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A rose by any other name? Transdisciplinarity in the context of UK research policy

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ABSTRACT

This paper assesses developments in transdisciplinary research in the UK. While we support the thesis that transdisciplinarity is still not mainstream and is rarely supported per se by funders of research, this paper examines the extent to which UK research policy has embraced the concept of transdisciplinarity. Five empirical case studies provide data about the interrelationship between the interdisciplinary and impact or knowledge exchange aspirations of Research Council UK (RCUK) investments. We find evidence that, to an extent, UK research funding policy is achieving some elements of transdisciplinarity in practice, if not in name.

Drawing on broader debates about the limitations of knowledge mobilisation and the challenges of conducting interdisciplinary research, we reflect on how the situation has changed since our original 2004 paper. The evidence suggests that the absence of the 'transdisciplinary' label is not necessarily impeding the framing of research funding schemes oriented towards societal issues. Nevertheless, several areas where capacity-building is required, including training for early career interdisciplinary researchers; improved research leadership skills; and the capacity to evaluate the quality of transdisciplinary processes and to learn from such evaluations, are identified.

1. Introduction

Transdisciplinary research has been described as a form of extended knowledge production (Mobjörk, 2010) where a variety of internal and external drivers prescribe different versions of transdisciplinary practice (Russell, Wickson, & Carew, 2008). While acknowledging that definitions vary with cultural contexts (e.g. Newell, 2013; Pohl et al., 2011; Wickson, Carew, & Russell, 2006), we take the broad view that transdisciplinarity is characterised not only by interdisciplinary integration but also by the involvement of non-academic stakeholders in the research process, in part to address the 'applicability gap' identified by Lawrence and Despres (2004). Some theorists distinguish transdisciplinarity as collaborative knowledge generation between researchers and stakeholders; in other cases, collaboration is broadened to include consideration of the experiences of those people affected by the research (Wickson et al., 2006). Approaches that seek to involve potential research users in order to address 'real world' problems and crosscutting 'grand challenges' have become

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increasingly common in the research agendas of both national and supra-national funding bodies (e.g. Horizon 2020; LERU, 2013; LWEC, 2012).

Many scholars have previously offered detailed definitions of the terms 'multidisciplinary', 'interdisciplinary' and 'transdisciplinary' (e.g. Hirsch Hadorn et al., 2008; Siedlok & Hibbert, 2014; Tress, Tress, & Fry, 2005) and have sought to encourage a more consistent adoption of the nomenclature (Baveye, Palfreyman, & Otten, 2014). What is clear is that there is still no consensus on these definitions (Lawrence, 2010) despite a debate stretching back over 40 years (OECD/CERI, 1972). Without wishing to revisit these scholarly discussions, it is worth stating that, in this article, we distinguish between 'interdisciplinarity', which for us is usually characterised by collaboration and the integration of concepts and methods (and in turn may lead to the creation of new concepts and knowledge) and 'transdisciplinarity' which takes this a stage further and may represent a different kind of knowledge production, embracing both scientific and other types of knowledge and characterised by a focus on applied research and the involvement of a broader range of expertise, including potentially the end users of such research. However, many would consider that both interdisciplinarity and transdisciplinarity share some similar research processes and indeed many, within the UK research community at least, might use the terms in a rather unreflective and interchangeable fashion.[1]

While we support the thesis of this special issue that transdisciplinarity is still not mainstream and is rarely supported per se by funders of research, this article investigates the extent to which UK research policy has embraced the concept of transdisciplinarity, in practice if not in name.[2] We present research evidence from five empirical case studies, supplemented with a small number of additional interviews with key informants, to assess whether there is an interrelationship between interdisciplinary and impact (or knowledge exchange)[3] aspirations.

These twin foci on research that both crosses disciplinary boundaries and reaches out beyond the academic world might suggest that UK research policy has embraced the concept of 'transdisciplinarity' even though this is not a term that is current within policy circles. We explore the utility of the concept of transdisciplinarity and the perception that institutional constraints impede the implementation of transdisciplinarity (see Editor's introduction, in this issue) within a research system that apparently addresses the component processes of integration and knowledge exchange as separate activities.

Other leading commentators have posited the resurgence of 'intervention science' (Lowe, Phillipson, & Wilkinson, 2013) and our own experience as researchers and evaluators suggests that we need to look more deeply at the debate about the lack of institutional incentives for the implementation of transdisciplinary enquiry and knowledge exchange. This leads us to consider what benefits there might be if UK research policy were to embrace the concept of transdisciplinarity more explicitly.

Our earlier article (Bruce, Lyall, Tait, & Williams, 2004) looked at the potential for transdisciplinary research to break down the distinction within research programmes between researchers and stakeholders from industry or civil society and was couched in terms of 'user engagement' as a way of broadening the mind since strong interdisciplinary proposals are often seen to be those that are designed in close collaboration with potential users (not least because this can permit access to research data, research subjects or additional funds). However, we also counselled that it would be wrong to assume that users will automatically have a better understanding than academics of the 'real world' nature of problems since user communities might have only a partial understanding of what their problem is and, in certain cases, might compromise the quality of the research and even lead it in unproductive directions. We highlighted the need for a clear plan for user engagement given the different exigencies and concerns of stakeholders and researchers.

Our previous contribution (Bruce et al., 2004) found disappointingly few projects within the EU Framework Programme 5 that seemed, by our criteria, to be clearly interdisciplinary, let alone transdisciplinary. Subsequent Framework Programmes focused less on interdisciplinarity but, with the launch of Horizon 2020, we appear to have come full circle with a renewed interest in integrative approaches, recognising that they are key to addressing societal concerns.

1.1. The UK research system

In the UK, seven government institutions, known collectively as Research Councils UK (RCUK),[4] are responsible for investing public money in research.[5] RCUK disburses around £3 billion p.a. in research grants and supports around 50,000 researchers including doctoral students and research staff. These seven councils fund research and training activities in different areas of research (arts and humanities, social sciences, engineering and physical sciences, natural environment, the medical and life sciences and large-scale science and technology facilities). In recent years, RCUK has co-ordinated the

[1] Some may even substitute the terms 'multidisciplinary' and 'interdisciplinary' although we, ourselves, are quite clear that the former represents merely a juxtaposition of disciplines without any interchange or integration.

[2] Hence the reference in our title to the quotation from Shakespeare 'That which we call a rose by any other name would smell as sweet' (*Romeo and Juliet*, Act II, Scene ii).

[3] These terms, which will be very familiar to British readers, are explained in the following section.

[4] www.rcuk.ac.uk.

[5] In addition, a number of philanthropic or charitable organisations also disburse research funding in the UK, among the most notable of which are the Wellcome Trust and Leverhulme Foundation, which also support research training. With their own governance structures and charitable goals, these funders are not constrained by government priorities. An interesting question might therefore be whether they have more flexibility than RCUK to fund different types of research but this is, unfortunately, outside the scope of the current study.