

Advancing Knowledge Mobilization in Colleges of Education

Steven J. Zuiker, *Arizona State University*

Niels Piepgrass, *Arizona State University*

Adai Tefera, *Virginia Commonwealth University*

Kate T. Anderson, *Arizona State University*

Kevin Winn, *Arizona State University*

Gustavo Fischman, *Arizona State University*

Abstract This study examines emerging efforts by three colleges of education to contribute to research use through public systems of knowledge exchange among researchers, practitioners, policymakers, and other education stakeholders. Often labeled *knowledge mobilization* (KM), such organization- and individual-level agendas seek to enhance, expand, and sustain engagement with educational research. Colleges of education with public KM agendas signal formal, local efforts at a time when KM remains weakly integrated within education. This study seeks to highlight the interdependent opportunities and challenges that accompany individual and organizational capacities for such change associated with KM. Findings from analysis of faculty survey responses ($n = 66$) suggest that progressive engagement with KM among colleges of education challenges their faculty to navigate the competing demands of knowledge production and mobilization.

Keywords Research use; Colleges of education; Faculty; Mobilization of knowledge; Knowledge production

Steven J. Zuiker, Niels Piepgrass, Adai Tefera, Kate T. Anderson, Kevin Winn, & Gustavo Fischman (2019). Advancing Knowledge Mobilization in Colleges of Education. *International Journal of Education Policy & Leadership* 15(1). URL: <http://journals.sfu.ca/ijepl/index.php/ijepl/article/view/808> doi: 10.22230/ijepl.2018v15n1a808

IJEPL is a joint publication of **PDK International**, the Faculty of Education at **Simon Fraser University**, the College of Education and Human Development at **George Mason University**, and the **University of Delaware**. By virtue of their appearance in this open access journal, articles are free to use, with proper attribution, in educational and other non-commercial settings 90 days after initial publication. Copyright for articles published in IJEPL is retained by the authors. More information is available on the IJEPL website: <http://www.ijepl.org>



Introduction

Colleges of education and their faculty advance research in pursuit of two important goals: excellence and relevance. With respect to relevance, they continually seek ways to make research matter more in order to achieve broader impact in education (Levin, 2004). Impact includes not only the context of research use but research production and, ultimately, the connections among production and use. While faculty and practitioners in the education sector already interact in various ways, the use of research outside of disciplinary communities is typically slow, intermittent, and inadequate (Powell, Davies, & Nutley, 2017). Faculty and practitioners therefore often interact only indirectly via passive, discrete, and one-way dissemination strategies such as traditional journal publications or policy briefs. In recent decades, more interactive alternative strategies have emerged. These include intermediaries such as knowledge brokers (Knight & Lyall, 2013) and contractors (Farley-Ripple & Jones, 2015) who interact with both producers and users. Other alternative strategies organize faculty and practitioners in active, continuous, and multi-way exchanges (Klein & Gwaltney, 1991; Tseng, 2012a) such as partnerships (Penuel, Coburn, & Gallagher, 2016; Tabak & Margolin, 2013) and other knowledge mobilization (KM) processes (Cooper, Macri, & Read, 2011; Levin, 2004; 2011). The expanding array of KM strategies attempts to increase excellence and relevance by raising expectations for broader impact.

KM is an area of scholarship that concerns the wide-ranging strategies used to expand opportunities for sharing knowledge among practitioners and researchers, including college faculty (Davies, Nutley, & Walter, 2008). The literature on KM often considers individual-level efforts; however, institution- and sector-level strategies and approaches have also been discussed (e.g., Klein & Gwaltney, 1991). These efforts characterize complex, interrelated challenges that require both individual and collective agendas. Colleges of education and their faculty, for example, must reconcile a historical tradition of disciplinary authority—one that runs the risk of emphasizing disciplinary excellence at the expense of societal relevance. Against this general backdrop, the present study considers organization-level KM agendas as they have begun to emerge within colleges of education (Fischman, Anderson, Tefera, & Zuiker, 2018; Qi & Levin, 2013). Specifically, it seeks to illuminate organization-level efforts to mobilize knowledge by describing the perspectives and perceptions of the faculty working within colleges that have KM agendas.

This article is comprised of four parts. A review of the literature establishes the intellectual merit of studying KM and attendant systems of exchange and engagement, with particular emphasis on colleges of education. Next, a methodic approach to data generation and analysis using surveys is described and contextualized. Then, findings characterize faculty members' scholarly practices and agendas in relation to the KM-oriented colleges of education in which they work. Lastly, findings are discussed in relation to KM for scholarship in education.

Literature review

Educational research is produced, mobilized, exchanged, and ultimately engaged in varied ways. This review concentrates on the process of mobilizing knowledge with

attention to the opportunities and challenges associated with the education sector and colleges of education, in particular.

Knowledge mobilization in education

For research to impact practice in education, Ben Levin (2004, 2011) argues that three separate contexts must be considered: the context of research production, the context of research use, and the contexts mediating production and use (namely the connections and interactions among individuals and organizations). These three contexts are rarely discrete and well-bounded. Rather, they remain entangled. Graduate students in education, for example, often assume simultaneous roles as practitioners in schools and researchers in colleges. Against this backdrop, the idea of KM refers to “the multiple ways in which stronger connections can be made between research, policy and practice” (Levin, 2011, p. 15). Knowledge mobilization in education, therefore, seeks to enhance and optimize the contexts of research production, use, and mediation in the service of educational policy and practice.

KM organizes intentional efforts by individuals and organizations to make research matter more beyond academe. To do so, KM efforts seek to strengthen the value for, and impact of, research in the education sector (Levin, 2004). KM therefore considers how research producers—both individual researchers and research organizations—can increase the use of research evidence in policy and practice as well as foster reciprocal social processes among stakeholders (Cooper, Levin, & Campbell, 2009; Cooper & Levin, 2013; Levin, 2004; 2011; Sá, Li, & Faubert, 2010; cf. Willis, Riley, Lewis, Stockton, & Yessis, 2017).

These efforts notwithstanding, increasing the value and impact of educational research often proves elusive, reflecting long-standing challenges in education. For example, David Berliner (2002) suggests that educational research may be the hardest science. He explains that “broad theories and ecological generalizations often fail because they cannot incorporate the enormous number, or determine the power, of the contexts within which human beings find themselves” (p. 18). As such, the dynamic local contexts of education complicate the efforts of researchers and practitioners, respectively. Without KM efforts, neither researchers nor practitioners can navigate the wide-ranging contexts that research targets, underscoring the importance of context-dependent optimization. For these reasons, KM strategies and practices inspire and enable more concerted contributions within the education sector, both among individual researchers and, increasingly, among research organizations as well.

Given the degree to which context matters in education, some approaches to KM suggest that researchers expand their efforts beyond a one-size-fits-all approach to dissemination. That is, rather than concerted dissemination strategies that seek to serve policy and practice across all contexts, some KM efforts organize interactive processes with practitioners in order to transform and sustain research-based innovations in particular contexts (e.g., Penuel, Coburn, & Gallagher, 2013). These processes underscore the importance of reciprocity, including cooperation, coordination, collaboration, and other forms of mutual engagement. Reflecting this point, these interactive processes with practitioners also focus on problems of practice rather than the questions of a discipline (Gutiérrez & Penuel, 2014; Ladson-Billings & Tate, 2006).

Any approach to KM ultimately creates new tensions for universities because KM expands beyond the traditional orientation towards knowledge production that organizes universities (Sá, Li, & Faubert, 2013). Moreover, the value of expanding or shifting the orientation of universities remains open to debate, as faculty members' research foci and approaches to impact vary widely. The range and variation in faculty members' research areas therefore complicates efforts to define KM-related targets, criteria, measures, and outcomes in an institution-level strategy. Further, for some areas of research, any KM efforts may be perceived as a threat to forms of inquiry that do not promise immediate application (Nutley, Walter, & Davies, 2007). Even the general idea of KM suggests utilitarian or instrumental views that some faculty or administrators perceive as being beyond the purview of universities. Yet, without explicit KM policy within universities, faculty are left to navigate the competing demands for both knowledge production and broader impact but promising strategies have been identified.

Nora Jacobson, Dale Butterill, and Paula Goering (2004) characterize five factors that universities can address in order to facilitate KM. Foremost, by revising internal policies (e.g., promotion and tenure guidelines), universities can recognize and incentivize KM. Second, by providing resources and funding, they can foster linkages among groups and capacity-building among faculty (e.g., developing memoranda of understanding; communicating in plain language). Third, developing internal structures, such as dedicated KM centers or institutes, can support and promote KM. Fourth, enhancing organizational orientations toward KM (e.g., internal policy and practice) communicates the status and priority of KM. Finally, documenting and standardizing KM practices supports planning and evaluation in order to continuously improve KM agendas within an organization. These five factors represent interrelated areas that can begin to harmonize incentives and expectations within organizations. They are not, however, exhaustive. Other possible factors that universities can use in support of KM include amending the specific mission of an organization and the level of student involvement (Holland, 1997). Any of these factors represent promising possibilities for facilitating KM in universities, but there is little evidence of organizational efforts to address them, particularly within colleges of education. The present study considers noteworthy efforts among three colleges of education in relation to the five factors developed by Jacobson et al. (2004). The remainder of this article concentrates on the limited KM research concerning colleges of education specifically, and the unique tensions that they navigate (e.g., Fischman et al., 2018).

Fostering knowledge mobilization in colleges of education

Given multiple, interrelated factors that can facilitate KM within organizations, it follows that there are multiple ways in which colleges of education can foster KM. Rhetoric among college administrators and college websites often reflect these possibilities. For example, Creso Sá, Sharon Li, and Brenton Faubert (2011) interviewed senior administrators at 13 research-intensive colleges of education in multiple countries. Most administrators viewed KM as desirable for their colleges but believed that faculty efforts remained under supported. Two colleges, however, did note formal administrative support and direct support to faculty for writing to lay audiences as a form of KM. However, administrators acknowledged that these supports reflected

wider KM agendas advanced by government agencies. While each of these colleges valued KM, organization-level KM agendas had been prioritized or implemented only reactively in response to national efforts rather than proactively from the bottom-up.

Complementing findings from these interviews, Amanda Cooper (2016) analyzed KM indicators on the websites of 21 college of education in Canada. Based on their public sites, most colleges engaged in only “moderate” levels of KM. Moreover, Cooper (2016) reported that it proved “difficult on most university websites even to ascertain what research is being done by whom . . . , let alone what the implications of that research might be for sector stakeholders that might apply that knowledge” (p. 13). While websites and social media can expand KM because they enable direct engagement (Cooper, 2016; Cooper et al., 2018; Qi & Levin, 2013; Veletsianos, 2013), the moderate efforts suggested by college websites underscore the wider tensions within universities considered above, including entrenched traditional scholarly orientations and ill-defined KM targets, criteria, measures, and outcomes.

Given the general tensions that universities face and the specific challenges that colleges of education encounter with regards to funding KM, communicating KM via websites, and supporting faculty KM efforts, it is noteworthy that multiple colleges of education nevertheless pursue organization-level KM agendas. This study seeks to contribute to the lines of inquiry into KM by methodically characterizing the KM efforts of three colleges of education. In contrast to websites and college administrators, this study enlists a survey in order to characterize individual faculty KM practices and faculty perceptions of organizational KM agendas within their respective colleges.

Methods

Participants

Three North American colleges of education within public, research-intensive universities participated in this study based on a selective review of public KM agendas among colleges of education.¹ Specifically, the authors reviewed information on North American university websites in October 2013 to identify colleges of education with publicly visible KM agendas and evidence of the five factors that colleges can address in order to facilitate KM discussed above (i.e., Jacobson et al., 2004). They then followed up via email with college administrators at colleges where websites indicated KM-related efforts. The authors then purposively sampled three colleges with non-trivial KM agendas based on the evidence of these factors. Table 1 indicates which of the

Table 1. The presence of factors that facilitate knowledge mobilization* among sampled colleges of education

	<i>College of Education</i>		
<i>Factors Facilitating KM</i>	1	2	3
Revising internal policies (e.g., promotion & tenure)			x
Providing resources	x	x	x
Developing internal structures		x	x
Enhancing organizational orientation	x	x	x
Standardizing knowledge mobilization practices	x		

Notes: x indicates that a factor is being addressed; * See Jacobson et al., 2004

five factors each college addressed. All three colleges addressed at least three of the factors, in contrast to limited evidence about other North American colleges of education, suggesting that each participating college had established a relatively comprehensive KM agenda (Cooper 2016; Cooper et al., 2018; Levin, 2004; Sá, Li, & Faubert, 2011).

Following best practices for internet surveys (Fan & Yan, 2010), 66 faculty from these three colleges of education responded to an online survey (Zuiker, Piepgrass, Tefera, & Fischman, 2018). The demographics of respondents are as follows: 42 female, 23 male, and one other; 58 White, three Asian, three Latin@, and two other; 26 full professors (five of whom held college-level administrative appointments), 27 associate professors, and eight assistant professors (reflecting the exclusion of tenure-track faculty from participation by one college).

Following best practices for internet surveys (Fan & Yan, 2010), the overall survey response rate was 33 percent. This is a typical rate for surveys administered online (de Vaus, 2013; Sheehan, 2001). Nevertheless, the data only reflect a minority of faculty perceptions at each college. The threat of nonresponse bias due to faculty who were either disinterested in, or opposed to, KM declining to participate is also present. These findings may, therefore, yield overly sympathetic or optimistic characterizations of KM agendas within colleges of education. At the same time, the longstanding challenges and, at best, the moderate adoption of KM justifies this exploration and the findings reported here. The participants in this study thus provide insight into KM agendas within their respective colleges and allow for the exploration of organization-level KM. However, they are not intended to be representative of these colleges, educational research organizations, or the education sector in general.

Survey

The open access survey instrument (Zuiker, Tefera, Anderson, & Fischman, 2018) consisted of 80 total items related to demographics and the five factors that organizations can address in order to facilitate KM (Jacobson et al., 2004). Several aspects of the survey design attempted to elicit faculty perceptions of two factors: (a) college resources provided to support KM and (b) efforts to enhance organizational orientations toward KM. The first gauges the relative importance faculty placed on various knowledge production- and mobilization-related events (e.g., attending conferences, facilitating workshops) and products (e.g., peer-reviewed articles, policy briefs). Using a dual 5-point scale, items prompt faculty to indicate the relative value of these events and products as well as their individual perceptions of how their organization values each. Meanwhile, faculty engagement with local education agencies and their perceived audiences for their scholarly events and products (Nutley et al., 2007) also illuminate college resources and organizational orientations. The remainder of the survey considered other organizational factors that facilitate KM. In order to understand efforts to document (and eventually standardize) KM efforts, the survey considered tools that faculty use to understand how others engage with their scholarship (Konkiel & Scherer, 2013; Piwowar & Priem, 2013; Qi & Levin, 2013). In order to characterize internal policies (e.g., promotion and tenure), the survey also considers stability and change in organizational influences on research, teaching, and service (Hargreaves, 1999; Sá et al., 2011; Willinsky, 2000).

In order to establish the trustworthiness of the data generated by the survey, face and content validity were assessed. A small sample of tenure-based faculty at non-participating colleges of education completed a pilot version in order to assess whether the survey appeared valid to participants (face validity). A recognized expert in KM also piloted the survey to assess whether it represented relevant facets of KM (content validity). Criterion validity was not assessed because additional studies in this area were not identified at the time of development. Construct validity was not assessed because items considered wide-ranging activities that did not aggregate or cluster into overarching constructs.

Data generation and analysis

An administrator at each participating college agreed to introduce the research study to college faculty, provide a link to the online Survey Monkey website, and invite voluntary faculty participation over a two-week timespan. Once collected, the researchers transferred the survey response data to a statistical software program and removed incomplete cases before generating descriptive statistics for all items. Analysis focused on descriptive statistics in order to characterize the general landscape of KM among these colleges of education. In relation to a broader project, the findings presented here complement research reported elsewhere (Fischman et al., 2018). Specifically, faculty perceptions of various aspects of KM characterize college efforts in relation to factors facilitating organization-level KM agendas (see Table 1).

Findings

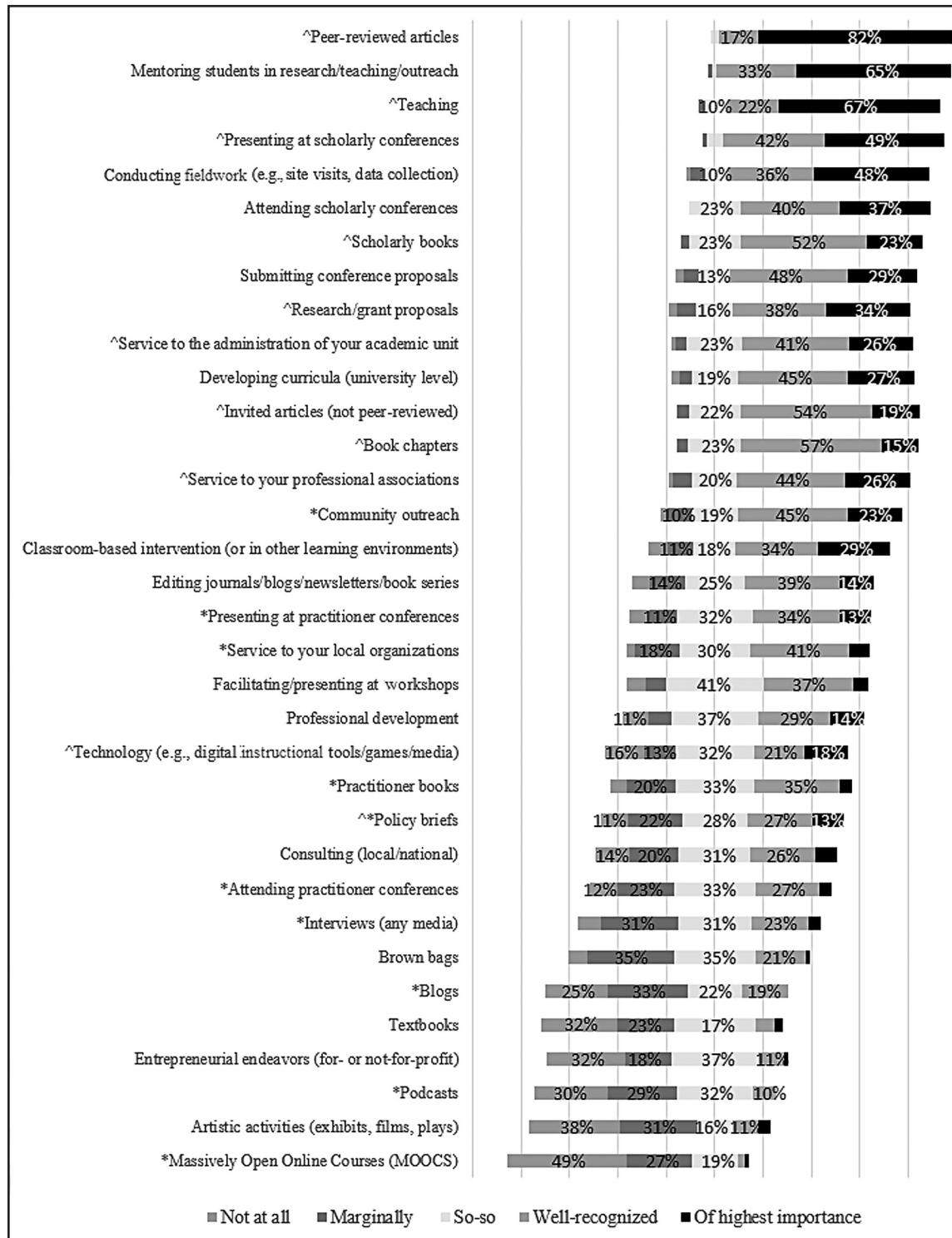
This section reports survey results that characterize faculty perceptions of KM and their colleges' efforts to facilitate KM via organization-level agendas. Foremost, 94 percent of faculty respondents agreed or strongly agreed with the general statement: "educational research should try to generate usable knowledge." Despite this near-consensus view, the presence of KM agendas at all three colleges of education considered in this study did not bring about short-term changes to faculty perspectives on either their own scholarly orientations or their perceptions of their colleges' scholarly orientations. By considering these agendas in relation to multiple factors, this study seeks to explore the complex interdependencies underlying college-level KM agendas from the vantage point of the faculty members who comprise these colleges.

Providing resources and enhancing organizational orientations

Faculty efforts to advance KM agendas in relation to their individual research, teaching, and service commitments have proven a challenging tension to navigate. Characterizing how faculty value KM events and products, as well as how they perceive their respective colleges to value KM, begins to characterize the influence of organization-level KM agendas within colleges of education. Figures 1 and 2 summarize the responses for each of the 34 events and products associated with KM in decreasing order of value. Specifically, Figure 1 depicts the individual valuations of faculty respondents, and Figure 2 depicts the value that respondents perceived their respective colleges to place on each event and product.

Figures 1 and 2 catalogue wide-ranging events and products that begin to explore individual faculty KM efforts in relation to KM agendas unfolding in their colleges. This study concentrates on a subset of comparisons of events and products that, in general, resonate either with KM or with traditional scholarly orientations valued in promotion and tenure decisions.² Drawing on characterizations of KM in the literature, 10 of these 34 events and products relate primarily to KM, while the

Figure 1. The personal value of scholarly events and products for individual faculty

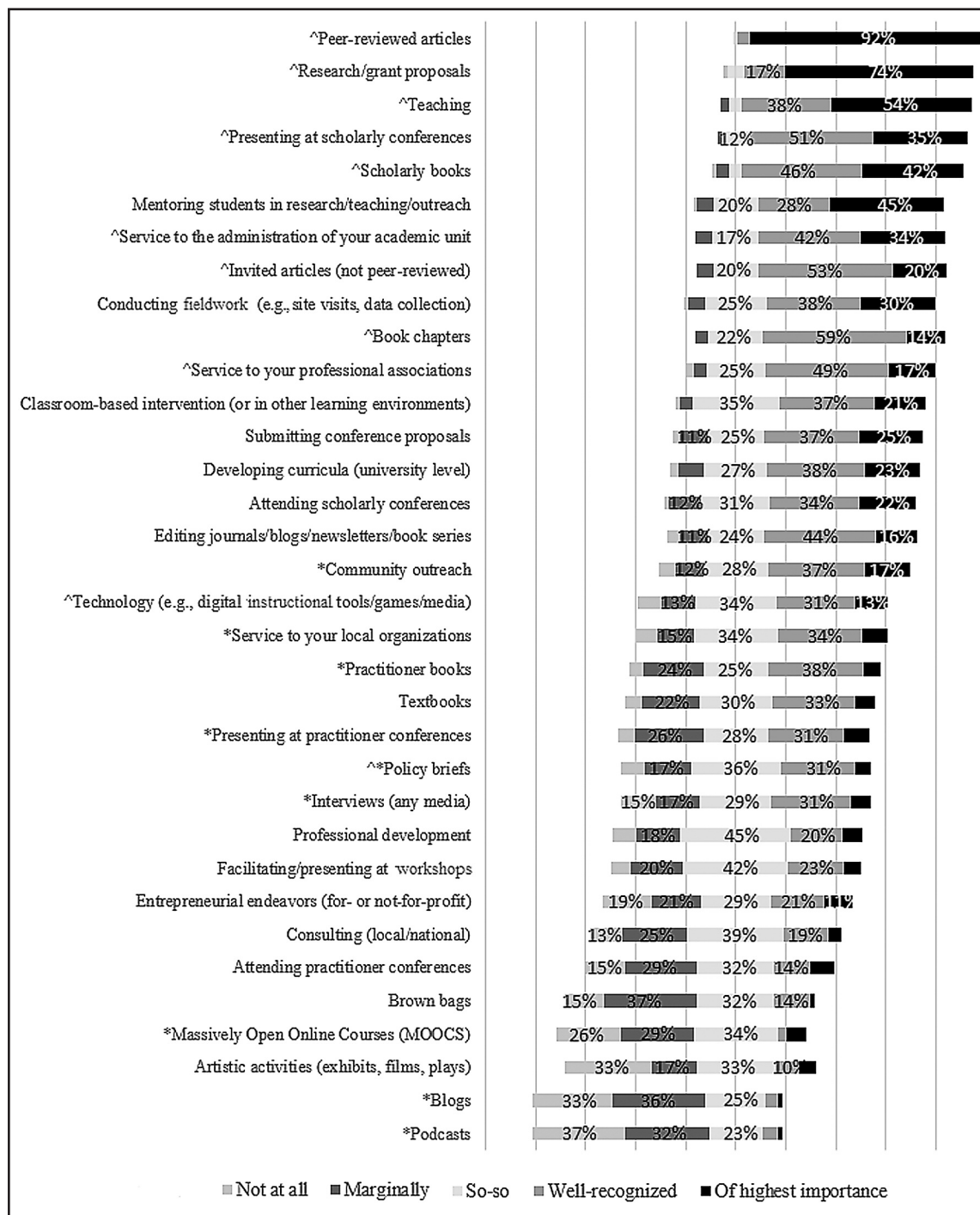


Note: ^ indicates general relevance to promotion and tenure; * indicates general relevance to knowledge mobilization.

remaining 24 focus primarily on conventional knowledge production and dissemination (including a subset of 10 that typically contribute to promotion and tenure).

These delineations begin to characterize organization-level KM agendas in several ways. Foremost, college efforts to facilitate KM did not bring about short-term changes in either faculty respondent perspectives on their own scholarly orientations or their perceptions of their respective colleges' scholarly orientations. Respondents consistently affirmed that the 10 items most strongly related to promotion and tenure

Figure 2. The perceived value of scholarly events and products to colleges of education according to individual faculty



Note: ^ indicates general relevance to promotion and tenure; * indicates general relevance to knowledge mobilization.

are the most valuable to both themselves and to their colleges (e.g., peer-reviewed articles, book chapters, scholarly conference proposals) in spite of organization-level KM. In other words, supporting or enhancing KM orientations within colleges of education certainly did not foment radical departures from traditional scholarly orientations.

At the same time, the faculty valuations of these wide-ranging events and products clearly varied. These variations serve to differentiate events and products and support deeper exploration of KM support and orientations within these three colleges. For example, while participating faculty indicated near-consensus value for peer-reviewed articles (echoing prior research on promotion and tenure [e.g., Burkhardt & Schoenfeld, 2003]), other items, such as policy briefs, remained divided in value. This held true for both individual value and the perceptions of organizational value. Policy briefs are also noteworthy because the relevance of policy varies widely with individual faculty research interests. However, insofar as organizational orientations toward KM motivate more faculty to understand and value the policy implications of their research, then future surveys might demonstrate more uniform valuation of policy briefs relative to this baseline. The differing valuation among other events and products also provides a backdrop against which to understand KM-oriented events and products in particular.

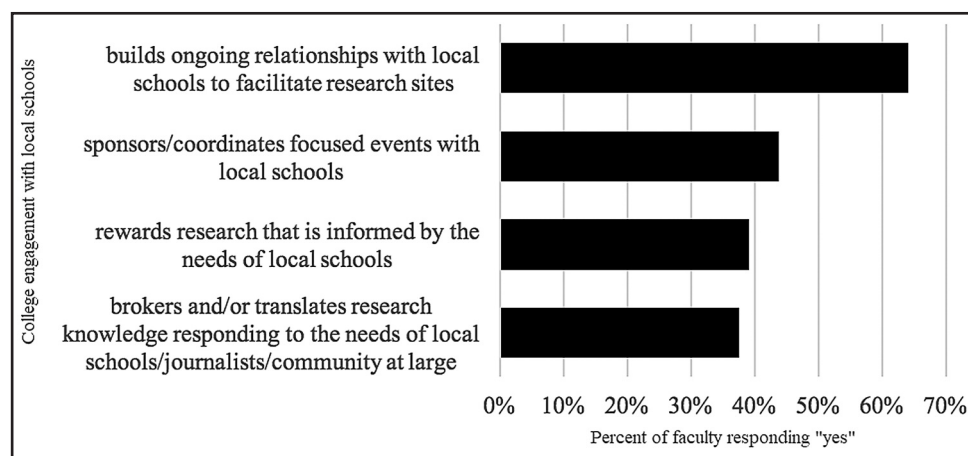
Ten events and products featured in the survey resonated primarily with KM. Nine of these ten are among the least valued, appearing in the bottom half of both Figures 1 and 2. These low rankings suggest that the relative value of KM events and products remains low. Despite organization-level KM agendas, these results mirror prior studies of individual educational researchers working at colleges without concerted organizational efforts to facilitate KM (Cooper et al., 2011). Thus, organization-level KM agendas, again, did not show a noteworthy short-term shift away from traditional scholarly orientations among faculty with one noteworthy exception: community outreach. Faculty valued, and perceived their colleges to value, community outreach more than nine alternatives primarily related to traditional promotion and tenure. While broad KM agendas remain new and emergent, community outreach is one aspect that is not. Community outreach resonates with longstanding forms of engaged scholarship and action research within universities. As such, this finding affirms one way in which production and mobilization have sometimes mutually reinforced one another in traditional scholarly orientations, albeit in ways that continue to highlight tensions between disciplinary excellence and societal relevance that KM has faced (e.g., Ellison & Eatman, 2008).

Together, these select comparisons from Figures 1 and 2 offer general insights into faculty perceptions of the organization-level KM agendas at these three colleges. Providing resources to support KM and enhance organizational orientations toward KM—two of five factors that organizations can address in order to facilitate KM (Jacobson et al., 2004)—have not yielded corresponding changes in faculty members' perspectives or their perceptions of scholarly orientations. Specifically, scholarly events and products that primarily resonate with promotion and tenure remain highly prized, while those that primarily resonate with KM continue to be weakly valued. Given non-trivial efforts by each college to promote KM, this finding under-

scores that facilitating KM remains a challenging orientation to foster among faculty within colleges of education.

Faculty respondents also indicated whether or not they perceived their respective colleges to engage with local schools. A majority (70%) of faculty agreed or strongly agreed that they are individually familiar with local needs for educational research. Figure 3, meanwhile, characterizes faculty perceptions of four college-level engagement strategies: facilitating local research, sponsoring local events, incentivizing research informed by local needs, and brokering knowledge locally. As indicated in Figure 3, faculty members perceive their colleges to strongly prioritize local engagement around knowledge production (i.e., facilitating research). To a lesser extent, they also prioritize local engagement around multiple KM events (e.g., sponsoring local events and brokering knowledge locally). Further, more than a third of faculty (38%) perceive their respective colleges to reward research informed by local needs. This latter point is also consistent with the greater perceived value of service to local organizations among other KM events and products listed in Figure 2 above. In general contrast to scholarly events and products, these items about local engagement suggest that faculty perceive their respective colleges to actively facilitate KM locally. In this way, faculty members perceive that their colleges' efforts to support KM and to enhance their organizational orientations toward KM are expanding. While the perception of local achievement does not change the relative value of KM-related scholarly events and products among faculty (see Figure 1), it can lead to wider faculty participation in these events by simply reducing barriers. In this way, college efforts to engage local education organizations lends immediate support to KM efforts while also communicating a shift in organizational orientation toward KM.

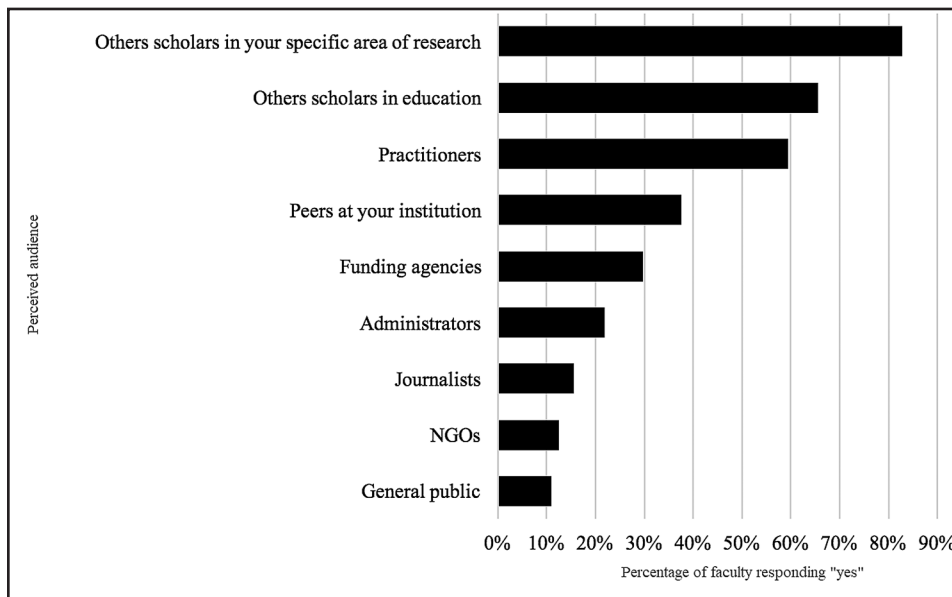
Figure 3. Faculty perceptions of college engagement with local schools



Beyond local engagement, faculty also indicated whom they perceive as the audiences for their scholarly events and products. Figure 4 characterizes nine stakeholder groups and the percentage of faculty respondents who recognize them as audiences.

Other scholars in a respondent's specific area of research were a primary audience (83%), reflecting the primacy of disciplinary authority (e.g., Jacobson et al., 2004), while other scholars in education ranked second (66%). Together, both scholarly peer audiences reflect the valuations of conventional scholarly events and products in Figures 1 and 2 and suggests that faculty remain oriented toward, and accountable

Figure 4. Faculty perceptions of audiences for their scholarly events and products



to, their disciplines—more than to institutional peers. This resonates with traditional scholarly orientations towards knowledge production. Equally noteworthy, a majority of respondents (59%) perceived practitioners as an audience to a greater extent than institutional peers. It is not clear if faculty hold a longstanding focus on practitioner audiences or if this is an emergent interest due to college KM agendas. However, given the valuations of KM-oriented events and products in Figures 1 and 2, it seems unlikely to relate to college-level KM efforts. Therefore, these results serve as a baseline for comparison as college-level KM agendas mature. Insofar as college-level KM agendas advance, we conjecture that the perceived audience among faculty may expand in the future, counterbalancing efforts to produce knowledge for scholarly peers with complementary efforts to mobilize knowledge to other stakeholders. These latter mobilization efforts could challenge individual faculty to consider the broader scope of their work and its implication for working with institutional peers and partnering with stakeholders beyond universities.

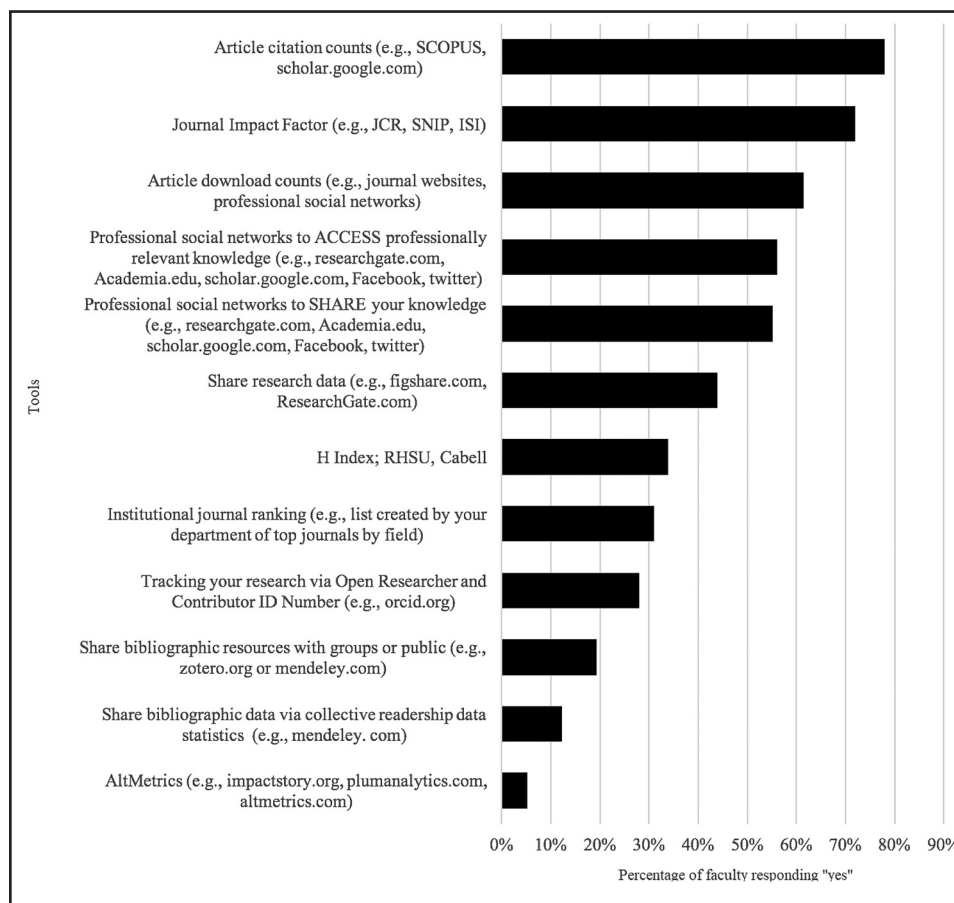
These results underscore that KM is not a simple challenge. The fact that these colleges and faculty alike value and advance KM efforts is complex, and not readily reduced to a ranking of events and products (see Figures 1 and 2), faculty perceptions of their colleges' local engagement (see Figure 3), or faculty perceptions of audiences for their scholarship (see Figure 4). However, in comparison to traditional scholarly orientations, these results do suggest that excellence eclipses relevance. Faculty members perceive that their respective colleges continue to prioritize traditional forms of knowledge production and disciplinary authority over KM. At the same time, it remains promising that faculty perceived college-level efforts to engage with neighboring, local education systems (see Figure 3), because fostering and sustaining local networks creates a social infrastructure that facilitates faculty efforts to directly engage with schools and other educational organizations (Veletsianos, 2013; Veletsianos & Kimmons, 2012).

Documenting and standardizing activities

While recognizing and valuing KM activities among institutional peers can facilitate

KM, more carefully and comprehensively generating information, records, and other evidence about KM enables individuals and institutions alike to learn more, and learn it more quickly. By documenting KM, colleges can begin to develop a common understanding, shared expectations, and perhaps even standards and routines that can inform changes to promotion and tenure. As a preliminary effort to illuminate strategies for documenting and standardizing KM activities, faculty respondents identified scholarly tools that they use to understand how others interact with their scholarship. With respect to KM, such tools include professional social networks and public data repositories that track mentions on social media, page views, and downloads. With respect to traditional scholarly orientations, these include Journal Impact Factor (JIF), journal acceptance rates, and article citation counts. Figure 5 reports the percentage of faculty respondents who employ 12 of the different tools that measure access to, and engagement with, their scholarly events and products.

Figure 5. The faculty use of tools to measure access to and engagement with faculty scholarship



Faculty respondents most widely identified traditional scholarly tools in order to characterize disciplinary interest or significance (e.g., citation counts, JIF). These tools enable faculty to better understand scholarly peers and how these disciplinary audiences engage their scholarship. Therefore, similar to the discussion of audiences above, the most widely identified tools again resonate with the valuations of primarily conventional scholarly events and products in Figures 1 and 2, underscoring an orientation toward, and accountability to, disciplinary communities. In addition to these traditionally-oriented tools, a majority of faculty respondents also identified

network-based tools that enable access to, and the sharing of, professional knowledge and data. These tools enable open access to scholarly products with relatively minimal investments of time or attention. They also obviously document and aggregate information about who views and downloads various scholarly products (including data). As a form of documentation, these network tools provide a common foundation for understanding of KM efforts among faculty within a college of education. They also lend insight into extra-disciplinary and international audiences for whom paywalls previously limited access. Beyond professional social networks, only a minority of faculty identified KM-specific tools such as persistent ID numbers (28%) or alternative metrics that track discussions of scholarly products on popular social-media platforms (5%).

Among these twelve tools, the ones that faculty most widely identified again suggest the primacy of disciplinary audiences. At the same time, the use of professional social networks enables individual faculty to document their scholarship in new ways that can inform and support KM-related activities. These networks do not, however, make college efforts to document and standardize KM visible. Coupled with the fact that only a minority of faculty identified KM-specific tools such as IDs and altmetrics, it appears that organizational efforts to document readily available KM data remains limited.

Internal policies

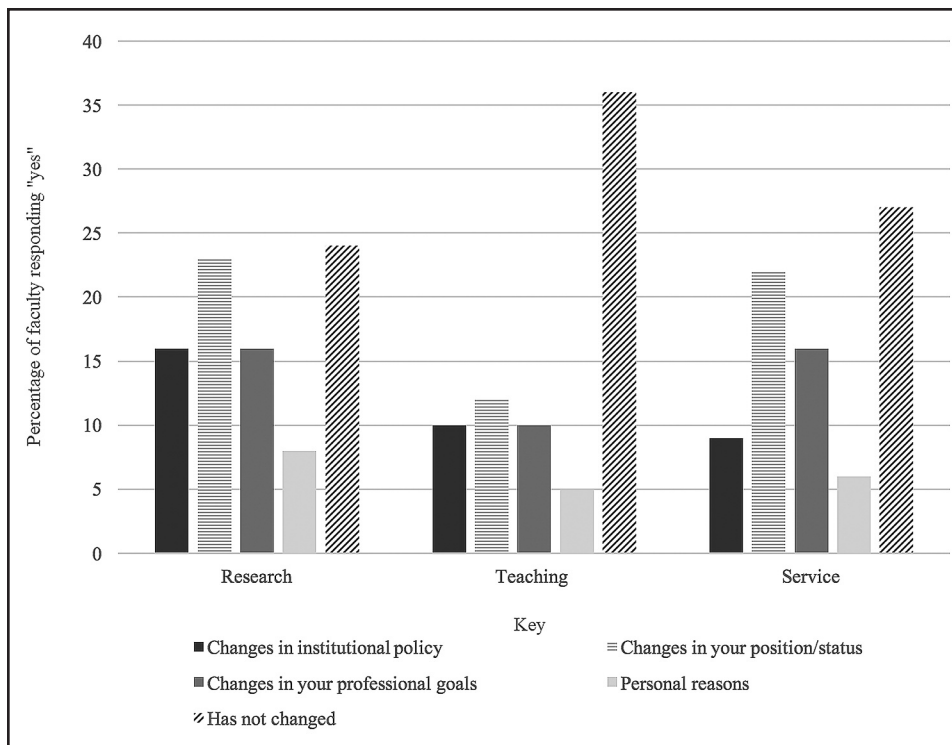
Balancing excellence and relevance in faculty scholarship also challenges colleges to consider internal policies such as tenure and promotion. Insofar as college policies continue to recognize and incentivize traditional disciplinary orientations, faculty investments of time and attention to research, teaching, and service are unlikely to change. In order to characterize the influences of college-level KM agendas on these general aspects of faculty activity, the survey also targeted faculty perceptions of changes in the relative importance of research, teaching, and service over time. Figure 6 describes faculty perceptions of how the relative importance of research, teaching, and service, respectively, has either remained stable or changed during their time working at their respective colleges. Further, if it changed, faculty indicated whether it was due to institutional policy changes, personal position/status changes, changes in personal goals, or any combination of the three.

In general, most faculty respondents perceived changes in the importance of research and service during their time at their college. Further, faculty most often attributed these perceived changes to individual changes in their own position or status, suggesting that college KM agendas did not influence the relative importance of research and service. The limited influence of KM on institutional policy is consistent with the survey evidence above, which suggests that all three colleges maintain a traditional orientation toward knowledge production in spite of preliminary efforts to address multiple factors that can facilitate KM.

Limitations

Importantly, the survey data reported here offer only partial and incomplete evidence of the work of faculty and colleges alike. As individual self-reports, surveys can be

Figure 6. Perceived changes in the importance of research, teaching, and service



shaped by social desirability influences (Davies & Nutley, 2008). Similarly, the respondents constitute a partial sample of faculty within these three colleges and a partial sample of colleges of education in general. Meanwhile, distinguishing knowledge production and mobilization practices can be a useful analytical strategy, but it also runs the risk of obscuring when events or products serve both purposes. For example, the distinction between them suggests that products such as articles must be produced first and mobilized later (i.e., producer push models), while an interactive KM approach blurs this linear progression (Tseng, 2012a).

Discussion

An overwhelming majority of faculty respondents at all three colleges participating in this study affirmed that research should try to generate usable knowledge. Despite this common aspiration, the faculty perspectives and perceptions reported in this study suggest that combining a simple, shared vision of usable knowledge with college-level KM agendas cannot immediately or straightforwardly advance KM. As individuals, the faculty members in these colleges may recognize the value of both generating and mobilizing knowledge, yet survey results demonstrate that the relative importance of mobilizing knowledge remains low. As a whole, these results reflect prior research related to both individual education faculty (Cooper, 2011; Cooper et al., 2018) and colleges of education (Cooper, 2016; Qi & Levin, 2013). What is noteworthy about this study is the fact that it arrived at these results while concentrating exclusively on colleges of education with organization-level KM agendas. Moreover, it enlisted the direct, individual perspectives of faculty within these colleges, which can complement analyses of college websites and interviews with the college administrators reported elsewhere. For these reasons, the present study offers a fresh perspective on an enduring challenge.

Mobilizing knowledge is not a fundamentally new challenge. It is one aspect of longstanding tensions between excellence and relevance, intellectualism and pragmatism, and thought and action. These tensions may be, at once, productive and irreconcilable. With deeper insight and understanding, colleges of education and their faculty can perhaps begin to navigate them more consequentially, underscoring the promise of organization-level KM strategies. This study capitalized on college efforts by characterizing KM strategies in relation to organizational factors that can facilitate KM (Jacobson et al., 2004). Exploring and characterizing the unique constraints and affordances that colleges of education navigate in relation to these factors can inform ongoing and future KM-related agendas. However, descriptive work is needed in order to understand the interdependent opportunities and challenges KM introduces for colleges of education. As an initial characterization, this study provides a baseline for comparison with future studies of organization-level KM agendas in relation to the factors that facilitate them.

There are multiple interrelated factors that influence KM within organizations. Jacobson and colleagues (2004) consolidated many of them into five key factors, in part, to move beyond anecdotal evidence. Resolving clearer evidence may better relate organizational factors to KM outcomes. Given the complex relations and porous boundaries between knowledge production and knowledge mobilization, linear or direct relations between factors and outcomes seem unlikely. However, as colleges of education attempt to address multiple factors simultaneously, the potential to better understand and more productively navigate these interrelations may increase. For example, this study illustrates that faculty continue to prioritize traditional scholarly events and products and, at the same time, that faculty recognize practitioner audiences and enlist multiple KM-related tools associated with professional social networks. These interrelations underscore that colleges of education must not only consider multiple components of KM but how they reciprocally inform one another, and how to develop and integrate a multifaceted KM strategy.

Conclusions

This study generated and analyzed survey data from faculty respondents at three North American colleges of education with KM agendas. Findings underscore that the influence of organization-level KM agendas is limited but illuminating. KM represents an entangled set of opportunities and challenges that colleges of education and their faculty address in relation to multiple factors. The challenges they face, in turn, begin to deepen understanding of the changing landscape of colleges of education and to illuminate complementary KM agendas.

Given that KM is increasingly an expectation among funding agencies in the health and education sectors alike (e.g., Tetroe, Graham, Foy, Robinson, Eccles, Wensing, Durieux, Légaré, Nielson, Adily, Ward, Porter, Shea, & Grimshaw 2008; Tseng, 2012b), the importance of this work is likely to grow. Researchers and practitioners will continue to explore opportunities that accelerate and expand the social interactions among them. In turn, research into KM is positioned to foster and better understand productive interdependence between the production, mobilization, and use of knowledge among educational stakeholders, lending insight into the discipli-

nary and organizational dynamics in which faculty operate and the larger twin public investments in scholarly excellence and relevance.

Acknowledgements

This research was conducted with support from the Spencer Foundation. Organizational Learning Small Grant 10003022.

Notes

1. The Institutional Review Board at the authors' institution approved this study. It adheres to standard principles of informed consent, voluntary participation, and safeguarding confidentiality. Participants received detailed information about the study, including that only aggregated and anonymized data would be published.
2. As an important caveat, this study recognizes that survey items are limited characterizations of complex research-related processes. Events and products are not always well differentiated into knowledge production or knowledge mobilization. For example, the category "peer-reviewed journals" fails to discern the fact that most scholarly journals target research audiences, with some exceptions (e.g., NASSP Bulletin). Knowledge mobilization emphasizes that, as opposite sides of the same coin, production and mobilization remain mutually reinforcing aspects of these complex research-related processes.

Websites

Google Scholar, <https://scholar.google.com/>
Scopus, <https://www.scopus.com/home.uri>

References

- Berliner, D. (2002). Educational research: The hardest science of all. *Educational Researcher*, 31(8), 18–20.
- Burkhardt, H., & Schoenfeld, A.H. (2003). Improving educational research: Toward a more useful, more influential, and better-funded enterprise. *Educational Researcher*, 32(9), 3–14.
- Cooper, A. (2016). A tool to assess and compare knowledge mobilization efforts of faculties of education, research brokering organizations, Ministries of Education, and school districts. *Brock Education Journal*, 25(1), 5–18.
- Cooper, A., & Levin, B. (2013). Research use by leaders in Canadian school districts. *International Journal of Educational Policy & Leadership*, 8(7), 1–15.
- Cooper, A., Levin, B., & Campbell, C. (2009). The growing (but still limited) importance of evidence in education policy and practice. *Journal of Educational Change*, 10(2-3), 159–171.
- Cooper, A., Macri, J., & Read, R. (2011, April). *Knowledge mobilization practices of educational researchers in Canada*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Davies, H., & Nutley, S. (2008). *Learning more about how research-based knowledge gets used* [Unpublished working paper]. New York, NY: William T. Grant Foundation.
- Davies, H.T.O., Nutley, S.M., & Walter, I. (2008). Why "knowledge transfer" is misconceived for applied social research. *Journal of Health Services Research & Policy*, 13(3), 188–190.
- de Vaus, D. (2013). *Surveys in social research*. New York, NY: Taylor and Francis.
- Ellison, J., & Eatman, T. (2008). *Scholarship in public: knowledge creation and tenure policy in the engaged university*. Syracuse, NY: Imagining America.
- Fan, W., & Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in Human Behavior*, 26(2), 132–139.
- Farley-Ripple, E., & Jones, A.R. (2015). Educational contracting and the translation of research into practice: The case of data coach vendors in Delaware. *International Journal of Educational Policy & Leadership*, 10(2), 1–18.

- Fischman, G.E., Anderson, K.T., Tefera, A., & Zuiker, S.J. (2018). If mobilizing educational research is the answer, who can afford to ask the question? An analysis of knowledge mobilization for scholarship in education. *AERA Open*. doi:10.1177/2332858417750133
- Gutiérrez, K.D., & Penuel, W.R. (2014). Relevance to practice as a criterion for rigor. *Educational Researcher*, 43(1), 19–23.
- Hargreaves, D. (1999). Revitalising educational research. *Cambridge Journal of Education*, 29(2), 239–250.
- Holland, B. (1997). Analyzing institutional commitment to service: A model of key organizational factors. *Michigan Journal of Community Service Learning*, 4(1), 30–41.
- Jacobson, N., Butterill, D., & Goering, P. (2004). Organizational factors that influence university-based researchers' engagement in knowledge transfer activities. *Science Communication*, 25(3), 246–259.
- Klein, S.S., & Gwaltney, M.K. (1991). Charting the educational dissemination system: Where we are and where we go from here. *Knowledge: Creation, Diffusion, Utilization*, 12(3), 241–265.
- Knight, C., & Lyall, C. (2013). Knowledge brokers: The role of intermediaries in producing research impact. *Evidence & Policy: A Journal of Research, Debate and Practice*, 9(3), 309–316.
- Konkiel, S., & Scherer, D. (2013). New opportunities for repositories in the age of altmetrics. *Bulletin of the American Society for Information Science and Technology*, 39(4), 22–26.
- Ladson-Billings, G., & Tate, W.F. (2006). *Education research in the public interest: Social justice, action, and policy*. New York, NY: Teachers College Press.
- Levin, B. (2004). Making research matter more. *Education Policy Analysis Archives*, 12(56) 1–20.
- Levin, B. (2011). Mobilising research knowledge in education. *London Review of Education*, 9(1), 15–26.
- Nutley, S.M., Walter, I., & Davies, H.T.O. (2007). *Using evidence: How research can inform public services*. Bristol, UK: Policy Press.
- Penuel, W.R., Bell, P., Bevan, B., Buffington, P., & Falk, J. (2016). Enhancing use of learning sciences research in planning for and supporting educational change: Leveraging and building social networks. *Journal of Educational Change*, 17(2), 251–278.
- Penuel, W.R., Coburn, C.E., & Gallagher, D.J. (2013). Negotiating problems of practice in research–practice design partnerships. *National Society for the Study of Education Yearbook*, 112(2), 237–255.
- Piowar, H., & Priem, J. (2013). The Power of Altmetrics on a CV. *Bulletin of the American Society for Information Science and Technology*, 39(4), 10–13.
- Powell, A., Davies, H.T.O., & Nutley, S.M. (2017). Missing in action? The role of the knowledge mobilisation literature in developing knowledge mobilisation practices. *Evidence & Policy: A Journal of Research, Debate and Practice*, 13(2), 201–223.
- Qi, J., & Levin, B. (2013). Assessing organizational efforts to mobilize research knowledge in education. *Education Policy Analysis Archives*, 21(2), 1–25.
- Sá, C.M., Li, S.X., & Faubert, B. (2011). Faculties of education and institutional strategies for knowledge mobilization: An exploratory study. *Higher Education*, 61(5), 501–512.
- Sheehan, K.B. (2001). E-mail survey response rates: A review. *Journal of Computer-Mediated Communication*, 6(2), n.p. doi: 10.1111/j.1083-6101.2001.tb00117.x
- Tabak, E., & Margolin, I. (2013). Collaborative learning in a boundary zone: A case study of innovative inter-institutional collaboration in Israel. *International Journal of Educational Policy & Leadership*, 8(4), 1–16.
- Tetroe, J.M., Graham, I.D., Foy, R., Robinson, N., Eccles, M.P., Wensing, M., Durieux, P., Légaré, F., Nielson, C.P., Adily, A., Ward, J.E., Porter, C., Shea, B., & Grimshaw, J.M. (2008). Health research funding agencies' support and promotion of knowledge translation: An international study. *The Milbank Quarterly*, 86(1), 125–155.
- Tseng, V. (2012a). The uses of research in policy and practice. *Society for Research in Child Development*, 26(2), 3–16.
- Tseng, V. (2012b). *Partnerships: Shifting the dynamics between research and practice*. New York, NY: William T. Grant Foundation.

- Veletsianos, G. (2013). Open practices and identity: Evidence from researchers and educators' social media participation. *British Journal of Educational Technology*, 44(4), 639–651.
- Veletsianos, G., & Kimmons, R. (2012). Assumptions and challenges of open scholarship. *The International Review of Research in Open and Distributed Learning*, 13(4), 166–189.
- Willinsky, J. (2000). Proposing a knowledge exchange model for scholarly publishing. *Current Issues in Education*, 3(6), 1–12.
- Willis, C., Riley, B., Lewis, M., Stockton, L., & Yessis, J. (2017). Guidance for organisational strategy on knowledge to action from conceptual frameworks and practice. *Evidence & Policy: A Journal of Research, Debate and Practice*, 13(2), 317–341.
- Zuiker, S., Piepgrass, N., Tefera, A., & Fischman, G. (2018). Survey Data: Knowledge Mobilization for Scholarship in Education – Researcher Version. *figshare*. doi: 10.6084/m9.figshare.4517123.v2
- Zuiker, S., Tefera, A., Anderson, K. T., & Fischman, G. (2018). Survey Instrument: Knowledge Mobilization for Scholarship in Education – Researcher Version. *figshare*. doi: 10.6084/m9.figshare.4517108.v2