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Sustainable social work: Modelling knowledge production, transfer, and evidence-based practice

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Abstract

This article is a first attempt to present a model of knowledge production and transfer in social work, drawing on the expanding literature on knowledge production. It highlights features of knowledge production in social work, such as the diverse contexts in which it is developed and applied. It argues that knowledge production by itself is not enough. Equally important is knowledge transfer and implementation. The literature on knowledge production highlights problems with the implementation of actually existing knowledge and the potential resistance to this implementation as highly important issues for social work research. It leads to a greater awareness of the context in which knowledge is produced and applied and creates a bridge between traditional informal and tacit ways of knowing in social work and the demands of evidence-based practice.

Key words: Social work, knowledge production, knowledge management, knowledge transfer, evidence-based practice

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In social work, more knowledge is produced than ever makes an impact on practice, and even when it does, there tends to be a huge time lag between the generation and use of knowledge. This article discusses the discourse on problems of knowledge transfer and implementation, and the importance of the context in which knowledge is produced and applied, arguing that the production of knowledge by itself is not enough to guarantee transfer, implementation and utilisation. Drawing on the ‘new theory of knowledge production’ (Gibbons et al., 1994), it describes the observations of a group of scholars who perceived a change in the way knowledge was produced through the framework of two modes of knowledge production (discussed below). While this framework has been the subject of much critique, it does provide a useful perspective from which to view knowledge production in social work, where increasing pressures towards evidence-based practice and the basing of interventions on sound evidence seems crucial to the sustainability of social work in today’s neoliberal practice environments where new public management and risk-averse practice colours what social workers do. This is not to say that we are wholeheartedly in agreement with the tenets of this dichotomous theory of knowledge production merely to argue that social work might benefit from an examination of this theory given that knowledge in this discourse essentially means research-based knowledge. So the new theory of knowledge production, as Gibbons et al. (1994) called it, is mainly concerned with how knowledge is produced within the research context and how it is transferred to practice.

Originators and advocates of this theory, Michael Gibbons and his colleagues (1994) in the science and technology policy research field have observed new ways of producing knowledge or, as they put it, of ‘doing science’. By this they meant that scientists were going about research in a different way, more inclined to work collaboratively with partners in practice. They did not mean that they had developed new methodologies or a new research
toolbox. Their research methods had not altered, but the way in which they went about doing their research had: No longer stuck in their disciplinary silos, they were traversing boundaries and working through what Klein (1996) called ‘shadow structures’. They encapsulated this change in two modes of knowledge production, the first of which is the conventional discipline-based science-driven knowledge, and the second a new form of interdisciplinary knowledge production which they describe variously as engaged, collaborative, socially relevant and so on. The implication is that this second form of Mode 2 knowledge production enhances the likelihood that knowledge will address real-world problems and be transferred to practice. However, as is shown in this article, research to date suggests that collaboratively produced knowledge does not, by itself, enhance knowledge use or research uptake. Furthermore, some authors point out that scientists have a long history of industry-relevant knowledge production and thus believe this distinction is simply inaccurate. Why then might it be useful to study the literature on knowledge production as it pertains to social work? How might this theory be evaluated? What function could it fulfil? Why has social work, with some exceptions, failed to engage with this theory? Might it be because the theory is prescriptive and does not reflect the actual state of affairs and, if it is normative in this way, by what standards should it be evaluated? Furthermore, why is it better than the rich critical tradition in social science evident in Marxist-influenced radical social work, the work of first-generation theorists of the Frankfurt school such as Habermas’ discussion of knowledge-interests, feminists’ problematisation of the researcher’s role and the broad tradition of action research generally? We believe that this rich critical tradition in social work has to some extent lost its way through its dissolution in the ambivalence of the more recent post-theories (see Gray & Webb, 2009). In today’s harsh neoliberal practice environments, a way needs to be found to prove the ongoing utility of social work to make it sustainable. We believe that there are several reasons why social work could benefit from engaging in discussions on
contemporary theories of knowledge production. First, it is important that the profession and discipline be connected to wider debates about knowledge in contemporary society. Secondly, the theory of knowledge production offers social work a base on which to ground its preferred means of knowledge production, i.e. collaborative, service-user oriented, participatory modes of research. Thirdly, it enables the breadth of social work knowledge to be incorporated within a single evidence-based framework. Finally, it opens the door for the creation of a single framework that draws together the complex process of research-based knowledge development and application.

Given that it is often argued that social workers do not use research or that there is a large time lag between knowledge production and application, the knowledge production literature provides guidance as to what is needed to ensure knowledge use or implementation. Given the large body of work that has emerged since Gibbons et al. (1994) advanced the ‘new’ theory of knowledge production, it is now more than a ‘theory’ and is supported by a growing body of empirical work on the translation and transfer of research to practice. This, in itself, is of enormous interest to social workers, given the growing realisation that the implementation of evidence-based practice requires more than the mere production of research evidence. This needs to be seen in light of the ongoing debate in social work as to what constitutes valid knowledge for practice. Despite ongoing attempts to ground practice more firmly on sound research, social workers continue to resist scientific models of knowledge development as antithetical to their humanistic theoretical frameworks and practice-based approaches. In light of this, it is not surprising that to date, social work, with a few exceptions, has failed to engage with the new theory of knowledge production, and there is little consistency in the approach taken by those who have published in this area to the extent that some perceive a disjunction between mainstream understanding of knowledge production and social work literature on its knowledge base. There is a mismatch between
pressures toward evidence-based practice and social work’s resistance to the use of research to guide practice. Consequently, social workers continue to draw on a strong humanistic value base and a wide range of disciplinary perspectives informed by diverse theories and points of view, which they attempt to integrate into a holistic service-user or client-centred approach to practice. They tend to value practice experience and collegial expertise as the first port of call rather than systematic research or formal effectiveness studies. While most professions and occupations learn from and draw on their practice experience, over-reliance on informal knowledge can lead to the perpetuation of stereotypes and even misinformation. Further, it can lead to disregard for the client’s or service-user’s perspective, with social workers instead drawing on their professional authority and subjective understanding and that of their colleagues. This form of practice runs the risk of heavy criticism from those who see virtue in basing practice on sound evidence (Gray, Plath & Webb, 2009). This article looks to the new theory of knowledge production to see what it offers social work as a way out of the maze in which ongoing debates about its research-derived knowledge base are situated. It presents a model of knowledge production and transfer that was developed out of perceived synergies between the new theory of knowledge production and the growing body of literature on evidence-based social work. Though the theory of knowledge production offers a valuable framework for analysing the development of knowledge in social work, it is not without its problems and critics, nor does it represent the full gamut of forms of accepted knowledge in social work, such as tacit, theoretical and conceptual knowledge. Nevertheless, there are precedents in the social work literature that are highly consistent with learning organisation models of knowledge production (Gray & Schubert, 2010b; Gabbay et al., 2003), which include the views and expectations of service users and the experience-based knowledge of practitioners (see also Alexanderson et al, 2009; Sackett et al., 1997; Trinder &
Reynolds, 2000). Viewed in this way, we believe that the new theory of knowledge production goes some way towards grounding practice more firmly on sound research.

**The research context**

The first consideration when examining knowledge production is the oft-neglected context in which knowledge is produced and broader policies that drive research. The research environment in Australia, as elsewhere, is characterised by a trend towards increased surveillance of research productivity through quality assessment and performance evaluation. The bulk of research is generated by researchers and academics based in universities such that the higher education sector accounts for over two-thirds of Australian publications (Butler, 2003). It is an environment of intense competition for research funding and one in which there is increasing pressure towards higher research productivity, while student to academic ratios continue to grow. This environment serves as the backdrop to Australian research endeavours where the highly influential Australian Research Council (ARC) is a significant provider of federal research funding, and where changes are influencing the way that researchers respond to the performance evaluation and quality assessment demands of the research context.

**Excellence in Research for Australia (ERA)**

A second consideration affecting knowledge production is the recently introduced Excellence in Research for Australia (ERA) which aims to create and improve standards for research in a number of ways, one of which is by measuring outputs in quality journals on the ERA-ranked journal list. This will effectively encourage researchers to publish mainly in A* and A ranked journals (see Appendix 1 for ERA’s top-ranked social work journals in Australia). By directing the flow of submissions to the higher-ranked journals, ERA could have the added
flow-on effect of making it more difficult for academics to publish in high-demand journals. It has yet to be seen whether research productivity will increase as a result. There is, too, an increasing push towards international collaboration, since publications involving international authors tend to be more highly cited than single-country authored papers (Butler, 2003). Thus even a reduced number of publications can lead to a higher citation rate through engagement in international collaboration and publishing in highly cited journals. It is trends such as these that are changing the way in which ‘we are doing science’, as architects of the new theory of knowledge production, Gibbons et al. (1994) have noted, that are increasingly leading to Mode 2 forms of knowledge production (see below). Generally, ERA and Inter Services Intelligence, Thomson Reuters (ISI) also referred to as the web of knowledge ranking are closely correlated. However, this does not appear to be the case in social work. The ERA and ISI rankings are indeed at odds with each other. The ISI impact factor rankings indicate that the only A* ranked journal for social work in Australia has a lower impact factor than at least two of the lower A ranked journals. Further, a number of the ERA-ranked journals have no impact factor data available. It is also important to note that journal impact factors are very field-dependant; thus, those journals leaning towards psychology and medicine tend to have higher impact factors than those of other fields. This skews the true indication of the standing of these journals against other social work journals. It is within this context filtered through the ERA framework and guidelines that research is undertaken and knowledge produced within Australia. It serves as the starting point for both Australian knowledge production in social work and our model of evidence-based knowledge production (see Figure 1). We examine each of the building blocks of the model in turn, beginning with knowledge production, since this sets the broad framework for understanding the processes surrounding the creation of knowledge in social work.
The Evidence-Based Knowledge Production Model

Knowledge Transfer

Knowledge Production

Evidence-Based Practice

Mode 1

Mode 2

Research Process

Policy Context
ERA (Excellence in Research for Australia)

Organisational Context

Knowledge Utilisation

Organisational Change

Practice Context

The Evidence-Based Knowledge Production Model

Knowledge Production

Thus far we have identified the first consideration in knowledge management as the research context in which knowledge is produced and the embedded policy framework, in this instance the ERA framework in Australia (other countries have their equivalents, e.g. the RAE in the UK). The second consideration concerns knowledge production itself. There is a growing body of scholarship on the theory of knowledge production that has potential to break the impasse reached between positivists and non-positivists in social work, between those who believe knowledge stems from practice and those who argue it should stem from research. In social work there is a tendency to focus on the application or use of knowledge rather than the context of its formulation or the development of conceptual frameworks to understand the process by which knowledge is developed and transferred. The production and transfer of knowledge are not necessarily continuous processes, especially in the human services, since this is an organisational environment that is extremely resistant to change or to the embrace of new knowledge or work practices. Since the main producers of knowledge are social work academics or university-based researchers (Gray & Schubert, 2010a), there is constant tension in discerning its relation and utility to practice. Adding to this complexity is social work’s concern with service users’ or carers’ knowledge to the extent that users and carers have a right to be involved in all aspects of the knowledge production process. Social work’s preference for collaborative, cooperative, participatory, community-oriented approaches to knowledge production is being transformed by evidence-based practice. We see potential to broaden the horizons of evidence-based practice to incorporate Mode 1 systematic reviews (SRs) and meta-analyses (MAs) of randomised controlled trial (RCTs) studies, and Mode 2 forms of research engagement in keeping with social work’s preference for synthesising knowledge from diverse sources.
In social work the term ‘knowledge production’ is rarely used. Various terms used are: knowledge creation (Martinez-Brawley, 1995; Payne & Aga Askeland, 2008), knowledge acquisition (Trevithick, 2008), and knowledge development (Kjørstad, 2008). This creates a degree of confusion that makes it hard for social workers to ‘articulate what they know’ (2008: 1221), mindful of the broader context in which knowledge is produced. Hence arises the need for frameworks to ‘map … the knowledge landscape and [provide] signposts through this dense jungle … in ways that avoid the danger of … [giving] directions …’ (Matthews, Harvey & Trevithick, 2003: 179). One such framework is provided by Trevithick (2008) who distinguished between theoretical, factual and practical or personal knowledge. Kjørstad (2008) reduced these categories to practice and research-based knowledge. Noting diverse sources of social work knowledge, Marsh and Fisher (2008: 11) stressed the importance of research or evidence-based practice, seeing ‘the rigour of the best social work research [as] … an important asset for wider knowledge production in social care’ (emphasis added). Marsh and Fisher’s (2008) use of the term ‘knowledge production’ signals an awareness of the broader context in which knowledge is produced and used that is characterised by interdisciplinarity and interprofessionality and a valuing of research-based knowledge. Yet, ironically, Cody (2001: 276) found that in the ‘voluminous literature on interdisciplinary, transdisciplinary and interprofessional knowledge development, education and practice, there is minimal substantive evidence ‘… for the effectiveness or ineffectiveness of interdisciplinary knowledge work in improving collaboration and/or practice’. Adding to this complexity is social work’s concern with service users’ or carers’ knowledge to the extent that users and carers have a right ‘to be involved in all aspects of the knowledge production process, including setting the priorities for commissioning and standards for the ethical conduct of research’ (Marsh & Fisher, 2008: 13); the accessibility of knowledge to end users, i.e. practitioners, students, service users and carers (see e.g.
Trevithick, 2008); and how these considerations are incorporated in the knowledge production process. Yet despite these lofty ideals, social work generally does not have enough people engaged in knowledge production, and even among the mainly academic researchers thus engaged, there are few large-scale social work studies generating evidence for practice (Marsh & Fisher, 2008).

**Evidence-based practice**

Knowledge in social work is being transformed by evidence-based practice (Gray et al., 2009; Parton, 2008; Rafferty & Steyaert, 2009) and there is some agreement that social work needs to broaden the horizons of evidence-based practice beyond Mode 1 meta-analysis, systematic reviews and randomised controlled trials to embrace Mode 2 forms of research engagement (Gray & Schubert, 2010a; Gray et al., 2009; Gabbay et al., 2003). Gray & Schubert’s (2010b) approach is an example of an attempt to make experience-based knowledge visible while setting it within an evidence-based practice framework such that research and practice represent a ‘synthesis of knowledge’ (Alexanderson et al., 2009: 136) from diverse sources. This approach is highly consistent with learning organisation models of knowledge production, where key sources of knowledge for evidence-based practice include research evidence, the views and expectations of service users and the experience-based knowledge of practitioners (Alexanderson et al., 2009; Sackett et al., 1997; Trinder & Reynolds, 2000). We extend this view to argue that evidence-based practice is constituted by the incorporation of both Mode 1 and Mode 2 research from the new knowledge production theory briefly outlined below.
Mode 1 and Mode 2 as the means to evidence-based social work

From *The New Production of Knowledge*, we have two modes of knowledge production: natural science-driven, discipline-based Mode 1 and interdisciplinary, engaged, flexible, practice-oriented and collaborative Mode 2 research. While there are some parallels between the quantitative–qualitative debate within social work, Modes 1 and 2 distinguish not only between approaches to research, but also the context within which research is conducted and the infrastructure supporting it. Gibbons et al. (1994) identified a change to new ways of ‘doing science’ that were being driven, not only by information technology, but also by increasing calls for socially accountable, usable knowledge that directly addresses social problems, i.e. towards collaborative research that involved stakeholders or end users, such as industry partners, other disciplines and professions and service users, in the research process. In social work, Marsh and Fisher (2008) saw in Mode 2 a means by which tensions between knowledge production and practice relevance might be resolved. By all accounts, Mode 2 would appear to be the preferred model of knowledge production for social work (Gredig & Sommerfeld, 2008; Kjørstad, 2008) and offers support for its favoured mode of doing – collaborative, engaged, participatory, service-user focused and problem-centred – research that seeks to directly involve and address the needs of service providers and users. Gray and Schubert (2010b) went further to claim that together the more conventionally accepted Mode 1 and the emerging Mode 2 framework provided the evidence base for practice. Both qualitative and quantitative forms of research provide a valid evidence base for social work practice, but, more than this, a holistic model of social work knowledge, as well as incorporating three distinct phases of knowledge production, translation and utilisation must account for the research context in which it is produced as well as the organisational and practice context in which it will be used (see Figure 1). Both Modes 1 and 2 research provide
evidence for practice. Mode 2 offers the potential to incorporate broader social work concerns into the evidence-based practice and research process and context. Through (i) tendering the possibility of the inclusion of service users, carers and end users; (ii) collaborative, interdisciplinary action, and intervention oriented research methods; and (iii) the incorporation of a variety of research types and sources, the profession is placed in a better position to produce appropriate evidence-based knowledge for sustainable social work. In short, social work’s sustainability rests on its embrace of evidence-based policy and practice. What the new theory of knowledge production offers is a way to incorporate the MAs, SRs and RCTs of Mode 1 with the flexible, interdisciplinary, engaged focus of Mode 2. Trinder and Reynolds (2000) described a similar approach, but in terms of the experimental approach of evidence-based practice (Mode 1) and the pragmatic approach (Mode 2). However, knowledge production, by itself, does not guarantee that the knowledge produced will be used even if service users and end users were engaged in the research in the way outlined by Gibbons et al. (1994). Something more is needed and it is to this that we now turn.

**Knowledge translation**

In order to move the knowledge produced into use by service and end users, more attention needs to be focused on the mechanisms and process by which research becomes part of practice. The field of implementation research seeks to improve knowledge translation and the uptake of research through evidence-based practice. It recognises that generating evidence and making it available in locations like the Campbell Collaboration is not enough to guarantee research uptake by end users, because enhanced research uptake depends crucially on the organisational context and culture in which practitioners work. This environment needs to be receptive towards, and facilitate awareness of, and engagement
with research in practice. Systems need to be in place for practitioners to access evidence, and this usually involves the development of information technology systems and user training and support. Knowledge translation involves concentrated work where knowledge is transformed or converted into a usable form. It is possible that the researcher may not be the most appropriate player to undertake this role, and that there is potential for a third party that sits between the researcher and the knowledge user.

Knowledge translation concerns the mechanisms and process by which research becomes part of practice. There is a growing group of scholars who recognise the importance of implementation research in improving knowledge translation and the uptake of evidence-based practice (Bero et al., 1998; Ekbia & Hara, 2008; Gustle, Hansson, Sundell & Lofholm 2008; Hill, 2003; Mullen & Bacon, 2003, 2004, 2006; Mullen, Bledsoe & Bellamy, 2005, 2008; Mullen, Shlonsky, Bledsoe & Bellamy, 2005; Proctor & Rosen, 2008; Proctor et al., 2009). These scholars recognise that systems need to be in place for practitioners to access evidence and that this usually involves the development of information technology systems and user training and support. This emerging field of scholarship has been variously referred to as implementation research, knowledge transfer or translation. This is the area of the development, exchange, synthesis and application of knowledge within a complex system of relationships among researchers, practitioners, and end users (McWilliam, 2007), which Gredig and Sommerfeld (2008: 297) have referred to as a field of ‘cooperative knowledge formation’ (p. 297). Inasmuch as human relationships are multi-directional and interactive in nature, knowledge transfer cannot be viewed as a series of unilinear rational actions that comprise mechanistically providing, choosing, and applying new knowledge from research. McWilliam (2007) offered a systems model of knowledge transfer that is quite distinct from the usual linear, mechanistic and behaviourist implementation strategies. For McWilliam (2007: 73):
[Knowledge translation] is an ongoing interactive human process of critically considering relevant, quality research results and findings, whether factual or tacit knowledge or humanistic understanding, blending this broader research-based knowledge with experiential knowledge and contextual appreciation, and constructing a shared understanding and knowledge application to advance the quality of … care.

Her transformative – knowledge translation – strategy for linking research to practice interventions for health professionals contrasts sharply with linear implementation models in that it involves professional practitioners in an on-the-job or in-situ process of creating ‘deeply felt interest in research findings’ (McWilliam, 2007: 72) relevant to their everyday practice through a facilitated process of continuing education that leads to perspective transformation. In this model, the facilitator acts as a bridge between researcher and practitioner. Simultaneously, her model allows space for a ‘move to more interactive forms of knowledge transfer’ (Jacobson, 2007: 117). The systems knowledge transfer model, in contradistinction to linear implementation strategies, permits ambiguity and partiality that can be retained in the possibility of different elements of evidence-based social work being connected to the process, in the potential for professional expertise to redirect the process, and in the potential that the absence of fixed-end goals allow for innovative developments (Gray et al, 2009). As discussed in the section below on knowledge utilisation, concerns have been expressed about the absence of a process of transferring knowledge to direct practice. One of the reasons for this is the accessibility of research in its raw form to practitioners. The understanding of the knowledge utilisation process held by Rothman and Thomas (1994: 7) is helpful here as they acknowledge the need for ‘transformation and conversion of available knowledge into application concepts … relevant to given target populations, problems, and intervention methods’. Thus, prior to the transfer and utilisation of knowledge to the field,
relevance for social work and the human services needs to be ensured. This needs to occur prior to any transfer process.

**Organisational context**

To date, there has been a strong focus, especially in the USA, on social work education to enhance awareness of and increase the uptake of evidence-based practice. However, there is increasing realisation that the organisational environment that absorbs social work graduates exerts a strong influence on professional culture and practices. Implementation research focuses on not only on systems to support evidence-based practice, but also the end-user context, i.e. the organisations and practitioners that ultimately apply evidence in their day-to-day engagement with clients. The process of knowledge transfer is different from knowledge dissemination or the micro context in which individual practitioners interpret diverse forms of knowledge from their preferred perspectives. Knowledge transfer models are cognisant of the organisational environment that moulds and shapes research uptake that limits *ad hoc* decisions based on the subjective judgements of individual reflexive or reflective practitioners. They are also cognisant that even evidence-based practice is a process of engagement between clients and practitioners which might lead to outcomes where the best available evidence does not come into play because of client values and choices. The reality is that communities of practice do not necessarily follow conventional processes involved in evidence-based models of practice, but instead undertake more socially determined and dynamic patterns of collective sense making and decision taking (Gabbay et al., 2003). Calls for better systems for collective knowledge management and transfer must take account of political and organisational processes that influence the transition of knowledge from research to practice. Usually this is a context where practitioners have to do more with less and where ‘it is easier to guide an organisation in the direction in which it is already going
than to do things differently’ (Martinez-Brawley, 1995: 677). Hence the process of knowledge production and transfer must grapple with resistance to change. The culture of the organisation is integral to the uptake of innovation. New ideas that are consistent with organisational beliefs have a better chance of successful implementation. Knowledge utilisation requires the linking of researchers and knowledge users in efforts involved in dissemination, the adaptation of the research output by the researcher, the context of use and the publication assets of the researcher. Research suggests ‘that knowledge utilization depends much more heavily on factors regarding the behavior of the researchers’ and users’ context than on the attributes of the research products’ (Landry, Nabil & Moktar, 2001: 333 emphasis added). It requires the ‘transformation and conversion of available knowledge into application concepts … relevant to given target populations, problems, and intervention methods’ (p. 7) to ensure relevance for the human services prior to utilisation, a concern that is pivotal to new ways of doing science (Gibbons et al., 1994).

**Knowledge utilisation**

There has been a lack of attention to knowledge utilisation processes in social work (Alexanderson et al., 2009; Landry et al., 2001; Osmond, 2006). This could be due to definitions that are strongly oriented toward the use of knowledge in decision making or professional practice (see e.g. Webb, 2002) and the possibility that knowledge use in social work is understood in a variety of ways (Osmond, 2006). The broader knowledge utilisation literature refers to four models of knowledge utilisation: the science push model, the demand pull model, the dissemination model, and the interaction model (Landry et al., 2001). Both Osmond (2006) and Landry et al. (2001) observed that there is little empirical evidence to substantiate how knowledge is put to use despite a variety of approaches to, and ways of thinking about, the application of knowledge in practice (Osmond, 2006).
Jacobson (2007: 118) noted an increasing awareness of knowledge utilisation theory in the health and social services drawn from political science and policy studies, where the dominant focus is the ‘diffusion of innovations … [with additional] components drawn from communications or organizational [and behaviour change] theory’, and individual practitioners are the intended user group. Gano, Crowley and Gunston (2006) proposed a socio-organisational approach that focuses on the communication pathways through which research moves – from the producers to the consumers of knowledge. They suggested that any knowledge utilisation model in the human services should pay attention to the professional norm of objectivity as well as external political forces influencing policy and practice. Alexanderson et al.’s (2009: 128) model stresses utilisation ‘facilitated through a partnership between different kinds of research organisations and agencies within the social welfare sector’ with research and development units as loci for facilitation. Backer (1991) saw knowledge utilisation as both a process and an umbrella term that includes ‘research, scholarly and programmatic intervention activities aimed and increasing the use of knowledge to solve human problems’ (Backer, 1991: 226). Within this broad definition sit a number of components that organisations need to embrace, including the transfer of technology, the dissemination and utilisation of information, the utilisation of research, the diffusion of innovation, the sociology of knowledge, the process of organisational change, research on policy, and communication on both interpersonal and mass levels. Landry et al. (2001) made a very different contribution through their examination of the determinants of knowledge utilisation, specifically the uptake of social science research in Canada, which they defined as a six-stage cumulative process that involves ‘transmission, cognition, reference, effort, influence, and application’ (Landry, 2001: 340), with each stage progressively more important than the last. See Table 1 for their description of each stage.
Table 1: Landry et al.’s (2008) Stages of Knowledge Utilisation

<table>
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<tr>
<th>Stage</th>
<th>Name</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Transmission</td>
<td>I transmitted my research results to the practitioners and professionals concerned</td>
</tr>
<tr>
<td>2</td>
<td>Cognition</td>
<td>My research reports were read and understood by the practitioners and professionals concerned</td>
</tr>
<tr>
<td>3</td>
<td>Reference</td>
<td>My work has been cited as a reference in the reports, studies, and strategies of action elaborated by practitioners and professionals</td>
</tr>
<tr>
<td>4</td>
<td>Effort</td>
<td>Efforts were made to adopt the results of my research by practitioners and professionals</td>
</tr>
<tr>
<td>5</td>
<td>Influence</td>
<td>My research results influenced the choice and decision of practitioners and professionals</td>
</tr>
<tr>
<td>6</td>
<td>Application</td>
<td>My research results gave rise to applications and extension by the practitioners and professionals concerned</td>
</tr>
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They found that, across all the professional social sciences, on their scale of knowledge utilisation, social work ranked the highest. Further, their study showed that the most important determinants of utilisation included the means by which researchers and knowledge users were linked, the efforts involved in dissemination, the adaptation of the research output by the researcher, the context of use and the publication assets of the researcher. Their most important finding was ‘that knowledge utilization depends much more heavily on factors regarding the behavior of the researchers’ and users’ context than on the attributes of the research products’ (Landry et al., 2001: 333, emphasis added).
There seems to be little consistency between the approaches taken in these emerging knowledge utilisation models. For the purpose of sustainability, an examination of the common factors across models is required.

A number of authors consider the functions of knowledge utilisation (see the discussion in Osmond, 2006). Regardless of variations in the list of functions identified, what Osmond (2006) saw as missing is the process of transfer to direct practice. Our model attempts to address this concern prior to knowledge moving to the point of utilisation through using Rothman and Thomas’s (1994: 7) notions of ‘transformation and conversion of available knowledge into application concepts … relevant to given target populations, problems, and intervention methods’ to ensure relevance for the human services prior to utilisation, a concern that is pivotal to ‘new ways of doing science’, as outlined above.

Organisational change

The organisational context also influences the process of knowledge utilisation. Backer (1991) suggested that it is difficult to achieve effective knowledge utilisation in the face of tightening resources within the human services unless there is a clear knowledge utilisation policy and a strategic plan for program and research activities. He identified six important strategies to encourage knowledge utilisation: (i) interpersonal contact between the knowledge holder and key staff adopting the knowledge; (ii) conceptual foresight and planning for how the knowledge will be adopted in a new context; (iii) an external consultation process that supports the process of change in implementing new knowledge; (iv) translation of the knowledge into a form that works for end users; (v) having organisational leaders and staff members who champion the adoption of the knowledge; and (vi) involving potential users. All of these strategies focus on organisational change, in particular through decreasing the resistance to change through building ‘felt ownership’ of
the new program’ (Backer, 1991: 234). Like Martinez-Brawley’s (1995) observation that utilisation rests on what those in organisations are already doing (see above), Backer (1991) suggested that it is easier to steer ‘the horse in the direction it’s already going’ (p. 234). Backer (1991) identified a number of emergent issues related to knowledge utilisation that impacted on organisational change, including quality assurance, social accountability and ethics, theoretical understanding of knowledge production, advances in information technology, the growing economic value of information and knowledge, as well as the influence of globalisation and economic interdependence. These interconnected factors, as well as emerging issues like environmental politics and the continued strength of Western neoliberal governments, are likely to continue to influence the sustainability of social work for the foreseeable future. Social work needs to improve its ability to advance the reach of knowledge in various public and private settings, while evaluating the impact of knowledge utilisation. In Backer’s (1991), within organisations, action research and clinical approaches to the evaluation of programmes are the most effective ways of achieving this.

The practice context

Where social work is concerned, the final consideration is the practice context and in social work the transfer of knowledge and skill is an intellectual and practical activity linked to competence. We would argue that Trevithick (2008) saw the transfer of knowledge and skill as an intellectual and practical activity linked to competence. In her view, it is important to maintain a continuous dialogue between practice and theory to ensure that each informs the other and knowledge and skills fit practice contexts. Sin (2008) suggested that there are different cultures of knowledge production and use. Hence, moving evidence to policy and practice requires a wide range of techniques. Most important is the need to incorporate the needs of those users if evidence is to move towards those who will use it. The most effective
means of doing this within social work is to draw research concerns directly from the practice context. Sin (2008) cautioned that all too often researchers choose research topics located in areas of their own interest which can compromise the relevance of this research to practitioners, policy makers or funders (see p. 20). Mode 2 offers a means to support, strengthen, and sustain relationships between research, knowledge and practice but, as shown at the outset, the research that researchers engage in and the knowledge that they thus produce rest on a research environment that also stresses certain priorities. Often this research develops government priority funding areas, and this consideration precedes any concerns with issues in the practice context unless service providers have money to invest in research. Then linkage research projects (ARC, 2009) offer opportunities for matching funding for successful funding proposals. In Australia, only 25 per cent of these are successful. Thus we are back where we began. The cycle begins again building on the process that has gone before.

**Conclusion**

The theory of knowledge production essentially concerns the development of research-based knowledge and the mechanisms through which research is translated to practice. This is a complex process (see Figure 2). In this article, we have argued that social work is embracing evidence-based practice, though with some hesitation and that the theory of knowledge production supports its chosen forms of research in its notion of Mode 2. This mode creates the space for the formal inclusion of qualitative, applied collaborative, engaged and participatory research of the nature valued by social workers. At the same time, Mode 1 supports basic, discipline-based research that values meta-analysis of randomised controlled trials as the gold standard, thus effectively capturing the breadth of social work research valued within evidence-based social work. Furthermore, we have attempted to make

Figure 2: The Complex Model of Evidence-Based Knowledge Production
experience-based knowledge visible by setting it within a framework wherein research and practice represent not only a ‘synthesis of knowledge’ from diverse sources but also diverse forms of knowledge.

The new theory of knowledge production recognises that in the real world, the production and transfer of knowledge is a complex process with a myriad of relationships and interactions on the path from production to utilisation. This process has been simplified here for analytical purposes (see Figure 1). Figure 2, however, demonstrates the complex pathways and detours as knowledge proceeds from where it is produced to use in practice. More knowledge is produced than ever makes an impact on practice and, even when it does, there tends to be a huge time lag between the generation and use of knowledge. This article has shown that the production of knowledge by itself is not enough to guarantee transfer, implementation and utilisation. It suggests that social work could learn from the new theory of knowledge production as a vehicle for strengthening the evidence base so pivotal to a sustainable future for the profession.

References


