perspective, the term 'community' includes public authorities, businesses, cultural institutions, and civil society. Benneworth et al, 2018, p7) suggested that:

> *''Community-engagement is a process whereby universities engage with external organisations to undertake joint activities that can be mutually beneficial, even if each side benefits in a different way.'*

This broad definition reflects a point that is strongly emphasised in the literature: that the principle of mutual benefit is central to community engagement (Sandmann, 2008; Benneworth, 2009; Goddard et al., 2016; Carneige Elective Classification, n.d.; NCCPE, n.d.). Moreover, in this understanding *"university knowledge helps societal partners to achieve their goals and societal partners' knowledge enriches the university knowledge process"* (Benneworth et al, 2018).

The increasing international emphasis on connecting universities with society has led to the development of several tools to assess and evaluate community engagement ranging from the Holland (1997) matrix for analysing institutional commitment to service to the Carnegie Elective Classification of Community Engagement (Carnegie Elective Classifications (n.d.) and the UK-based EDGE self-assessment tool for public engagement (NCCPE, n.d.) (Furco & Miller, 2009; Le Clus, 2011; Farnell and Šćukanec, 2018). Despite the range of international initiatives, there remains an absence of tools that address the context specific nature of community engagement (Laing and Maddison, 2007; Hazelkorn, 2016). In addressing this situation, Farnell et al (2020) proposed the development of an alternative approach to existing methods. The TEFCE Toolbox builds upon existing tools and adopts a slightly different approach, placing an emphasis on participatory approaches (university and community partner dialogue) and focusing on the authenticity of engagement.

Organised around seven recognised thematic dimensions of community engagement in higher education (Teaching and Learning, Research, Service and Knowledge Exchange, Students, University-level Engagement Activities, Institutional Policies, and Supportive Peers), the TEFCE Toolbox guides users through a process to identify community engagement practices at their institution and then encourages participative discussions with multiple stakeholders (internal and external) that results in an 'institutional community-engagement heatmap' for the university as a whole indicating:

- the level of authenticity of community engagement practices

- the range of societal needs addressed through community engagement

- the diversity of communities engaged with

- the extent to which community engagement is spread across the university

- and the extent to which the engagement practices are sustainable

The Toolbox incorporates a customised analytical framework "SLIPDOT analysis" (referring to Strengths, Areas of Lower Intensity, Areas with Potential for Development, Opportunities and Threats). This allows for universities to gain further insight on community engagement whilst considering issues of geographical context, disciplinary mix, scarcity of resources, research and teaching base and future opportunities for development. Through an empirical case study, this paper follows the implementation of the novel TEFCE Toolbox within "a large public university in Ireland" its surrounding communities, and it explores the insights on community engagement gained through the process. The primary objective of the research for the case study was to undertake a detailed self-assessment of the university's community engagement activity and offer recommendations for future actions by the university.

Methods

4

The unit of analysis of this case study is TU Dublin and the data gathering for this case study was prescribed by the TEFCE toolbox piloting methodology. The various stages and methodology of the TEFCE Toolbox is outlined in Table 1 and its application at " a large public university in Ireland" is detailed in the proceeding section.

Table 1. TEFCE Toolbox Methodology

Stage 1	Quick scan	Initial discussion by university/community team on the type and extent of community engagement at the university.
Stage 2	Evidence Collection	Collecting stories of community-engaged practitioners throughout the university
Stage 3	Mapping Report	Using the TEFCE Toolbox matrix to map the level of community engagement of the university and to identify good practices, resulting in a background report.
Stage 4	Participative Dialogue	Open discussions among university management, staff, students and the community on strengths and areas of improvement
Stage 5	Institutional report	Promoting good practices and impact, and critical self-reflection for planning improvements to university-community engagement

Source: Farnell et al. 2020

From March to November 2019, a two-member research team (also known as the local project team) engaged multiple stakeholders through a longitudinal and multi-phased approach to data collection. First, a series of one-to-one meetings was conducted with several representatives from TU Dublin (institutional leadership, academic and support staff and students), the Grangegorman Development Agency (a national flagship urban regeneration initiative), and various community organizations to establish the TU Dublin pilot team. These meetings provided an opportunity to share the goals of the TEFCE project with community-engaged staff.

Second, a quick scan meeting, which is an initial discussion designed to assess the type and extent of community engagement at the university, was undertaken by the TU Dublin pilot team in April 2019. During the half-day meeting, the pilot team shared with the local project team their knowledge of the various community engagement practises across TU Dublin and

sketched them across the various dimensions of the TEFCE framework. The pilot team also suggested follow-up contact details to enable the local project team to investigate further practise at TU Dublin. At this meeting, some preliminary levels of community-engagement were assigned across each of the dimensions (TEFCE Toolbox Stage 1).

Third, the local project team undertook desk and field-based research to uncover community-engaged practices at TU Dublin. Between June and November 2019, the project team engaged in desk-based research (i.e. reviewing reports, news articles and a database of community-engaged practice that had been gathered by TU Dublin for a Carnegie Community Engagement Application and recent application by the organization for Technological University Status) and several face-to-face meetings with university and community representatives (TEFCE Toolbox Stage 2). TEFCE templates requesting details of sample community-engagement activities were circulated to informants for completion. At the end of the process, nine detailed samples were gathered, in addition to another document containing details of 21 exemplars (a further database of basic information regarding 120 exemplars was also available) (TEFCE Toolbox Stage 3).

Fourth, a two-day peer-learning visit was organized whereby the pilot team and the expert team, members of whom developed the TEFCE piloting methodology, gathered at the TU Dublin flagship campus to discuss the findings. On the first day an extensive array of presenters from both TU Dublin and the local community shared vignettes of community-engaged practise at TU Dublin (TEFCE Toolbox Stage 4). The first day also provided an opportunity for the TU Dublin pilot team to share their recommendations on improving the TEFCE toolbox. The team suggested that while the toolbox was a useful way for gathering qualitative data related to community engagement, elements of the process were complicated and demanding. Overall, the team agreed that developing a partnership approach and gaining stakeholder support is key to successful implementation of the Toolbox. On the second day,

the expert team and the pilot team analysed community-engagement at TU Dublin using the SLIPDOT framework. After the piloting visit, the narratives about the community-engagement practices were finalised (where necessary) and an institutional report was developed (TEFCE Toolbox Stage 5).

Analysis of TU Dublin Using the TEFCE Framework

The TEFCE Framework guided TU Dublin to assess its level of community-engagement according to seven thematic dimensions: Teaching and Learning, Research, Service and Knowledge Exchange, Students, University-level Engagement Activities, Institutional Policies and Supportive Peers. It should be noted that the framework is not intended to catalogue all community-engaged practices of a university, but instead it aims to initiate a robust, qualitative evidence-collection process that the users believe reflects the variety and diversity of the university's community engagement activities.

Based upon a review of community-engaged practices happening in TU Dublin , an analysis of activities was undertaken using the TEFCE Framework. The following are the broad findings detected for each thematic dimension of the framework:

1.   Teaching and Learning - While strategic plans exist at university-level, some schools and locations are not yet proactively involved in embedding community engaged practices in teaching and learning activity. Additionally, TU Dublin remains more heavily biased towards engaging with enterprises and further work is required to support vulnerable and hard-to-reach groups through teaching and learning. The Students Learning with Communities (SLWC) program is a leading example of how community engagement with under-served communities may be embedded into

teaching and learning to enhance the learning experience for students, academics and external communities.

2.   Research - The authenticity of engagement is genuine as TU Dublin has made a strategic commitment and provided appropriate resourcing to supporting research activity in this space. The research activity that occurs seeks to engage with vulnerable communities in a meaningful manner, but research activity remains within a small group of active researchers which makes institutional sustainability a challenge. The current situation is that there is a strong engagement focus by the university with industry and enterprise.

3.   Service and Knowledge Exchange – TU Dublin originates from a vocational educational background when originally founded in the late 19th century. Throughout its history it has offered a wide array of education programs for apprentices and craftspeople, which has ensured that the organisation has continuously addressed service and knowledge exchange. Furthermore, university staff have frequently contributed to the development of professional organizations which means that TU Dublin staff are frequently members of national and international policy and practitioner expert groups addressing a variety of societal needs at very high levels of government and professional bodies.

4.   Students - The historic background of TU Dublin providing vocational education through apprenticeship programs has meant that students have always been close to practice and linked to industry. The nature of apprenticeships is experiential learning and this tradition has been maintained by students and teachers alike as the organisation has grown into an internationally ranked university.

5.   University-level Engagement Activities - The university has particularly strong relationships with professional bodies and with trade associations, since it has trained

their people for over a century. The collaboration has developed into exemptions for professional examinations and the co-design of content and structure of programs. The university is deeply committed to continuing this rich history of collaboration and has embedded this allegiance to mutually-beneficial partnerships with external communities through its strategies and resourcing. The masterplan for the new flagship Grangegorman campus has been developed over a number of years arising from deep consultation and mutually beneficial partnerships between TU Dublin, Dublin City Council, and the local community .

6. Institutional Policies - Across its different incarnations as an educational institution (the various Technical Colleges, Dublin Institute of Technology and TU Dublin), the commitment to interacting with local communities has always been very strong. However, in recent times an even deeper commitment has been made by senior management to this activity by recognising its value to education through its proactive initiatives (e.g. Access and Civic Engagement Office) and through its reward mechanisms for staff and students who effectively engage in such activities.

7. Supportive Peers - The biggest challenge facing the sustainability of this dimension is the need by staff to publish in academic journals. While the university recognises and values community-engagement, academic careers are more likely to be enhanced by publications than by community-engagement, particularly if a person is seeking to get a position in another university that might not value community-engagement in the same manner as TU Dublin. Balancing the desire to engage in community-based activities while also developing one's career will continue to be a struggle for many staff members.

The analysis was undertaken by employing each sub-dimension of the seven thematic dimensions which led to a meticulous uncovering of the key activities, plus their strengths and

area of lower intensity, relating to the university's community engagement endeavours. The review recognized that the university did not seek to be strong in every dimension or sub-dimension, since strategic decisions were taken by senior management about where its resources and priorities should be allocated.

The analysis of the dimensions also enabled the university to get a very strong understanding of its current position regarding its current commitments to community engagement. This process was assisted by participative dialogue with stakeholders including community partners and utilisation of the SLIPDOT analysis framework. Table 2 presents an overview of the SLIPDOT analysis at TU Dublin with detailed discussion and examples provided in the proceeding section.

Table 2.TU Dublin TEFCE SLIPDOT Analysis

STRENGTHS
- Development of the new city campus could help to strengthen CE activities at TU Dublin.
- TU Dublin management demonstrate a clear commitment to CE (i.e., institutional recognition).
- Organisational structures for CE help academics in the implementation of CE activities.
- TU Dublin encourages students' engagement in problem solving to aid their communities.
- TU Dublin engages in extensive dialogue with different internal and external stakeholders, creating a socially responsible learning and teaching environment.
- Dublin City Councial and TU Dublin have worked in partnership on the development of the Grangegorman campus alongside several other partners.

LOWER INTENSITY
- CE at TU Dublin is not institution wide (i.e., not all study programmes have a CE component).
- Need for proper workload allocation for lecturers that will enable effective CE implementation.
- More help is needed for CE from centralized services.
- There is a limited support structure at TU Dublin for engaged research.
- TU Dublin has a primary focus on research activities that produce economic benefits and on publishing scientific articles. CE does not have the same level of priority as research.

POTENTIAL FOR DEVELOPMENT
- Bolster CE through greater interdisciplinarity across departments in TU Dublin.
- Improve organisational structures that are necessary for effective implementation of CE.
- Focus more on community stakeholders with fewer resources and less so on industry sector.
- Collaborate with other universities on CE. The Higher Education Authority (public agency) could provide funding that fosters collaboration on CE between universities.
- Maintain structures for building relations with community (e.g. foster work of the GDA).

OPPORTUNITIES
- The newly merged university strategy represents an opportunity for building CE strategic goals.
- Focus more towards SDGs, which could serve as a driver for positive change.
- Include students more actively in the campus development plans.
- National depopulation trends could help with creating collaborative CE goals, which, in turn, could support the development of disadvantaged areas around the new campus.
- European support for CE could lead to new funding for CE in Ireland and at the EU level.
- Potential opportunity for universities that are successful in implementing CE activities to be incentivized financially (e.g., KPIs for CE in performance agreements).
- Collaboration between TU Dublin, local and national government on developing the Grangegorman area represents a potential for the enhancement of CE activities.

THREATS
- A change in current priorities at TU Dublin, due to the new merger, could negatively impact CE.
- Compliance and regulations (as a consequence of the merger and of the development of new structures and procedures) could hinder development of CE at TU Dublin.
- Hierarchy at TU Dublin could hinder flexibility in decision-making regarding CE activities.
- "Research on the top, CE on the bottom" – new strategic priorities of the newly established university could hinder development of CE.
- Grangegorman campus will receive a substantial number of students in a very short period; student integration into the local community may present a challenge.
- New Public Management (NPM) tools introduce competition in the HE sector and the HEIs will try to sell CE using NPM-wording and NPM-approach: this is inconsistent with the spirit of CE.
- Insufficient funding for CE at TU Dublin .

Source: O'Brien et al, 2021

Overall, it was recognised that TU Dublin has a long tradition of extensive community and civic engagement demonstrating a strong and positive impact on the city of Dublin and the surrounding region in terms of economic development and the broader societal benefit that this brings. At the highest level (senior management) within the university, there is a clear allegiance to community engagement and the new campus at Grangegorman has been designed with a focus on community benefit. For example, through the Grangegorman Development Agency, TU Dublin has collaborated with partners including the Health Service Executive (HSE), Dublin City Council and the local community in delivering a vision for the regeneration of Dublin's North West inner city. Flagship projects such as the Students Learning with Communities (SLWC) demonstrate the embedding of community engagement within teaching and learning at TU Dublin. Furthermore, the university's leading role in several community development research projects (e.g. Area Based Childhood, ABC project) highlight its commitment to the co-creation of academic and community knowledge for societal benefit.

Regarding areas of lower intensity, just 1-in-3 study programs have an element that includes a community-based learning component for students, and so this aspect of learning has yet to be embedded within all study programs. During the research gathering, TU Dublin academic staff, students and external stakeholders stressed the importance of the service provided by the Access and Civic Engagement office. It was argued that increasing centralised support would further assist academic staff in their commitment to community engagement. Additionally, there is a need to establish a proper workload allocation model for academic staff for community engaged learning and associated teaching and research. Unfortunately, community engagement currently has less emphasis for many staff due to their personal need to focus on scientific research and publishing.

The new campus development at Grangegorman, represents significant potential for the further development of community engaged practice at TU Dublin. Facilitating a move from

disciplinary silos to interdisciplinarity could have a positive influence on community engaged practice at TU Dublin. Through the national office of Campus Engage, there is significant potential for TU Dublin to collaborate with other Irish universities in the field of community engagement. Moreover, the foundational structures and relationships which have been established with the local community with the support of the Grangegorman Development Agency should continue to be fostered. A threat remains that TU Dublin's new status and strategic priorities could negatively influence the current structures and activities for community engagement. Yet with the institution's track record across the Dublin region and its new strategic plan, it is envisaged that positive developments relating to community engagement will continue at TU Dublin.

The current elaboration of TU Dublin 'Infinite Possibilities' Strategic Plan to 2030 (with its focus on the three pillars of People, Planet and Partnership) provides a great opportunity for broadening the definition of how TU Dublin can serve society. Developed through the lens of the UN Sustainable Development Goals (SDGs), this provides an opportunity for TU Dublin to develop its community engagement agenda, particularly given the international attention for community engagement through the impact of the SDGs. European trends in higher education are supportive of community engagement and building on this report there is scope for collaboration and enhanced community engagement at TU Dublin.

Conclusion

Informed and inspired by existing self-assessment tools and frameworks, the TEFCE Toolbox aims to build upon them by placing emphasis on participatory approaches and focussing on the authenticity of engagement. This is attained by allowing for a flexible and context-specific understanding of what forms community engagement can take and by adopting an approach that is qualitative, developmental, reflective, and participative, rather than

quantitative, judgemental, normative and desk-based. Embarking on a learning journey, institutional findings are validated through dialogue between the university and its external communities. In addition to TU Dublin, the TEFCE tool has been applied in several diverse universities (O'Brien et al, 2021) recognising the TEFCE Toolbox as a novel framework for community engagement in higher education that can be utilised across different countries, irrespective of institutional, socioeconomic, and cultural contexts. Universities are being increasingly called upon to contribute to their surrounding communities and regions and the TEFCE Toolbox is a novel, alternative framework that support's universities in this pursuit.

References

Benneworth, P. (2009). *The challenges for 21st century science: A review of the evidence base surrounding the value of public engagement by scientists. Working paper prepared for the Science for All Expert Group*.

Benneworth, P.S., Ćulum, B., Farnell, T., Kaiser, F., Seeber, M., Šćukanec, N., Vossensteyn, H. & Westerheijden, D.F. (2018). *Mapping and Critical Synthesis of Current State-of-the-Art on Community Engagement in Higher Education*. Zagreb: Institute for the Development of Education.

Carnegie Elective Classifications (n.d.) Carnegie Classification for Community Engagement. Accessed on 24.02.22 at: https://carnegieelectiveclassifications.org/the-2024-elective-classification-for-community-engagement/

Chankseliani, M., & McCowan, T. (2021). Higher education and the sustainable development goals. *Higher Education*, *81*(1), 1-8.

Ćulum Ilić, B. (2018). Literature review: Dimensions and current practices of community engagement. In: Benneworth et al., *Mapping and Critical Synthesis of Current State-of-the-Art on Community Engagement in Higher Education*. Zagreb: Institute for the Development of Education.

European Commission (2020) *Responsible Research and Innovation* https://ec.europa.eu/organisations/horizon2020/en/h2020-section/responsible-research-innovation Accessed 24.02.22

Farnell, T., Ćulum Ilić, B., Dusi, D., O'Brien, E., Šćukanec Schmidt, N., Veidemane, A., Westerheijden, D. (2020). *Building and Piloting the TEFCE Toolbox for Community Engagement in Higher Education*. Zagreb: Institute for the Development of Education

Farnell, T., Skledar Matijević, A., Šćukanec Schmidt, N. (2021). The impact of COVID-19 on higher education: a review of emerging evidence*, NESET report*, Luxembourg: Publications Office of the European Union.

Furco, A., & Miller, W. (2009). Issues in benchmarking and assessing institutional engagement. *New Directions for Higher Education*, *2009*(147), 47-54.

Global University Network for Innovation [GUNI] (2019). *Implementing the 2030 Agenda at Higher Education Institutions: Challenges and Responses.* Accessed on 24.02.22 at: https://www.guninetwork.org/files/guni_publication_implementing_the_2030_agenda_at_higher_education_institutions_challenges_and_responses.pdf

Goddard, J., Hazelkorn, E., Kempton, L. & Vallance, P. (Eds.) (2016). *The Civic University: The Policy and Leadership Challenges*. Cheltenham: Edward Elgar

Hazelkorn, E. (2016). Contemporary debates part 1: theorising civic engagement. In T. Goddard, E. Hazelkorn, L. Kempton, & P. Vallance (Eds.), *The Civic University: The Policy and leadership challenges*. Cheltenham: Edward Elgar Publishing

Holland, B. (1997). Analyzing institutional commitment to service: A model of key oganizational factors. *Michigan Journal of Community Service Learning* 4(1), 30-41.

Laing, S., & Maddison, E. (2007). The Cupp model in context. In A. Hart, E. Maddison, & D. Wolff (Eds.), *Community-university partnerships in practice* (pp. 8–20). Leicester: The National Institute of Adult Continuing Education.

Larran Jorge, M. and Andrades Peña, F.J. (2017), Analysing the literature on university social responsibility: a review of selected higher education journals, Higher Education Quarterly, Vol. 71 No. 4, pp. 302-319.

Le Clus, M. (2011). TaME Tracking and Measuring Engagement: A Review of the Literature. *Australian Universities Community Engagement Alliance* (AUCEA): 1-47.

National Co-ordinating Centre for Public Engagement [NCCPE] (n.d.). *The Engaged University: A Manifesto for Public Engagement*. Retrieved on 22.02.22 from: https://www.publicengagement.ac

O'Brien, E., Cooney, T.M. and Brophy, M (2021) Summary TEFCE Report on Community Engagement in TU Dublin. Dublin: TU Dublin

O'Brien, E., Ilic, B. Ć., Veidemane, A., Dusi, D., Farnell, T., & Schmidt, N. Š. (2021). Towards a European framework for community engagement in higher education–a case study analysis of European universities. *International Journal of Sustainability in Higher Education*.

Pinheiro, R., Langa, P.V. & Pausits, A. (2015). The institutionalization of universities' third mission: Introduction to the special issue. *European Journal of Higher Education 5*(3), 227- 232.

Sandmann, L.R. (2008). Conceptualization of the scholarship of engagement in higher education: A strategic review, 1996–2006. *Journal of Higher Education Outreach and Engagement* 91-104.

Acknowledgements

_____

Dr. Emma O'Brien

Emma O'Brien is a lecturer and researcher in the College of Arts and Tourism, Technological University Dublin, Ireland. Emma's key research interests are in the area of entrepreneurship and community engagement. She has published and presented widely in these fields.

Address: College of Arts and Tourism, TU Dublin, Grangegorman, Dublin 7

Web: www.tudublin.ie **Linkedin**: https://www.linkedin.com/in/obrienemma

Email: emma.obrien@tudublin.ie **Twitter:** @obrienemma **T**:+353 1 2208227

Prof. Thomas Cooney

Thomas Cooney is Professor of Entrepreneurship at the Technological University Dublin. He is a policy advisor to Governments, European Commission, OECD and other international organisations. He has published 11 books and presented widely on entrepreneurship, particularly around minority entrepreneurship.

Address: College of Business TU Dublin, Aungier Street, Dublin 2.

Web: www.thomascooney.ie **Email:** Thomas.cooney@tudublin.ie

Twitter: @thomascooney

Martina Brophy, M.Sc.

Martina Brophy is a senior researcher in the School of Marketing, Technological University Dublin, Ireland. Martina's research interests include entrepreneurship and she has published in the areas of women's entrepreneurship and family business entrepreneurship.

Address: School of Marketing, TU Dublin, Aungier Street, Dublin 2.

Web: www.tudublin.ie **Linkedin**: https://www.linkedin.com/in/martinabro/

Twitter: @MartinaBrophy **Email**: martina.brophy@tudublin.ie