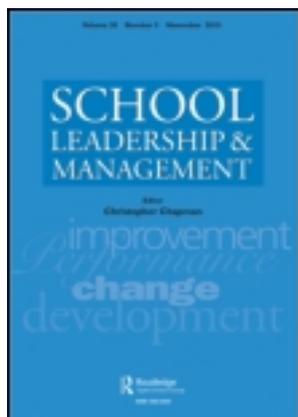


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Accelerating knowledge production on educational leadership and management in East Asia: a strategic analysis

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This paper discusses a strategy for accelerating the development of a regionally grounded knowledge base on educational leadership and management in East Asia. The study reviews data on patterns of knowledge production in East Asia, and employs the findings in the development of a strategy for increasing knowledge production. The study concludes that a suitable coordination strategy for the region should incorporate formal and informal strategies, be intermediate in scale and organised around a common research agenda. The authors propose that the substantive findings and the method of strategy analysis may also be relevant for academic leaders in other developing regions of the world.

Keywords: leadership; management; knowledge; Asia; research and development

Knowledge production refers to the processes by which formal knowledge accumulates in a field of scholarly inquiry (Kuhn 1996). This encompasses the development and testing of theory, as well as the description, codification and validation of practice. The study of these processes revolves around the normative and instrumental conditions that impact on the production of scholarship (Donmoyer, Imber, and Scheurich 1995; Ogawa, Goldring, and Conley 2000).

Kuhn's (1996) seminal work highlighted the organic and distributed features of knowledge accumulation. Scholars form loose communities that share values concerning the nature of academic inquiry, even while members hold diverse perspectives, values, interests and goals concerning research foci and specific methods of inquiry (Kuhn 1996; Wilson 1998). Although this describes the historical trend in academic research, in recent years governmental and scientific organisations have evidenced increasing interest in planned strategies aimed at accelerating knowledge production (e.g. see Butler 2003; van Raan 1997; Wilson 1998).

The subject of knowledge production has also been of interest to scholars in educational leadership and management (e.g. Bates 1980; Bridges 1982; Donmoyer, Imber, and Scheurich 1995; Eidel and Kitchel 1968; Haller 1979; Kiley 1973; Ogawa, Goldring, and Conley 2000). During the 1990s, for example, in the USA the University Council for Educational Administration (UCEA) undertook a systematic review of 'the knowledge base in educational administration' (see Donmoyer, Imber, and Scheurich 1995). Notably, the UCEA effort was, however, bounded by a focus on the North American theoretical and empirical literature. Scholars have since elaborated on the limitations of employing this knowledge base in contexts that

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differ on dimensions such as culture, structure, economic development and funding (e.g. Hallinger, Walker, and Bajunid 2005; Lee and Hallinger 2011). Recognition of these limitations led to calls for ‘regionally grounded’ efforts that challenge, adapt, test, refine and extend findings from the predominately ‘Western’ knowledge base in educational leadership and management (Bajunid 1996; Cheng 1995; Hallinger and Leithwood 1996; Hallinger, Walker, and Bajunid 2005; Walker and Dimmock 2002).

This paper builds on previous papers that focused on establishing the need for greater differentiation in the knowledge base in educational leadership and management (e.g. Bajunid 1996; Cheng 1995; Hallinger 2011a; Hallinger and Leithwood 1996; Hallinger, Walker, and Bajunid 2005; Walker and Dimmock 2002). In this article, we present a strategic analysis of factors that impact on the development of ‘regionally grounded knowledge production’ in East Asia. The analysis is based on a quantitative review of the East Asian literature drawn from eight ‘core international journals’ in educational leadership and management (see also Hallinger and Bryant 2013). We employ findings from the literature review to inform the development of a strategy aimed at increasing the region’s capacity to produce relevant knowledge in the coming decade.

Method

The study employed a descriptive, quantitative form of research review (Cooper and Hedges 2009; Gough 2007; Hallinger 2012) in order to assess trends in regional knowledge production. We identified a body of relevant literature, collected and coded data from the identified articles and analysed trends across the studies. This allowed us to map the terrain of recent research on educational leadership and management in East Asia (see Hallinger and Bryant 2013). This method of this literature review was geared towards the goal of describing recent patterns of knowledge production in the region rather than synthesising substantive findings of the studies.

Our first task was to delimit the ‘regionally grounded knowledge base’ for educational leadership and management in East Asia. Our research strategy balanced feasibility with the goal of providing a comprehensive, medium-term picture of the regional landscape of knowledge production (Gough 2007; Hallinger and Bryant 2013). We chose to focus on research published in a set of ‘core international educational leadership and management journals’. Journals do not represent a complete repository of the knowledge base for a field of study. However, they do comprise the most widely disseminated, continuously updated source of peer-reviewed knowledge within a discipline. Therefore, they are the most common source of knowledge employed in literature reviews (e.g. see Bridges 1982; Cooper and Hedges 2009; Gough 2007; Hallinger 2011a, 2012).

The review strategy employed in this study entailed a systematic search of eight internationally recognised, high-quality educational leadership and management journals (Hallinger, 2013).¹ The journals included *Educational Administration Quarterly* (EAQ), *Journal of Educational Administration* (JEA), *School Effectiveness and School Improvement* (SESI), *Educational Management Administration and Leadership* (EMAL), *International Journal of Leadership in Education* (IJLE), *International Journal of Educational Management* (IJEM) and *Leadership and Policy in Schools* (LPS), and *School Leadership and Management* (SLAM). While no

selection of 'core journals' can be considered definitive, this subset was well suited to our goal of understanding characteristics of the formal knowledge base generated about educational leadership and management in Asia. Each of the eight journals espouses a mission of publishing research on educational leadership and management, is international in scope, employs blind review procedures, publishes in English, and meets a desired standard of quality and influence (Hallinger and Bryant 2013).

In order to establish the latter criterion, we used the *Publish or Perish* tool (Harzing 2007) to calculate the current *h-index* for these, as well as other potentially relevant journals. The *h-index* is a statistic that aims to measure the cumulative impact of a researcher's or journal's output by analysing the number of citations received (Harzing 2007).² The *h-index* for these journals ranged from a low of 23 for *Leadership and Policy in Schools*, to a high of 94 for *Educational Administration Quarterly*. The mean *h-index* of the journals was 45.³ This approach to journal selection was designed to ensure that the journals, as a group, would provide a broad representation of moderately to highly selective, internationally relevant articles on educational leadership and management.⁴

At the same time, however, we should note what this selective search strategy (Hallinger 2013) did *not* incorporate. First, this method of search did *not* include articles on education management published in either business or public sector management journals. This decision was based on findings from prior reviews of the literature which found that scholars in educational leadership and management tend not to publish in or cite from general management journals with great frequency (e.g. Bridges 1982; Campbell 1979; Hass et al. 2007; Murphy, Vriesenga, and Storey 2007; Richardson and McLeod 2009).

Second, this search strategy did not capture knowledge communicated in national languages and/or stored in local repositories (e.g. doctoral dissertations in university libraries).⁵ However, searching native language journals and repositories located in university libraries in a large number of countries was deemed impractical. This particular limitation has potentially important implications for the interpretation of our findings which we will discuss in the concluding section of this paper. Nonetheless, we assert that focusing on the internationally published literature by itself offers a useful, though incomplete, perspective on knowledge production from and about the region.

We narrowed our search of the eight journals to a 12-year period from 2000 through to the end of 2011. Our rationale for choosing this particular period was both historical and pragmatic. Globally, the development of educational leadership and management as a field of scholarly inquiry emerged in the USA during the 1960s (e.g. see Briner and Campbell 1964; Campbell and Faber 1961; Erickson 1967). However, commentary on the need for more research on educational leadership and management outside of Western contexts only began to appear in the published literature during the mid-1990s (e.g. see Bajunid 1996; Cheng 1995; Hallinger 1995; Hallinger and Leithwood 1996). Given the time lag between launching and publishing research, it would have taken several years for new research stimulated by these mid-1990s publications to appear in journals.

We, therefore, narrowed our search of these journals to a 12-year period from 2000 through to the end of 2011 in order to achieve a medium-term view on knowledge production. Given the goal of the study to understand patterns of knowledge production in the region, it was also necessary to define the parameters

for 'East Asia'. Our operational definition of 'East Asia' consisted of 17 societies: Myanmar, Thailand, Malaysia, Singapore, Vietnam, Laos, Cambodia, Hong Kong, Macau, Philippines, Brunei, Papua New Guinea, Indonesia, Taiwan, mainland China, South Korea and Japan. We note that a similar regional grouping of nations was employed by Hien (2010) in a more general study of knowledge production in East Asia.

We employed a labour intensive but reliable search method in order to identify studies within these journals. For the period covered by this study, we read the abstracts of all published articles in the eight journals. Our goal was to identify articles *about and/or from* the East Asia region.⁶ When an article fit this search criterion, we downloaded the *pdf* file from the Internet. The resulting set of 184 downloaded articles about educational leadership and management in East Asia comprised the corpus of knowledge analysed for this study.

Next, we scanned each article with the goal of extracting information relevant to our goal of identifying patterns of knowledge production in the region. We extracted information such as sources of publication by author, university and country; research topic; type of article (e.g. empirical, theoretical and review); research method; and other salient features of the studies. In order to facilitate quantitative analysis of trends across the body of literature (Cooper and Hedges 2009), where possible, we coded the data numerically in a MS-Excel spreadsheet (e.g. topic, author, university, locale of the data, etc.). The resulting spreadsheet contained a wealth of information about published research on educational leadership and management in East Asia since 2000.

These data were analysed using descriptive tests in order to illuminate patterns of regional knowledge production. Data presentation draws upon findings from a related paper (Hallinger and Bryant 2013), as well as new analyses conducted for the purpose of this paper. The analyses are descriptive rather than inferential, since at this stage our goal was to identify trends in knowledge production rather develop causal explanations. Statistical tests focused on averages, distribution and change in research output over time.

Forces impacting knowledge production in East Asia

In this section of the paper we examine factors that impact knowledge production on educational leadership and management in East Asia. The selection of factors was informed by prior theory and research (e.g. Kuhn 1996; Landry and Amara 1998; Ogawa, Goldring, and Conley 2000) as well as our experience in the region. The factors that we explore include research capacity and culture, expansion of graduate education programmes, research support structures, linguistic diversity, access to global knowledge resources and reward and bias in publication access. We inform our discussion of these factors with findings from our analysis of the regional literature.

Research capacity and culture

The development of strong research cultures represents a challenge for universities across East Asia (Altbach & Knight 2007; Hien 2010; Mok and Cheung 2011; Ng and Tan 2010; Tjeldvoll 2011). When we look more specifically at education faculties, the challenge appears even more formidable. Indeed, although we can observe

selective progress, we suggest that few of the education faculties located within universities in East Asia have succeeded in building strong research cultures with the capacity for sustainable, high-quality knowledge production. This observation is supported by anecdotal evidence as well as data from our literature review.

For example, over the past several years the first author has had conversations with senior academic leaders at four of the strongest education faculties in East Asia (i.e. Hong Kong University, NIE-NTU-Singapore, Chinese University of Hong Kong, Hong Kong Institute of Education).⁷ They all lamented a deficit in research capacity. This perception was borne out by the publication data (Hallinger and Bryant 2013). We can summarise the empirical trends as follows.

- The overall volume of knowledge production from East Asia between 2000 and 2011 was quite low. Altogether there were only 184 articles from or about the East Asia region contributed to the overall corpus of 2910 articles published in the eight journals during this period. Thus, regional contributions represented less than 6% of total output in these journals. This is a mean of only 15.3 regionally grounded articles published per year, as compared with a grand mean of 243 articles published per year.
- There has been a 30% increase in the annual rate of publication when comparing the first and second half of the 12-year period. However, we note first that this rate of increase is deceptive since the volume attained even during the latter period remained relatively small. Moreover, most of the increase was accounted for by a small number of universities.
- Our map of the publication terrain across the 17 societies found a highly skewed distribution with respect to contributions to the regional knowledge base. We identified Hong Kong as a 'peak' with extremely high productivity (i.e. 52.7% of total publications) at one end of the distribution. A large majority consisting of 10 of the 17 societies were located in a long low 'valley' with between zero and three contributions at the other end (see Hallinger and Bryant 2013).
- Analyses of contributions by universities mirrored the societal pattern with one useful elaboration. A substantial majority of the publications not only came from a few societies but from a small dense concentration of universities within them (Hallinger and Bryant 2013).

The authors find it ironic that this perception is acutely felt by academic leaders at those institutions that have demonstrated the greatest capacity for knowledge production. Our data indicate that these four universities contributed over 50% of the entire corpus of studies authored in educational leadership and management from the region. This suggests that the other 100+ departments offering graduate education degrees in educational leadership and management in East Asia lag even farther behind with respect to research output.

This problem of weak research cultures is highlighted in the experience of junior faculty at universities in the region. Doctoral graduates return to faculty positions in university environments that are incapable of supporting further development of their research capacity. Junior faculty typically confront heavy demands for teaching and direct service, and may have few colleagues working in the same academic area (Gooch 2012; Hien 2010; Irandoust and Calvani 2011; Mathews and Hu 2007; Mok

and Cheung 2011; Ryan et al. 2010; Toui Tre News 2012). They may also lack mentorship and modelling from research-active senior colleagues. As time passes, research skills learned during their doctoral studies, as well as enthusiasm for research, wither on the vine. The result is a lack of collective capacity to conduct high-quality research, and a weak research culture within the faculty as a whole.

Rapid expansion of graduate education programmes

This situation has become exacerbated in recent years with an explosion in the number of new graduate programmes initiated by institutions of higher education in East Asia (Altbach 2004; Cheng 2010; Hallinger 2011a). This trend is readily apparent in Malaysia (Altbach and Knight 2007; Arokiasamy 2011; Bajunid 2011; Lee 2004), Singapore (Gopinathan and Lee 2011; Ng and Tan 2010), China (Hvistendahl 2008; Mok 2005) and Thailand (Altbach and Knight 2007; Irandoust and Calvani 2011; Sangnapaboworn 2003). Since most of these programmes require research projects, the growth in graduate programmes represents an opportunity to enlarge the region's knowledge base.

However, our longitudinal analysis did not show a large increase in the volume of regional publications in these journals. Instead, the overall trend of regional publication remained sparse, with density increasing only with respect to a few selected institutions. Thus, we suggest that the increase in graduate research does not appear to have resulted in a commensurate increase in the volume of published research in international journals. This could be, in part, due to limited faculty capacity for high-quality mentorship of graduate research students.

Our examination of data on recent publication trends reinforced this conclusion with respect to the East Asia region. As noted above, the overall publication trend revealed a highly skewed distribution of publication across the region. When we focused upon those countries that had expanded their graduate programmes in education in recent years there was no evidence of commensurate productivity in terms of contributions to the international knowledge base, either from graduate students or faculty members.

Scholars from Thailand contributed seven articles, but none originated in faculties of education. Trends on publication from Malaysia (8), China (18), Philippines (2) and Indonesia (2) provided similarly weak evidence of research productivity. Moreover, upon closer inspection we found that less than 5% of the total corpus of articles had been authored or co-authored by graduate students and their supervisors from universities within the region. This was less than half of the 15% of total publications in the regional corpus that had been co-authored by graduate students and their supervisors from universities *outside* the region (i.e. the USA, Canada, Europe, Australia).

We note that the challenge of providing quality mentoring for student research is not unique to East Asia. Thirty years ago, US-based scholars such as Campbell (1979), Erickson (1979), Haller (1979) and Bridges (1982) identified poor quality in the design of doctoral research as a problem of widespread proportions. More recently, other scholars have confirmed that a similar trend largely continues to this day in the USA (e.g. Hallinger 2011a; Murphy and Vriesenga 2006). This should give pause for East Asian institutions, and further suggests the need to learn from the mistakes as well as positive models of Western institutions of higher education.

Research support structures

Mature higher education systems are characterised by a complex set of coordination, support and accountability structures designed to encourage and facilitate faculty research (Butler 2003; Hallinger 2011a; Landry and Amara 1998; Ogawa, Goldring, and Conley 2000). Examples of coordinating structures include research grant councils, multi-lateral and bi-lateral research schemes, regional research centres, institute-level research centres, professional associations and their sub-units (e.g. regional units, special interest groups) and professional networks (Landry and Amara 1998; Ogawa, Goldring, and Conley 2000). These provide instrumental support and foster capacity building through a combination of research funding, collegial exchange, setting and communication of standards, formal and informal collaboration and peer review and feedback.

In Europe, North America and Australia, there is either a national and/or cross-national organisation responsible for some degree of research coordination for higher education. Less formal research coordination is often accomplished through the support of private foundations. For example, during the 1990s, the Danforth Foundation had a major impact on school leadership preparation in the USA through a decade-long commitment of targeted funds for research and development. More recently, the Wallace Foundation funded a major multi-year research effort on school leadership effects in the USA and Canada.

In East Asia, governmental and regional systems tend to be less mature and widely deployed. Foundation support for research is almost non-existent, at least within the domain of education. The result is a situation in which countries with widely varying levels of available resources and capacity for managing and conducting research fend for themselves (Hallinger 2011a; Hallinger and Bryant 2013).

We examined our data-set in order to check the extent to which articles in the database reported the receipt of research funding. Only 32 of the 184 articles (17%) published in these journals reported receiving funding from sources within the region. This suggests that formal structures which support research in the region are less mature and widely deployed.

We decided to examine the case of Hong Kong more closely for two reasons. First, data indicated that Hong Kong-based authors had contributed by far the largest percentage (50.5%) of papers to the corpus. Moreover, Hong Kong's higher education system has relatively mature structures for research funding and capacity building (Mok and Cheung 2011). We wondered not only if funding may have directly contributed to the production of knowledge but also whether the presence of coordinating structures may have contributed indirectly through supportive development of the research culture in Hong Kong institutions. Our data indicated that only 14 of the 93 papers originating in Hong Kong had acknowledged receipt of grant funding. Although this appears to be a relatively small contribution, the extent to which funding has contributed to the productivity of Hong Kong scholars and their institutions is yet to be fully understood.

Next we explored the relationship of funding to empirical research. While theoretical and literature review papers serve important roles in knowledge production, they can often be conducted without special funding. Moreover, progress in advancing our understanding of the *practice* of educational leadership and management in the region must ultimately be grounded in empirical research,

whether qualitative or quantitative. Two data trends informed this issue. First, 112 of the 184 articles (61%) were empirical investigations. Of this subset of empirical articles, however, only 23 (20%) had received grant funding.

Second, we examined the data for evidence of programmatic research. This involved coding and analysis of the 184 studies by their research foci. Data coding yielded 28 discrete topical areas within the group of (e.g. leadership, finance, principalship, theory, change, higher education management, school effects, teacher effects, marketing). This reflected a broad diversity of topics included within a relatively small set of 184 studies. The only topics that yielded concentrations of articles were leadership (36) and school change, effectiveness and improvement (34). Five of the leadership studies and four of the school improvement studies had received funding support.⁸

These analyses yield several conclusions. First, funding structures represent a supporting but possibly non-critical factor contributing to research publication in educational leadership and management in the region. Second, the findings suggest that the suitability of conducting research reviews of the regional literature on two specific topics (leaders, school change, effectiveness and improvement) in order to more clearly identify both the nature of the studies and trend of their findings.

Research and development (R and D) centres represent another form of research structure (Landry and Amara 1998). R and D centres serve a coordinating function by:

- providing an intellectual home for a critical mass of research-active scholars,
- offering support services that leverage the contributions of individual scholars and projects,
- building the research culture and capacity,
- serving as a source of mentorship for junior faculty,
- linking research production with other core functions of the university such as teaching and research training. (see Landry and Amara 1998; Ogawa, Goldring, and Conley 2000).

In East Asia, we were able to identify 'school leadership centres' in Malaysia (2), Taiwan (2), Hong Kong (3), Thailand (2), China (6), Philippines (1), Vietnam (1) and Singapore (1). All of these were launched since 1994 in response to a perceived need for more effective training of school leaders in the region. Consequently, most of these centres have focused their attention and resources on teaching and training rather than research (Walker, Hallinger, and Haiyan 2007). Indeed, we are aware of few centres that allocate more time and resources to research and development than to training. Thus, it is more proper to refer to most of these as training centres rather than R and D centres.

Linguistic diversity

Publication in international refereed journals has become a key performance indicator used not only to assess the performance of individual faculty members but also universities (Butler 2003). However, the capacity to publish in international journals (e.g. the journals examined in this study) depends not only upon the quality of research but also the quality of written English. This places most of the region's

faculty (and their universities) at a distinct disadvantage since they are forced to write up their research results in a second language.

Moreover, East Asia is highly diverse in terms of the national languages spoken. This has two implications. First, it presents barriers to collecting and sharing data, as well communicating research findings across national borders. This is not dissimilar to the situation in Europe but contrasts sharply with the USA, UK and Australia.

Second, the region's linguistic diversity places a premium on the use of English as an international language. In almost all regional gatherings of scholars or policy-makers, English tends to be the language of communication. Nonetheless, English-language competency varies widely across the countries of the region.

Within the region, it has been observed that countries vary widely in terms of capacity to communicate in English. Singapore, Hong Kong, the Philippines and Malaysia are often cited examples of societies with greater capacity in English. Hong Kong and Singapore featured among the highest producers of research publications, but the Philippines and Malaysia did not. Thus, although English-language capability is another enabling factor, it does not explain research productivity by itself.

Access to global knowledge sources

The world of academic research has undergone radical transformation since 2000. The available of digital databases and associated search tools has widened availability to sources of knowledge necessary for high-quality research. There is little question that ready access to information has facilitated and enhanced the process of conducting research. In under a decade, scholars working in well-resourced universities have come to take access to global knowledge resources for granted.

Yet, ready access to global databases is not the norm across developing countries in East Asia. Although scholars working in major universities in Taiwan, Hong Kong and Singapore have access to most of the key journal databases, this does not describe the situation in most other regional settings. In some countries, faculty access to journal databases⁹ is virtually non-existent (e.g. Vietnam, Laos, Cambodia, Myanmar, Indonesia); in others it is uneven (e.g. Thailand, Malaysia, Philippines, China, Japan, Korea). This represents an important constraint since research in the current era requires ready access to current information from throughout the world. Although journal access programmes such as *Research4Life*¹⁰ are beginning to address this need, they must be broadened dramatically if scholars in these countries hope to be able to conduct research that meets international standards.

Rewards and bias in publication

Anecdotal evidence suggests that the global ranking of journals based on citation reports may also impact on the development of an East Asian knowledge base. Ministries of Education in several countries either require annual publication in 'international refereed journals'. In some cases Ministry or university policies further specify that publication should be in SSCI/ISI journals.¹¹ Setting key performance indicators for research output with this degree of specificity is directly related to institutional goals for world university rankings. This recent trend has ratcheted up pressure on middle-level university administrators and faculty members.

This requirement for publication is also increasingly linked to direct financial incentives for scholars who are successful in publication. In many cases, the financial incentives are also based upon the journal's ranking. In China, for example, these rewards can range from a few hundred dollars to as much as \$30,000 USD for publication in top journals (Cyranoski 2010; Davis 2011; Shao and Shen 2011; Yang 2003; Zhang, Pna, Guo 2004.). We are personally aware of such systems of direct financial reward for publication in Korea, China, Hong Kong and Thailand, and suspect that they are being used elsewhere in the region as well. In most cases, their implementation has been a direct result of pressures to raise the ranking of universities in world university rankings sponsored by international organisations (Cyranoski 2010; Davis 2011; Franck 1999).

Despite these systems of 'performance and reward' that are increasingly used in East Asia, there is a perception among the region's academics that there is not a level playing field when it comes to publication in English-language medium journals (Irاندوست and Calvani 2011; Leong and Leung 2004; Leung 2007; Shao and Shen 2011). This must be considered an important contributor to the dominance of research from Western countries in journals ranked on citation indexes such as SSCI/ISI (Rodriguez-Ruiz 2009).

Recent conversations with editors of the journals included in this study surfaced a perception that it is often difficult to obtain well written, high-quality articles from the region. However, the 'quality' explanation does not square with the data. In our database, we found wide variation in the frequency of publication of papers from East Asia across these journals. The mean number of articles published over the 12-year period was 23 per journal. However, the range of variation was huge. At the low end, two journals, LPS and EAQ each published three articles from the region. At the other extreme, IJEM published 78 articles (see Figure 1).

We hypothesize that journals place varying degrees of priority on sourcing an internationally diverse mix of papers for publication. These findings have implications for the dissemination of regionally generated knowledge, access to research funding, and career advancement of region's academics. We frame this as a social

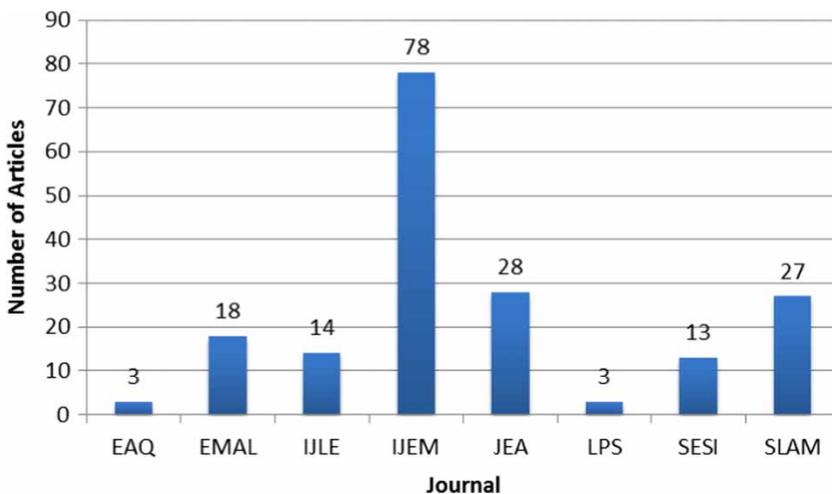


Figure 1. Total number of articles published by the eight core journals, 2000–2011.

responsibility issue whereby journals must become more proactive at sourcing quality articles beyond mainstream English-speaking societies. If not, we suggest that the journals will become increasingly irrelevant to the consumers of the knowledge that they print.

Strategy formulation

The goal of developing a regional strategy for knowledge production implies an 'intentional or planned' rather than an 'organic' approach to change from the status quo (e.g. Butler 2003; Landry and Amara 1998; Ogawa, Goldring, and Conley 2000). In an earlier paper, we identified a common regional research agenda as one component in a strategy for stimulating knowledge production in the region (Hallinger 2011b). In this paper, we seek to extend the prior conceptual analysis by using data presented in the prior section to inform the selection of knowledge production strategies that are tailored to the regional context.

Context and conditions

Strategy formulation usually begins with an empirically informed assessment of current conditions (e.g. SWOT analysis). In this paper, we developed an empirical description of current conditions in the East Asian context that bear on knowledge production in educational leadership and management. This highlighted the following trends:

- There is a low overall level of knowledge production over the past 12-year period and no evidence of dramatic changes in the trend.
- The low volume of regional publication reflects the generally weak research capacity of the region's graduate programmes in educational leadership and management.
- There was, however, an interesting pattern of variation in the distribution of 'regional knowledge production'. The analyses identified a cluster of institutions in Hong Kong that could qualify as a 'regional knowledge centre'. The substantial contributions from this knowledge cluster in Hong Kong were complemented by smaller but meaningful contributions from institutions in Mainland China, Singapore and Taiwan within the region, and from the USA, Australia and the UK outside the region.
- The rapidly expanding number of graduate programmes may be further diluting the limited research capacity existing in many of the region's departments of educational leadership and management.
- There is uneven access to global knowledge resources such as journal databases that are critical to research and publication in international journals.
- There is both substantial linguistic diversity across the region *and* limited capacity for writing in English (i.e. a second language throughout the region) at the level necessary for international publication.
- Although there is increasing pressure on the region's academics to publish in international journals, the journals vary widely in their accessibility to regional authors.

These conditions describe factors that impact knowledge production in educational leadership and management in East Asia. Other salient contextual features should also be taken into account. For example, unlike the USA, Australia or even Europe, the region is made up of independent nation states that operate without any political coordination. This extends to the provision of educational services which are very much a ‘national’ concern and lack any meaningful cross-national coordination. This characterisation applies at both the K-12 and higher education levels. Thus, there is no regional tradition to approach education in a coordinated fashion.

Coordination strategies

The development of a strategy for accelerating knowledge production in the region is predicated on an assumption that *status quo* is not meeting the needs of the region. We sought to describe *status quo* in the previous section of the paper, and concluded that the current approach to knowledge production is *not* yielding desired outcomes. Thus, we wish to stimulate discussion around the development of a more intentional strategic effort. As observed by other scholars, the most common strategies for accelerating knowledge production revolve around the coordination of research efforts across individual scholars, teams of scholars and institutions (Landry and Amara 1998; Ogawa, Goldring, and Conley 2000).

A decade ago Ogawa, Goldring, and Conley (2000) examined this same issue with respect to knowledge production in the USA. They noted:

For some time now, practitioners and scholars alike have claimed that research on educational administration is lacking. Criticisms include that research does not impact the field, does not address substantive problems, and does not advance knowledge and practice. Early discussions of the American Educational Research Association (AERA) Division A Task Force on Inquiry and Research suggested that a remedy to these problems might lie in a trusted administrative strategy: organizing. In this case, the field would organize the work of researchers. (Ogawa, Goldring, and Conley 2000, 340)

After developing their own empirically grounded picture of the field in the USA, they proposed a model for research coordination that combined three dimensions: (1) scale of effort, (2) formality of coordinating structures and (3) tightness (i.e. degree of focus) of the research agenda (Ogawa, Goldring, and Conley 2000, 350; see Figure 2). We employ this framework to explore the viability of different strategies for knowledge production in East Asia.

<i>Focus/Structure</i>	Formal Structure		Informal Structure
Tight Focus	<i>Large</i>	<i>Intermediate</i>	-----
	Research Centers and Institutes	Research Teams and Groups	Research Projects by Colleagues at Separate Institutions
Loose Focus	National Research Organizations	Subunits of National Research Organizations	Social Networks of Colleagues with Common Interests

Figure 2. Types of research coordination (from Ogawa, Goldring, and Conley 2000, 351).

Formal structure, large scale, tight focus

This strategy could take the form of a cooperatively funded regional R and D centre focusing on educational leadership and management. The *National College for School Leadership* in the UK, or the *National Centre for Educational Leadership* operated by Harvard University, Vanderbilt University and the University of Illinois in the 1990s in the USA are prime examples of this approach. They feature large-scale, multi-year, centrally funded efforts to organise research on educational leadership and management around an agreed upon R and D agenda.

For reasons suggested above, this type of strategy is unrealistic in East Asia. Given the highly fragmented political structures, poorly distributed research capacity, linguistic diversity, and variable levels of university development that characterise the East Asia region, this type of strategy lacks feasibility. Lack of a common regional approach to tackling educational issues (e.g. compare, for example, with *Bologna Process*) represents another significant inertial force that is not likely to be overcome in the near future. This historical factor is further exacerbated by the absence of cooperative funding structures or a common higher education agenda. In the current (and foreseeable) political context of higher education in the region, we see no possibility for regional coordination through large-scale formal strategies.

Formal structure, large scale, loose focus

Strategies aligned along these dimensions would centre around the coordinating role of government and regional professional organisations that focus on higher education research and/or educational leadership and management (Ogawa, Goldring, and Conley 2000). Government agencies such as the OECD in Europe, Institute for Education Sciences in the USA, Australia Research Council and the University Grants Commission in Hong Kong all represent organisations that seek to coordinate and influence knowledge production in their respective societies. They establish structures that channel money for research to institutions and individuals. Although the structures are formal, the foci for research are often quite broad. Nonetheless, these research coordinating structures exert considerable influence on the quality and scope of research that is produced within the respective societies (e.g. see Butler 2003; Hien 2010).

Organisations such as the *University Council for Educational Administration* (USA), Division A of the *American Educational Research Association* (USA), the British Educational Leadership, Management and Administration Society (UK), the *Commonwealth Council for Educational Administration* (British Commonwealth) and *Australian Council for Educational Leadership* (Australia) represent a different means of coordinating research efforts. Although these organisations are large in scale and formal in structure, they influence the direction of research indirectly through organising collegial interaction, setting research standards, commissioning papers, forming study groups and disseminating information.

There are no similarly influential research organisations of either variant in East Asia that are capable of providing this type of coordination today or in the near to medium term. Thus, we do not view this as a high-impact strategy.

Formal structure, intermediate scale, tight focus

This approach to research coordination can be observed in the work of faculty or institute-level research centres, or research teams operating in or across departments in a faculty of education (Ogawa, Goldring, and Conley 2000). Coordination is formal in the sense that faculty members have a defined relationship to one another as well as a built-in accountability system. Funding may, or may not, be provided for research. Tight focus is achieved through the consensus of team members to work towards a particular project agenda. Reliance on this type of coordinating structure can work well in contexts that are characterised by a reasonably high density of competent faculty members. Senior members can help define the direction and, where available, obtain research funds. Mentoring is available and staff operate within a defined system of goals, monitoring and rewards.

Our data indicate that very few regional programmes in educational leadership and management possess the internal capacity and resources needed for this strategy to succeed. Most programmes lack a critical mass of researchers operating in the same area, as well as the senior researchers needed to guide research teams. Thus, as noted, most of the region's 'educational leadership centres' tend to operate as training centres. Therefore, we do not see this as a viable *institutional* strategy in the region.

On the other hand, this strategy could also be conceived in terms of a less ambitious regional alternative to the *formallarge scaletight focus* provided by a regional research and development centre. A centre that was intermediate in scale would not necessarily require formal governmental consensus on research agendas, operational processes or funding. This could, for example, be achieved through foundation funding that leveraged informal regional networks. Tight focus would, presumably, be accomplished through consensus among researchers and agreement with the funding foundation.

This is similar in some respects to the role played by the Wallace Foundation over the past decade in the USA. In collaboration with scholars, the Foundation identified a high priority research agenda (i.e. tight focus), and provided a substantial base of medium-term funding (i.e. formal) to support a research infrastructure that leveraged institutional capacity provided by a core group of nationally respected scholars. We see possibilities for this approach in East Asia, though currently we know of no foundations that have demonstrated an active role in this regard. Asian foundations still appear to see research capacity development as a government responsibility.

Still another option within this strategic approach would be formal bi-lateral or multi-lateral grant schemes. For example, in Hong Kong, the Research Grants Council currently maintains bi-lateral research schemes with the UK, France, Germany and China. However, other than a bi-lateral scheme with China, there are no cooperative (i.e. coordinating) efforts with other regional societies. The fact that this is a formal structural arrangement between the research councils of multiple societies raises significant barriers to implementation. Moreover, it is an incomplete solution since the scheme is unlikely to focus specifically on research in educational leadership and management.

Formal structure, intermediate scale, loose focus

Most typically this approach consists of coordination among members of sub-units of larger organisations (Ogawa, Goldring, and Conley 2000). Special interest groups consisting of area-focused sub-units of international or regional organisations represent one example within this category. These options are characterised as 'loose' in the sense that both participation and project formulation are consensual and fluid. Currently, however, there are no regional organisations that meet this description. Thus, we do not identify this as a high-impact strategy suitable to the region.

Informal structure, tight focus

This typically consists of joint research projects conducted by colleagues at different institutions (Ogawa, Goldring, and Conley 2000). Our data suggest that this type of collaboration is already under way. More specifically, within this corpus, 53 studies involved collaboration among scholars working at different institutions: 13 studies resulted from collaboration among scholars at different institutions within the same society, eight studies involved collaboration among researchers at institutions in different regional societies and 32 studies involved scholars within the region collaborating with scholars outside of the region. These data reinforce the potency of scholarly networks, and the potential efficacy of stimulating research collaboration and mentoring as means of capacity building. Any formal strategy undertaken should aim to enhance and leverage these informal approaches to capacity building.

At the same time, this *informal* strategy will not, by itself, achieve the vision of developing a regional knowledge base. Although the data affirm the importance of inter-instructional faculty collaboration, they also highlight the limited impact of this type of research coordination. Thus, we recommend this as a supporting but not a central strategy for achieving the goal of accelerating knowledge production.

Informal structure, loose focus

In our view, this option does not qualify as a strategy in the same way as the others. It relies only upon naturally occurring relationships among individual scholars. Thus, it offers no leverage for *accelerating* knowledge creation.

Discussion

In this paper, we synthesised findings from a review of regional publication trends for the purpose of identifying strategies capable of accelerating the development of a regionally grounded knowledge base for educational leadership and management in East Asia. We employed a typology proposed by Ogawa, Goldring, and Conley (2000) as a lens for assessing the potential viability of different strategies. Our analysis yields several conclusions concerning strategic directions that may hold promise.

For more than a 15 years, scholars have articulated the need for a regionally grounded empirical knowledge base that can inform practice in East Asia (e.g. Bajunid 1996; Cheng 1995; Hallinger 1995; Hallinger and Leithwood 1996;

Hallinger, Walker, and Bajunid 2005; Walker and Dimmock 2002). Data presented in the current study indicate that the current approach is not yet yielding a regional knowledge base in terms of publication in core international journals (see also Hallinger and Bryant 2013). More specifically, the review of research in eight selected educational leadership and management journals found a disappointing level of international publication from the region, though there were selected bright spots.

Features of our research design do, however, require some qualification concerning the interpretation of this finding. Although our search of eight international journals over a 12-year period of time can be considered quite comprehensive, we noted that this design excluded both domestic language journals and graduate theses produced in the region during the same period. If there had been a practical method of capturing this broader set of research outputs, we project that the volume of research would have been much larger and there would have been an even more notable trend of increasing output over time (see, for example, Walker, Hu, and Qian's (2012) review of research on the principalship in China). Thus, we emphasise that confirmation of the conclusions drawn from this selective sample of journal publications awaits further analyses of research conducted within the national contexts that comprise the region.

Even so, for reasons discussed above, there is also reason to believe that the quality of research generated from domestic journals and graduate these would be highly variable in quality. This hypothesis is, for example, consistent with the findings of Walker, Hu, and Qian' (2012) review of the Chinese literature. They observed that there was not a strong tradition of empirical research in China. The research they reviewed was dominated by prescriptive and descriptive studies with low generalisability, even within China. Therefore, although we both acknowledge and highlight the 'incompleteness' of our results based on the decision to focus on publications in international journals, we still assert that this offers one useful perspective on regional knowledge production.¹²

A number of contextual forces act as impediments to the development of research capacity and the sustainable production of knowledge. The typology employed in this study enabled us to highlight unproductive as well as potentially productive strategies. For example, our analysis highlighted the political and educational diversity of the higher education context in East Asia. Competition for world university rankings, lack of coordinating political units, linguistic diversity, the local orientation of national education systems, and varying levels of higher education development all present impediments to *large-scale formal* coordination.

Similarly, our data highlighted the ineffectiveness of relying solely on 'informal' approaches to regional research and development. Although informal coordination represents the traditional mainstream approaches to academic work, we join Ogawa, Goldring, and Conley (2000) in questioning its efficacy. Our data do not support the belief that informal approaches to coordination by themselves will yield substantial improvements in regional knowledge production in the short or medium term.

This conceptual lens also revealed some potentially productive coordination strategies. Our strategic analysis suggested that effective coordination strategies would ideally be *intermediate* in scale, and incorporate both *formal and informal coordination* with a *tight focus* (i.e. common research agenda). With these features in mind, we propose the following regional strategy as a starting point for discussion.

- Given the barriers to inter-governmental cooperation, the most likely approach would entail establishment of a foundation-funded effort capable of providing regional focus and coordination of research in educational leadership and management. There is precedent in the USA for this type of supportive relationship, as embodied in the work of the Danforth and Wallace Foundations.
- This should leverage capacity that already exists in the region. For example, data presented in this paper suggest that one central node of this effort could be located Hong Kong. This recommendation is based on data that indicated a particular concentration of knowledge resources contained in its cluster of universities.
- This goal of this effort would be to:
 - lead in formulating a regional research agenda,
 - establish a set of key multi-society research and development projects,
 - develop funding mechanisms to foster small-scale collaborative research and the collection and analysis of empirical data throughout the region,
 - coordinate capacity-building efforts, and
 - disseminate findings regionally and internationally.
- The regional network would form key partnerships with satellite institutions in the region as well as in the USA, Australia and the UK. These partnerships would leverage current research capacity within the region and hopefully lead to multi-lateral channels for upgrading R and D capacity in the region. The rationale for this recommendation is grounded in data that showed the impact of collaboration among researchers within the region with researchers located in mainstream Western universities.

It should be noted that *informal* coordination efforts are already under way in the region. However, we suggest that a formal coordinating strategy that is tailored explicitly to the contextual conditions of the region has greater likelihood of medium- and long-term success in accelerating the rate of knowledge production in the region.

Implications

This study has four implications. The first lies in the approach to formulating a path for regional knowledge production in our field. Despite a long tradition of interest in this issue in educational leadership and management (e.g. Donmoyer, Imber, and Scheurich 1995; Kiley 1973; Ogawa, Goldring, and Conley 2000), we observe a continuing tradition of relying primarily on *informal loose* approaches to research coordination. Ogawa, Goldring, and Conley (2000) analysed this in the more mature higher education context of the USA, and found it wanting. Based on data from our literature review, we come to a similar conclusion with respect to East Asia. Thus we have emphasised the need for more serious consideration of new approaches to research coordination.

This leads to the second implication. We suggest that the type of strategic analysis conducted in this study could be relevant for other regions of the world that lie outside the Western mainstream of knowledge production. As shown in this study, the terrain of knowledge production in East Asia has a very specific set of characteristics. These shape the constraints, resources, and opportunities that

underlie a successful strategy for accelerating knowledge production. Therefore, although the process that we employed in formulating a strategy could be relevant elsewhere, we the results could be very different.

Finally, the key limitation of this study (i.e. reliance on international English-language medium journals), leads to another important implication. There is an urgent need for nationally based systematic reviews of research (Gough 2007; Hallinger 2013) that make locally derived knowledge from the region more broadly accessible. These literature reviews should be critical and evaluative, not simply descriptive. The publication of a series of such reviews would not only enable scholars to assess more accurately the conclusions from this study, but offer potentially important insights into the nature and diversity of leadership practices across the region.

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Notes

1. Note that we characterised these as ‘eight core international research journals’ rather than ‘the eight core international research journals...’ Although any selection of ‘the core journals’ is disputable, we assert that this set is a reasonably comprehensive yet focused list of educational leadership journals.
2. The *h-index* was proposed by J. E. Hirsch in his paper ‘An index to quantify an individual’s scientific research output’, arXiv:physics/0508025 v5 29 Sep 2005. It is defined as follows: a scientist has index h if h of his/her N_p papers have at least h citations each, and the other (N_p-h) papers have no more than h citations each.
3. This is based on analysis using the *Publish or Perish* tool on 19 May 2012.
4. We considered two other well known journals: *Leading and Managing* and *Journal of School Leadership*. However, the former had a much lower *h-index* (15), and the latter failed to meet our criterion of having a mission of including international research.
5. It should be noted that unlike in the USA where most doctoral dissertations are stored in digital format by UMI and made available through Proquest, in Asia such systems are not yet in place. Thus, doctoral dissertations are generally stored in print format at single universities. This makes them largely inaccessible for the purposes of international research.
6. It should be noted that, given the diverse foci of our research questions, we decided to include all studies that either investigated *about* educational leadership and management in these societies *or* were written about educational issues more generally but produced by scholars operating within the region.
7. This characterisation is based on data presented in this paper on educational leadership and management. However, we suggest that the trend in this sub-domain would likely apply to education faculties as a whole, though probably with some *within group variation* in rank order.
8. Within each of these topical areas, one additional study had received funding support from outside of the region.
9. Here we refer to databases such as Proquest, JSTOR and EBSCO, which contain thousands of journals. We further note that there are widely varying ‘levels of access’ to these databases. That is, a university can subscribe more or less comprehensive packages (i.e. bundles of journals) within a given database. Moreover, access can also vary based upon periods of embargo that are defined by the period before a journal’s new content becomes accessible.

10. See for example, Elsevier's approach at http://www.elsevier.com/wps/find/intro.cws_home/research4life
11. At this time, we do not have hard data on this trend in the region. Therefore, we have fallen back on anecdotal communications and recent personal experience.
12. See Leong and Leung (2004) and Leung (2007) concerning the developmental trend with respect to research capacity and output in the general management literature from East Asia.

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