

Thinking About Knowledge Mobilization

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ABSTRACT

This paper²:

- Provides some context for the growing interest in knowledge mobilization (KM);
- Outlines briefly current thinking on knowledge mobilization, along with a view on the strength of the empirical and conceptual work underlying that thinking;
- Identifies key areas where current knowledge is inadequate;
- Identifies promising areas for further work, both in research and in KM activity.

Interest in knowledge mobilization has been growing rapidly, and our understandings of this issue are deepening. However important conceptual questions remain, the empirical basis for answering many of these questions is still very thin, research methods to provide better evidence also need considerable development, and the overall infrastructure in support of KM related to learning remains quite weak. Still, we are at least in the position to be able to ask better questions and to find better ways of gathering evidence about them.

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² This paper is solely the product of the author and does not represent the policy or opinion of any other person or organization.

Thinking About Knowledge Mobilization³

INTRODUCTION

This paper is intended to provide a review of current research and thinking on knowledge mobilization (KM) with respect to learning. To this end, the paper:

- Provides some context for the growing interest in knowledge mobilization;
- Outlines briefly current thinking on knowledge mobilization, along with a view on the strength of the empirical and conceptual work underlying that thinking;
- Identifies key areas where current knowledge is inadequate;
- Identifies promising areas for further work, both in research and in KM activity.

Although the paper is based on extensive reading of the literature, and on some new empirical work (described later), it is designed to be a discussion document, not a comprehensive overview of the field. The paper is based on a significant amount of work including an extensive literature review. However because this is an overview, and not a review of the research, the citation list has been kept modest, although the works cited do themselves contain many more references. Although the focus of the paper is on education and learning, reference is also made to related work in several other areas, including but not confined to health. Also, the discussion is international in scope, as interest in KM issues is now worldwide, including international agencies. In the field of formal education, England has probably done more than any other country in the area of KM through a variety of mechanisms, largely stimulated by the National Education Research Forum that was set up a few years ago.

To put the central point as succinctly as possible, interest in knowledge mobilization has been growing rapidly, and our understandings of what this idea means are deepening. However important conceptual questions remain, the empirical basis for answering many

³ The issues of terminology and definition—including why this paper uses the term “knowledge mobilization”—are taken up a little later in this paper

of these questions is still very thin, and research methods to provide better evidence also need considerable development. We are at least in the position to be able to ask better questions and to find better ways of gathering evidence about them.

CONTEXT

The last decade has seen a worldwide explosion of interest on the question of how contemporary societies might strengthen the connections between research and evidence, on the one hand, and policy and practice⁴, on the other hand. For a whole range of reasons, not least of which is a better educated public, demand for evidence on questions of almost every sort has been growing rapidly. The mass media report constantly, if not always accurately, on interesting new research findings. People change their eating and buying habits based on research findings. Individuals use the internet to track down their own research on an amazing variety of topics. Clients challenge professional judgment based on their own reading of the research. Governments commission more research than ever before. Every profession expresses the goal of basing its practices on the best evidence. The interest is keen not only in fields such as science and technology, but also in areas of public service such as health, education, and social welfare.

All of this may seem commonsense and commonplace but in historical terms it assuredly is not. The whole idea of basing practices on reliable empirical evidence is only a couple of centuries old, and beliefs built on bases other than research evidence have dominated human thinking for most of our history as a species. So the increased interest in evidence presents, along with some important challenges, a huge opportunity to improve human society. The fact – to be discussed more fully a little later – that research will not become the sole or even, in most cases, the main determinant of people’s beliefs and actions should not blind us to the potentially positive results of its growing influence.

⁴ For the remainder of this paper, the word ‘practice’ will be understood to encompass ‘policy’ as well.

THE STATE OF THE FIELD

The growing interest in research evidence in so many fields has been accompanied by an outburst of activity as well, both intellectually and practically. Study of the way ideas or evidence shape policy and behaviour is not new, of course. Indeed, it goes back to Plato and Aristotle. One can also point to the substantial literature decades ago on the use of evaluation studies (e.g. Leithwood and Cousins, 1982), to which this author even contributed (Levin, 1987). Carol Weiss's oft-cited work on research use (1979) is now 30 years old. And work on diffusion of innovation, such as agricultural innovation, goes back a century or more (Rogers, 2003).

It is not, then, that the issue is new, but the scale of the work and public interest in it have both increased quite dramatically. In the academic world, books and papers are being written, journals have been created, research centres developed, new courses offered, conferences organized, new conceptual frameworks developed and terms coined. Indeed, the very existence of the Canadian Council on Learning, sponsor of this journal, is due to interest in knowledge mobilization in learning.

Myriad efforts are also being made to improve connections between research and practice. Literally thousands of organizations, from huge corporations to tiny community groups, are involved in work of this kind at least to some degree, and for many organizations it is a key part of what they do. Many organizations are increasing their efforts in this area, including large international bodies such as the World Bank and the OECD. New organizations, such as the Campbell Collaboration, have been created for the purpose of knowledge mobilization. The activities of these organizations range from websites (innumerable websites, in fact) to newsletters to audio-visual products to seminars to conferences to "learning communities" to organizational infrastructures and policies in support of research and evidence. While not all this work is either well conceived or well carried out (about which more later), it does provide a tremendous opportunity to learn more about the whole phenomenon.

Our research team at OISE (www.oise.utoronto.ca/rspe) is evaluating the quality and status of these efforts as well as trying to contribute to them. One of the challenges is defining the boundaries of the review. In the area of KM, there is first the problem of multiple disciplines; there are largely separate bodies of literature in education, health and political studies, as well as related literature in science and technology, a generic literature on knowledge and innovation, and linked conceptual study in areas such as social psychology, management and epistemology. It is not possible to review all relevant work, so some arbitrary boundaries have to be set. Our efforts focus largely on education but with attention also to some of the major works in related fields. We also make extensive use of a number of the reviews already done (Greenhalgh et al., 2004; Hemsley-Brown, 2004; Mitton et al., 2007; Sudsawad, 2007;).

We are also analyzing KM practices in a wide variety of organizations based on information contained on the websites of more than 100 (so far) organizations that have some mandate for KM, such as universities, direct service agencies, governments and a wide range of third parties. This review is focused primarily on actors in the education sector, but we are also looking at some of the major third-party KM organizations in the broader social policy arena, including health. The analysis is not of the websites per se, but of what they tell us about the KM practices in these organizations; such as the extent to which these organizations emphasize the dissemination of research, professional development that is research-based, or the building of interpersonal networks around research findings. This work will be published separately in the near future.

Our overall assessment, shared with others such as Nutley et al. (2007), is that the field of KM exhibits, not surprisingly, the features one would expect in a field of study and work that is still in a very early stage. We have learned a considerable amount already, but still have much more to learn, and much of what is currently happening is not well grounded even in the limited evidence that is available—the work of knowledge mobilization is not itself well guided by the available knowledge.

Although there are multiple conceptual frameworks in this field, almost all use some version of a tripartite frame—the creation of research/evidence/knowledge, the processes through which that knowledge is distributed or made available, and the uses made of it, with varying degrees of feedback and interaction among these elements to recognize that the process does not just flow in one direction. That rough frame guides the following discussion.

WHAT WE KNOW

Understanding of knowledge mobilization as a process has deepened considerably in recent years. Among the key elements now considered largely as beyond dispute are the following⁵:

- Knowledge is socially constructed and its use takes multiple forms that can be more or less direct and more or less rapid, with slower and less direct impacts more common. Some of the most powerful examples of research knowledge leading to changes in policy and behaviour – for example, smoking or use of seatbelts or the end of corporal punishment in schools – took several decades to evolve.
- Bodies of consistent evidence are more powerful and effective over time than single studies, even though the latter will sometimes generate quite a bit of short-term attention. The accumulation of weight of evidence over time matters greatly.
- Given this broad view, there is much more use of research and evidence in practice than is generally thought. For example, most practitioners have a range of connections to research and ways in which they find and use research. Those who are most critical of the impact and value of research in education may have a narrow and unrealistic view of what can or should happen. (This does not mean that the current situation is anywhere near optimal even within these constraints, as discussed later.)

⁵ It would be tedious to provide multiple citations for each of these points, which are generally drawn from the entire corpus of literature cited in this paper.

- It is often very hard to know what role a body of research or evidence has had on practice, since the sources of practices and decisions are usually multiple and hard to define with precision.
- Knowledge takes shape and has effect in a wide variety of ways, but is always mediated through various social and political processes. For example, evidence may be used to support positions people hold for other reasons, or positions may cause people to look for new evidence.
- Knowledge by itself is not enough to change practice, since practices are social and therefore reinforced by many elements such as norms, cultures, and habits. Simply telling people about evidence and urging them to change what they do is clearly ineffective.
- The scale of impact matters but has not received very much attention. KM work is lumped together whether it is about changing a policy decision or changing the way people practice their profession. Yet affecting a policy decision through research evidence is clearly a different matter from changing the daily practice of thousands of nurses or teachers. Insofar as one critical factor is how many people have to change their ideas and behaviour, it could be argued that it is actually easier to affect large policy decisions than to change practices across complex institutions.
- The relationship between knowledge and use runs in both directions; practice affects research just as research affects practice.
- Personal contact and interaction remains the most powerful vehicle for moving evidence into practice. Yet much attention among all parties seems still to focus on less personal approaches such as producing reports or other tangible products of research.
- KM is not only a matter of producing more knowledge, but also of improving both the desire and capacity for its use as well as the mediating processes. All three elements need attention, but so far much more attention has been paid to the 'production' element than to the others. This is to be expected since most of the work in this field is done by people who see themselves mainly as knowledge "producers".

- Dedicated effort matters. KM does not happen by itself; it takes thoughtful effort on a sustained basis, probably over many years. This effort requires resources and infrastructure, much of which does not yet exist.
- Very few organizations in any sector are well organized to find and use evidence and few provide incentives or rewards to do so. Typically this is a function that gets done by people on top of everything else in their jobs.
- The barriers to more effective KM are multiple and real. They include lack of sufficient high quality evidence, unavailability of evidence when it does exist, lack of interest among users in evidence, low trust in the evidence, lack of skill in finding and interpreting evidence, lack of infrastructure to support research use, strong inertial forces around existing practices, and pressures of various kinds pushing in directions contrary to the evidence.
- Third party organizations of all kinds—sometimes called mediators or brokers – play a critical role in the spread and impact of research, but their nature and roles have not been much studied are not well understood.

Although this list seems to consist largely of negatives, it actually moves our thinking forward substantially and sets the stage for some of the ideas and proposals later in this paper. Advancement of knowledge in any field involves following blind alleys, spending time on ideas that turn out to be unproductive, and slowly developing better ideas, so one should not be discouraged that there has not yet been more progress, especially given a relatively short time and fairly limited attention.

WHAT WE DON'T KNOW

One could make a very long list under this heading. After all, it includes, presumably, everything that is not on the above list. But for purposes of this discussion, there are three key areas in which current knowledge about KM is most limited or deficient if we are to be able to strengthen research-practice relationships. These are:

1. What works to improve KM? Such a bald statement hides the many factors that affect the answer. A more reasonable way to put the question is to ask: What kinds of efforts to promote knowledge mobilization have what effects under what circumstances? Of course this question also has many implications for how we think about KM and the ways through which it does or could take place. Given how much activity is currently going on in the field, though, we are potentially well placed to do the empirical work necessary to address this question.
2. Following from #1, what sorts of infrastructure are needed to support more effective KM? What kinds of capacities, systems, resources and relationships should be built? So far much effort has gone, as noted, into making research more available in various ways, but it is already clear that availability is not enough. Again, the scope of activity underway provides fertile grounds for empirical work on this question.
3. What needs to be done to improve our knowledge about KM itself? What research tools, practices and protocols need to be developed? What kinds of data are required and how can they best be obtained?

CHALLENGES

I have framed the challenges around KM in three areas—carrying over the conceptual and practical categories from earlier and adding a third category of research issues. It remains the case that all three are interrelated.

This discussion may read rather negatively, but that is an inevitable corollary of focusing on challenges (for which another world is ‘problems’). It would be more accurate to see the following sections as describing opportunities for learning and, indeed, for knowledge mobilization.

Conceptual Challenges

1. Lack of agreement on terminology
2. Multiple conceptual frames and lack of agreement on main issues
3. Working across disciplines

Terminology

One of the problems in this field is the multiplicity of terms and concepts with large amounts of overlap in meaning but little agreement on which terms should be used when. This paper uses the term ‘knowledge mobilization’ to refer to the relationship between research and practice. “Mobilization” is preferred because it emphasizes the multi-dimensional, longer-term and often political nature of the work in comparison to earlier terms that seem to imply a one directional and linear move from research to practice. However many other terms are also in use. The text box below has some selected examples⁶, recognizing that all these terms are subject to debate.

The multiplicity of terms that clearly have large areas of overlap in meaning, if also some differences in their emphases, is to be expected in any newly developing field, and may be an inevitable feature of an area of study as interdisciplinary and wide-ranging as this. It seems highly unlikely that agreement will emerge in any short period of time on one or two terms instead of 6 or 8, desirable as this might be. And although some effort to improve terminological agreement or precision might be useful, one would not want to focus on issues of language at the expense of the empirical and conceptual challenges to be described shortly. To draw an analogy, much effort has been expended, to little avail, trying to be clearer about other important social science terms such as ‘quality’ or ‘leadership’ or ‘politics’ or ‘management’. The lack of agreement on these ideas or the factors underlying them has certainly not prevented powerful and highly useful work being done around them.

⁶ More examples can be found on our project website, at www.oise.utoronto.ca/rspe

Table 1: Terms and Definitions

TERMS	DEFINITIONS
Knowledge mobilization	“Knowledge Mobilization is ... getting the right information to the right people in the right format at the right time, so as to influence decision-making. Knowledge Mobilization includes dissemination, knowledge transfer and knowledge translation.” http://www.onf.org/knowledge/glossary.htm
Knowledge brokering	“Knowledge brokering links researchers and decision makers, facilitating their interaction so that they are able to better understand each other's goals and professional culture, influence each other's work, forge new partnerships, and use research-based evidence. Brokering is ultimately about supporting evidence-based decision-making in the organization, management, and delivery of health services” Canadian Health Services Research Foundation (http://www.chsrf.ca/keys/glossary_e.php accessed Jan 18, 2008).
Knowledge exchange	“Knowledge Exchange refers to activities that help to create and support the conditions and culture that lead to the most effective access, implementation, utilization, and evaluation of the most credible evidence for improved mental health outcomes for children and youth in Ontario” (Levesque et al, 2007).
Knowledge management	“Knowledge management involves creating, securing, coordinating, combining, retrieving and distributing knowledge” (Lin et al., 2006).
Knowledge transfer	“Knowledge transfer is about transferring good ideas, research results and skills between universities, other research organisations, business and the wider community to enable innovative new products and services to be developed.” UK Office of Science and Technology (http://www.ost.gov.uk accessed Jan 24, 2006).
Knowledge translation (KT)	“The collaborative and systematic review, assessment, identification, aggregation and practical application of high-quality disability and rehabilitation research by key stakeholders (i.e., consumers, researchers, practitioners, policy makers) for the purpose of improving the lives of individuals with disabilities.” US National Center for the Dissemination of Disability Research (NCDDR)
Knowledge utilization	“The study of how individuals and teams acquire, construct, synthesize, share, and apply knowledge” (Greenhalgh <i>et al.</i> , 2004, p. 588)
Knowledge- to-action (KTA)	“We have divided the KTA process into two concepts: knowledge creation and action, with each concept comprised of ideal phases or categories. In reality, the process is complex and dynamic, and the boundaries between these two concepts and their ideal phases are fluid and permeable.” (Graham et al, 2006).
Dissemination:	“Dissemination goes well beyond simply making research available through the traditional vehicles of journal publication and academic conference presentations. It involves a process of extracting the main messages or key implications derived from research results and communicating them to targeted groups of decision makers and other stakeholders in a way that encourages them to factor the research implications into their work. Face-to-face communication is encouraged whenever possible” Canadian Health Services Research Foundation (http://www.chsrf.ca/keys/glossary_e.php accessed Jan 18, 2008).

Multiple Conceptual Frameworks

More to the point is improvement of the conceptual frameworks underlying work on knowledge mobilization. The RSPE website (www.oise.utoronto.ca/rspe) includes a dozen diagrams or other illustrations of conceptual frameworks related to knowledge mobilization. A few of these are included as an appendix to this paper to illustrate the range of ideas. While here, too, we are not going to reach agreement or to prevent even more frameworks from being developed (that is, after all, part of what academics do), more debate about the relative merit of these frames, along with more empirical evidence (about which more later), will help improve their quality if not reduce their number.

Underlying almost all the conceptualizations we have reviewed is some kind of process-product model with three main elements—the input (the evidence), the outcome (practices or decisions), and the process through which these are linked. A main challenge is how to deal with all the complexities —of participants, timelines, processes, feedback systems and exogenous influences—that are recognized to be important. In some presentations these elements are framed in much more complex ways than in others—for example with more mediating and moderating variables, or with various recursive elements, or with all sorts of feedback loops—but those three main elements are present in all of the examples we have found. Other elements, however, and the relationships among them are quite variable from one model to another. Although all models have some process element to them, some of them are one-directional and others circular. They give varying levels of importance to users and their organization—or, for that matter, to researchers and their organizations. They frame the problematic around research in ways that are quite different from one another.

There are some problems that do seem to run across the models. For example, many of the models seem to give dominance to the work of researchers, with everything else being organized around the production of research. Political factors are often given a minor place or ignored altogether, even though they are important determinants of research use. For example, decisions about what research will get supported or communicated are made based on a range of factors that may well go beyond the quality

or potential value of the work. Similarly decisions about whether organizations will devote resources to knowledge mobilization depend on other priorities and pressures facing those organizations as well as on the attitudes of senior managers and political leaders. Also many of the models seem to adopt an individualistic orientation, in which practices or decisions are made by single people who are affected by research, whereas the (limited) empirical evidence suggests that organizational factors—culture, infrastructure, leadership, routines—have at least as powerful an influence as individual volition and action (Syed-Ihksan & Rowland, 2004).

A further conceptual issue is that the two ends of the triad need much more careful discussion; first what counts as the input—i.e. “research” or “evidence” or “ideas”—and second, what counts as the output - the ‘use’ of these inputs. In the broader literature on diffusion of ideas or knowledge, there is a considerable definitional challenge as to what is meant by “ideas” or “knowledge”. For purposes of this paper the task is a little easier, since the focus is on evidence produced through research processes, typically in universities or other research centres. However even here the boundaries are far from clear, as is evident from many efforts over the years to create and maintain research inventories or directories. Creating such inventories was often proposed in earlier decades as one way of dealing with KM issues. Each effort ran into big problems of definition around what would count as research. Does research include only peer reviewed work? Only work with empirical evidence? Only work that has been publicly reported? What quality standards, if any, should be applied to the selection? These problems are among the reasons very few such directories or inventories have succeeded or lasted, and in any case they have been to a large extent made redundant by the advent of the internet and its search engines.

At the same time, knowledge distribution has become a major concern in the private sector, not only in the growth of online resources and companies (surely Google and other search engines are now the number one knowledge locating tool in the world) but also in the growth of companies that are deeply involved in various forms of KM work, from pharmaceutical companies to knowledge companies such as Thomson or Pearson.

The development of library resources through such elements as the growth of online journals or access to journals is another significant development.

In regard to impact, Nutley et al. (2007) do a very fine job, building, as they readily acknowledge, on the work of others, of illustrating the myriad ways in which evidence or ideas come to matter in the world. They also present, in Chapter Two of their book, several taxonomies for thinking about these impacts. It is widely agreed that narrow definitions of either evidence or use are not helpful; that many kinds of ideas from many sources enter the area of public thought and action in many ways, and that these ideas can make a real difference in myriad ways and over either short or very long periods of time. As Nutley et al. put it,

The use of research is a varied and complex phenomenon, and what it means to use research can be defined in many different ways. Identifying different models or types of research use highlights the multiple and often subtle ways in which research can be used. (2007, p. 58).

However true, we cannot be content with this view, as it offers no purchase on what to do. To say that everything is contextual is not helpful, even if true. Surely one important part of the scientific enterprise is the search for regularities that can deepen our understanding. In that case we have to try to find those regularities, whatever difficulties there may be in doing so.

Working Across Disciplines

Knowledge mobilization is a highly interdisciplinary activity, as noted earlier. It ranges across multiple disciplines and applied fields, and, as usual, each field has its own way of approaching the issues—which is one of the reasons for the multiple terminology mentioned earlier.

Interdisciplinary work is difficult not only because different fields of study have different ways of approaching problems, but also because the interpersonal networks of researchers, and between researchers and practitioners, tend to exist within disciplines or

fields, not across them. So people interested in KM in health tend not to know or talk to people interested in KM in education and vice versa. Even within a field such as health or education it is difficult to build good networks (about which more later); across fields it is even more difficult. Yet many of the central issues, conceptual and practical, are very similar from one field to another.

The situation is complicated further by the geographical dimension. KM is increasingly not only interdisciplinary, but also international, creating geometric if not logarithmic increases in the number of people and points to be connected. So a prime challenge is finding ways to increase communication on KM issues across a range of fields while recognizing that it is impossible to connect everyone in any meaningful way.

Research Challenges

Having more and better research on knowledge mobilization will require progress in three areas.

1. More data and evidence
2. Better data-gathering tools and study designs
3. Better research networks

Lack of Evidence

Every major review of research into practice relationships concludes that the base of evidence on this issue is far too weak. There are too few studies, and too many of them offer only weak evidence, such as a few case studies or a survey. For example, Mitton et al. (2007) reviewed knowledge transfer and exchange (KTE) research in health. They were able to find 81 papers that met their quality standards, but only 18 were actually empirical studies of the effects of knowledge transfer practices; the rest were analyses of barriers and constraints. They found no true experiments in this area. They conclude:

...despite the rhetoric and growing perception in health services research circles of the “value” of KTE, there is actually very little evidence that can adequately inform what KTE strategies work in what contexts. (756)

Their finding is echoed by many others (Rickinson, 2005). Hemsley-Brown (2003), reviewing research on evidence use in management, concluded that “there was little empirical research evidence to indicate which strategies were effective in increasing research use by managers, or practitioners.” (540).

There are some exceptions, however, primarily through work of the Cochrane Collaboration. Jamtvedt et al. (2006) reviewed more than 100 controlled trials on the use of audit and feedback to affect physician practices and found that these tools did have an impact but not large and consistent enough to suggest that they be mandatory. Shaw et al. (2005) conducted a systematic review of reports of 15 randomized controlled trials designed to affect health delivery but concluded that there were too many other factors to draw any strong conclusions from this evidence.

So ironically, all the effort around mobilizing or exchanging research knowledge itself rests on a very flimsy basis of evidence. (It should be noted, however, that Canada has contributed an impressive share of the research that does exist.)

Remedying this situation should be a high priority, and one that Canada is well placed to support given the importance of our contribution so far (Lavis, 2006). The reality is that the increased interest described at the beginning of this paper has not translated yet into sufficient research capacity or infrastructure. Not enough studies are funded or done, and those that are tend to be, as so often in the social sciences and humanities, small scale and oriented towards cases or interviews rather than more quantitative strategies. There is not enough replication or cumulative work. Too many studies construct new frameworks instead of building on the work of others. Not enough research actually tries to measure the impact of KM, as opposed to describing it or getting people’s opinions on it. Cases can and will play an important role, but it is now time to supplement them with larger scale studies that can yield stronger empirical data. Of course these criticisms are familiar to many in the social sciences and humanities and are hardly unique to the area of knowledge mobilization.

Better Tools and Designs

Better research in this area requires not only more studies, but improved tools. This paper does not include any substantive review of the methodological quality of the research on KM. However some deficiencies are clear from the literature that was reviewed. Many of the existing studies have designed their own instruments that then lack good validity or reliability data (Jamtdvet et al., 2006; Sudsawad, 2007). Studies may also ask for general responses to research divorced from any specific research or decision, leading to the possibility of strong social desirability effects. What professional would respond to a survey saying that they were not interested in research, or did not read or use it?

One reason there is not more good quantitative work is that it is conceptually and practically difficult to develop good measures in this area. Given all the varied notions of what research is, what use is, and how it happens, the task of constructing good empirical tools to gather data becomes much more difficult. The measures have to be well linked also to conceptual frameworks, as appropriate measures will depend at least to some degree on the kind of use being investigated.

Building Networks

The problems of conceptualization and methodology are exacerbated by insufficient connections across disciplines in a field that is by its nature interdisciplinary. The work on knowledge transfer in each discipline or applied field tends to be isolated and loses the possibility of synergy. That situation is starting to change as more networks of various kinds are formed across disciplines, and as the body of work such as that by Nutley and colleagues, which is explicitly interdisciplinary, grows and as there are more cross-field conferences or journals. However this development could be facilitated by explicit actions by research organizers and funders to build such networks. Canada has had very good success in generating more and better work in key areas through programs that built networks, sometimes of researchers but more often not only across institutions and disciplines but also involving practitioners in various ways. We could learn a great deal

about the potential and limits of networks from a careful examination of the experiences of the National Centres of Excellence and the various research networks supported by SSHRC.

The increasing interest in KM internationally also offers possibilities. It is important to think about how to build networks that will be productive across regions, countries and disciplines. There is a risk in being too narrow but also a danger of losing focus and connection if one tries to include everyone.

Practical Challenges

The main practical challenges to effective knowledge mobilization have already been outlined. They are:

1. Weak KM practices in mainstream organizations around production and use of research.
2. Better understanding and use of third parties
3. Taking easy and practical steps
4. Building organizational commitment

Weak KM Practices

The analysis of websites being conducted by the OISE team, admittedly a fairly crude indicator, indicates, rather to our surprise, that most organizations are devoting little if any effort to KM activities beyond paying “lip-service”. (A public report on the website analysis will be available in the near future). Most ‘user’ organizations, such as school districts and, in their capacity as receivers of research, post-secondary institutions show little evidence of KM work of any kind, even of making useful research available to internal audiences. Most Canadian ministries of education also have little or no research content on their sites, though there are some counterexamples, such as the Manitoba Education Research Network, supported by the Manitoba Department of Education, the Ontario Education Research Strategy or the British Columbia work around identifying success levels of Aboriginal students.

More worrying is that universities and faculties of education also appear to give little attention to organized KM, notably so in comparison to technology transfer or industry liaison efforts in areas such as science or medicine which are much better organized and supported than are analogous activities in the social sciences. For example, very few universities provide good access to the research produced by their faculty; at best there might be lists of projects or reports, but typically little beyond that. It is hard to find out what research is being done, and by whom. Open access to research produced with public funds is an important idea that is still in very early stages in terms of implementation; a considerable amount of this work is only available by purchase from private companies. Universities are starting to pay more attention to KM issues than used to be the case, but their efforts are hampered by the lack of evidence on the most valuable or effective steps to take.

Where there is activity, it appears to be primarily around products – that is, access to reports of various kinds. This material is often organized in terms of the internal structure of the organization – such as by department or faculty member in a university, or by program area in a non-government organization, even though consumers of research do not understand or care about those divisions. Only a few organizations appear to have made efforts to organize their research according to categories or issues that would be more likely to be meaningful to visitors, drawing our attention to challenges for any knowledge organization in understanding who their clients are and what they are actually seeking.

Further, there is little evidence on most of these sites of any effort to build interaction or face-to-face connections between researchers, mediators, and users. Research events or network building is rare, with the exception of academic research events that are typically not oriented to KM in its broader sense. Interesting ideas about the use of the arts, such as drama, as a KM vehicle remain well outside mainstream thinking.

There are some exceptions to this pattern, mostly among organizations that have a particular mandate to try to influence public or sector opinion. For example, policy think

tanks give considerable attention to KM—it is, after all, their reason for existence. Some other third party organizations also have interesting approaches to knowledge mobilization work, for example in how they reach out to the media or to community groups, or in their approach to building personal contacts and networks. These intriguing examples also offer important opportunities for study and learning regard their impact. In a sense we are in the midst of a natural experiment around KM if we can put the research element in place!

If the organizations that are major producers of research are quite weak in addressing KM issues, so are the organizations that could benefit most from high quality research. As already noted, most Canadian ministries of education have very weak internal research capacity, and where they do it is often devoted to short-term data analysis or issue management work. Although some large Canadian school districts have research units, these tend to have responsibility for testing and data analysis rather than for KM activities. Ironically, universities themselves often have very weak internal mechanisms to share research evidence on their own activities. In most schools and districts there is no infrastructure dedicated to knowledge mobilization work.

While there is much lip service to evidence-based or evidence-informed policy and practice, few resources are in fact devoted to this work at any level in any educational organization, so that even if there were widespread agreement that more needed to be done, there would be little capacity to do it. On the other hand, there is growing recognition among all the above parties that this lack of infrastructure is indeed a problem, with more organizations trying to take at least some steps to do more.

A neglected area in knowledge mobilization is the role of graduate or advanced study. Large numbers of professionals and managers in many organizations participate in graduate study or advanced continuing education, where they do have extensive contact with research and researchers (Hemsley-Brown, 2003). However typically neither universities, which provide these programs, nor the organizations in which the students work take much advantage of this experience to build ongoing relationships with

researchers, or to strengthen their internal capacity to share and use research findings. Since the time and money investment in the study is already being made, this represents a promising area for progress – if, for example, graduate students received both specific advice and internal support for playing a mediating or brokering role around research in their home organizations.

Roles of Third Parties

There is increasing agreement in KM work that third parties of various kinds play a critical role. Indeed, in many cases it appears that mediating work of various kinds is the decisive factor affecting knowledge take up and use. However both our understanding of the nature and work of third parties, and actual KM activities around them, are still rather underdeveloped. We lack good taxonomies of the kinds of third parties that are involved in KM, though even a very quick consideration shows how diverse these can be, ranging from explicit KM agencies to lobby groups to the media to professional organizations to companies and individual entrepreneurs. These organizations and individuals also provide a diverse set of services and programs, ranging from publications to learning events (seminars, conferences), to networks to professional development work to policy lobbying and media relations. The different kinds of third parties and the ways in which they act as knowledge and research brokers deserve more consideration.

More could also be learned from analogous activities in other sectors. Technology transfer and industry liaison come to mind as areas worth studying because they are more developed and better resourced than is KM in the social policy areas. Yet there is very little knowledge transfer between social science KM and similar work in science, medicine or engineering (Bercovitz & Feldman, 2006).

The larger KM related organizations in learning in Canada can play an important role in supporting improvement. For example, SSHRC has a vital role as a primary funder of social sciences and humanities research and graduate study in Canada and already has an explicit commitment to building the impact of the work it supports, though results of these efforts appear to have been variable. The CCL also has an important role as an

independent national organization with an explicit mandate for KM in learning for its own sake (that is, without any other focus such as lobbying for particular policy positions). CCL has, even in its few years of existence, supported an interesting range of efforts that deserve some study as to their impact and value. Canada has very few alternative sources of support for these activities – as is provided in other countries by charitable foundations or national organizations. It seems desirable for sponsors such as SSHRC and CCL to continue to build support from a range of other organizations, including governments and universities, to get the greatest possible value from the limited resources that are available.

Easy and Practical Steps

There are many simple and inexpensive actions that could be taken in Canada to improve KM in the short term.

One might think of the steps as involving one or more of the following:

- Increasing capacity to do research that is more likely to have an impact;
- Increasing capacity and infrastructure for knowledge mobilization, and especially creation of interpersonal, cross-organizational networks;
- Strengthening the role of and connections to third parties.

As one example, the Ontario Education Research Panel, set up a year or so ago to improve the value and impact of education research in the province, has proposed the following steps.

Individual researchers, faculties and universities could:

- Support and develop open access to research work, including posting studies in progress and all reports and publications on individual or institutional websites with free download wherever possible;
- Develop a research ‘news’ capacity to advise interested partners as to their current and recent research.

- Indicate to partners the areas in which they are conducting research, allowing partners to create linkages in areas of interest.

School districts could:

- Post publicly a list of priority areas in which they are interested in research, with expedited approval processes for researchers working on those areas.
- Have a ‘research links’ page that provides access to useful or important research done by or in the district, or outside studies that the district finds important.
- Include information about research in their regular internal and external communications

Provincial ministries could:

- Maintain a public statement of research priorities and of research projects it is supporting or has recently supported.
- Make publicly available all reports from research it has commissioned.
- With partners, develop a small program to build research capacity in areas of critical importance.

All of these are modest proposals that could be developed at little cost and would smooth and improve research in any jurisdiction. One could easily imagine a variety of other proposals, ranging from similarly modest to much more extensive, that would also have positive effects. Most organizations have weak infrastructure for supporting KM in areas such as communications or internal and external circulation of materials and ideas.

Presumably one focus of the seminar will be on generating and evaluating such ideas. At the same time, the evidence suggests we should be cautious about excess enthusiasm for any particular initiative. Many things have been tried in this arena, and few seem to produce clear effects. This means that evaluation of initiatives is another area requiring attention.

Building Organizational Commitment

One implication of the analysis in this paper is that most organizations are simply not geared up to give KM work sufficient import and attention. This appears to be broadly true across the learning sector, from funders to research organizations to organizations provide learning programs and activities. The exception, nor surprisingly, is organizations with a specific focus or mission around KM types of activities.

KM will, for most other organizations, be only one part of their work. However this function may be given more or less attention, and in more or less effective ways. There would seem to be value in efforts to raise the profile of KM activity with leaders and senior managers across the learning sector, to increase their understanding of what KM is, why it is important for them, and what they can do to support it given the real pressures and constraints on their organizations. As suggested above, there are a number of useful steps that most organizations could take with very modest commitment of resources; how to create the conditions under which these steps are taken in many organizations is an important issue. Universities could improve their support and infrastructure for KM in ways analogous to what they have done for technology transfer. Research funders could move beyond asking for dissemination plans to giving more support to build the necessary capacity and infrastructure. All parties could do more, often in quite modest ways, with beneficial results.

CONCLUSION

This review suggests that action for knowledge mobilization is needed on several fronts simultaneously – to improve our understanding of and base of evidence on knowledge mobilization, and to strengthen and evaluate knowledge mobilization activities in a range of organizations. The purpose of this work would be, of course, to increase the role of research evidence in shaping policy and practice, recognizing the reality of the many other, often more powerful, forces that are also in play.

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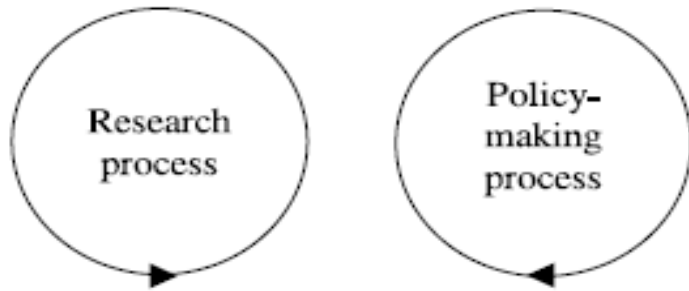
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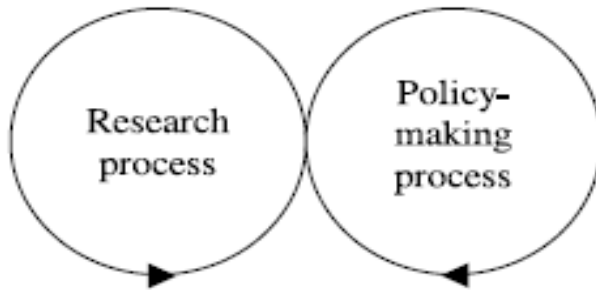
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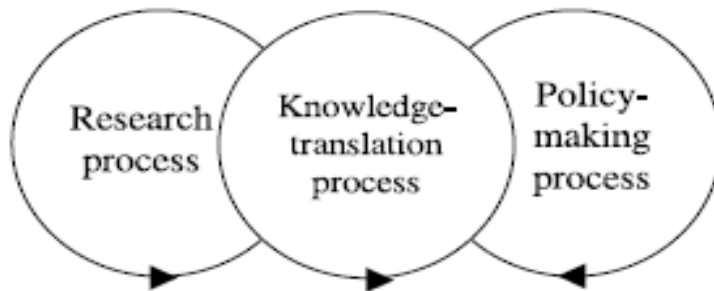
Research, Policy, and Knowledge Translation Process (Lavis, 2006)



Scenario A – Unlinked asynchronous processes

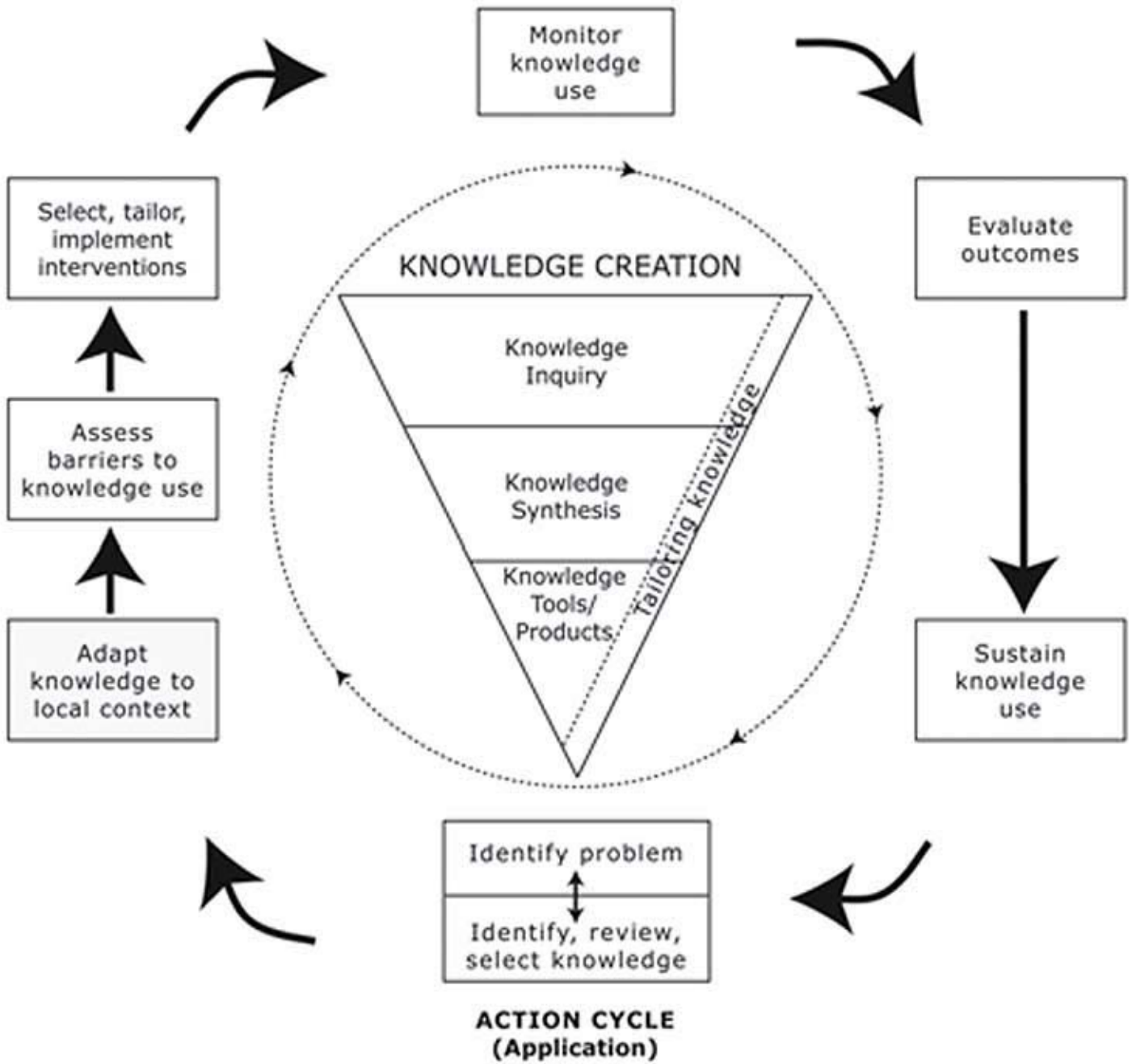


Scenario B – Fortuitously linked processes

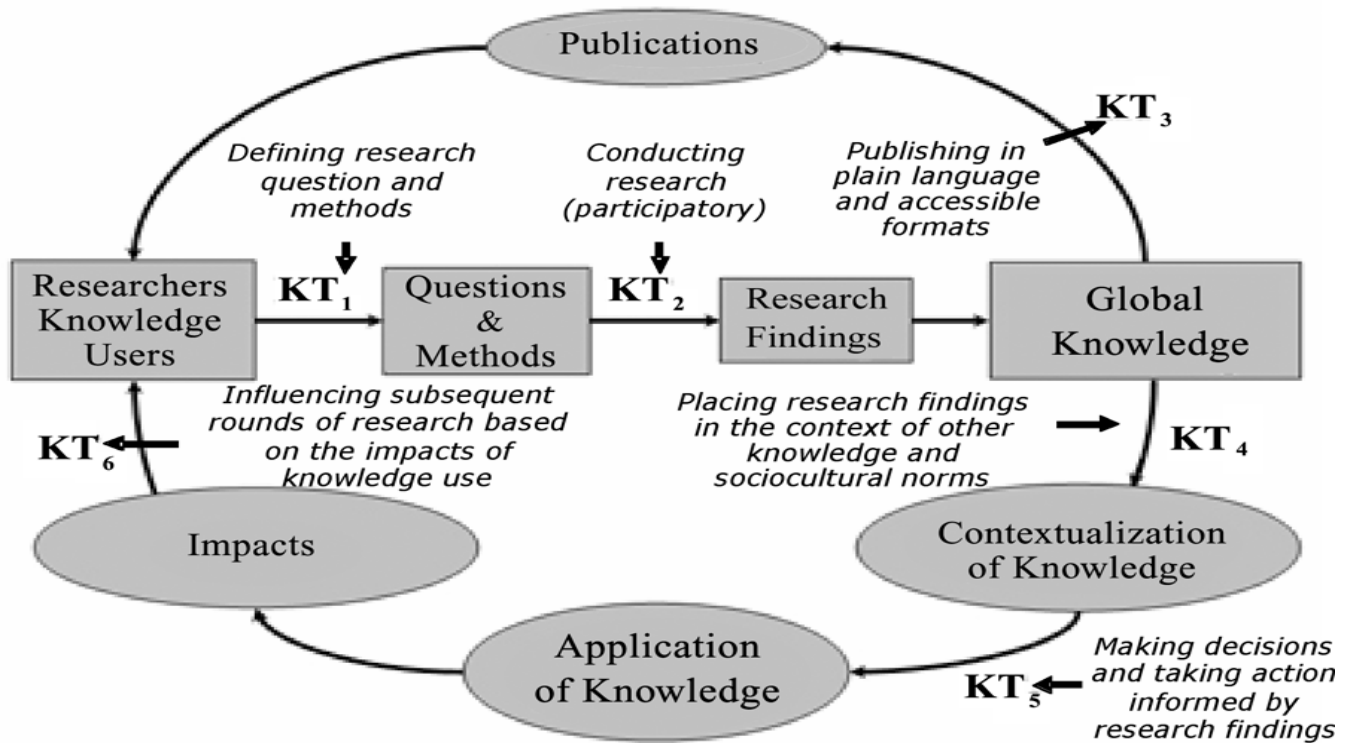


Scenario C – Purposefully linked processes

Knowledge to Action Process (Graham et al., 2006)



CIHR Research Cycle Superimposed by 6 opportunities to facilitate KT (Sudsawad, 2007)



NIDRR Logic Model (NIDRR, 2005)

Appendix 2

NIDRR Logic Model: Targeted Outcome Arenas

