

Discerning citation patterns in dominant BME literature streams: lessons for BME scholars

Lessons for
BME scholars

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J. Ben Arbaugh

*Department of Management and Human Resources,
University of Wisconsin Oshkosh, Oshkosh, Wisconsin, USA*

Alvin Hwang

Lubin School of Business, Pace University, New York, New York, USA

Jeffrey J. McNally

Faculty of Management, University of New Brunswick, Saint John, Canada

Charles J. Fornaciari

School of Business, La Salle University, Philadelphia, Pennsylvania, USA, and

Lisa A. Burke-Smalley

*Department of Management, University of Tennessee at Chattanooga,
Chattanooga, Tennessee, USA*

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Abstract

Purpose – This paper aims to compare the nature of three different business and management education (BME) research streams (online/blended learning, entrepreneurship education and experiential learning), along with their citation sources to draw insights on their support and legitimacy bases, with lessons on improving such support and legitimacy for the streams and the wider BME research field.

Design/methodology/approach – The authors analyze the nature of three BME research streams and their citation sources through tests of differences across streams.

Findings – The three streams differ in research foci and approaches such as the use of managerial samples in experiential learning, quantitative studies in online/blended education and literature reviews in entrepreneurship education. They also differ in sources of legitimacy recognition and avenues for mobilization of support. The underlying literature development pattern of the experiential learning stream indicates a need for BME scholars to identify and build on each other's work.

Research limitations/implications – Identification of different research bases and key supporting literature in the different streams shows important core articles that are useful to build research in each stream.

Practical implications – Readers will understand the different research bases supporting the three research streams, along with their targeted audience and practice implications.

Social implications – The discovery of different support bases for the three different streams helps identify the network of authors and relationships that have been built in each stream.

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Originality/value – According to the authors' knowledge, this paper is the first to uncover differences in nature and citation sources of the three continuously growing BME research streams with recommendations on ways to improve the support of the three streams.

Keywords Bibliometrics, Experiential learning, Entrepreneurship education, Management education, Citation patterns, Online/blended learning

Paper type Research paper

Introduction

Business and management education (BME) research has grown significantly in the last two decades. This growth parallels the increasing sophistication of BME researcher efforts in applying traditional disciplinary research approaches to BME works that improve its legitimacy (Arbaugh & Hwang, 2013; Rynes & Brown, 2011). Along with this growing trend comes the inevitable comparison of its impact versus that of research in the basic business disciplines (Arbaugh & Hwang, 2015). One aspect of the comparison is citation metrics – a measure of the number of times an article is cited by other articles. While some scholars have supported such metrics and have shown the important role that they play in uncovering field patterns and critical foundational works (Talukdar, 2011; Van Raan, 2005), others have questioned the potential influence of authors on the metrics (Macdonald & Kam, 2011). A review of the BME field did uncover some high-profile author pieces that could draw citation attention (e.g. Kolb & Kolb, 2005 on learning styles, Leidner & Jarvenpaa, 1993 on electronic classrooms and (Pittaway & Cope, 2007a) on entrepreneurship education review). However, despite the few high-profile authors, BME has not been able to draw the level of attention or recognition that is seen in business disciplinary research (Hwang et al., 2019). Thus, views that publication “stars” could be driving citation counts, via the self-citation process (Macdonald & Kam, 2011), which, in turn, affects impact metrics, is not evident in the BME literature.

Citation metrics are important. Rynes and Brown (2011) pointed to the need for research to have consequential legitimacy – the ability of ideas in an article to be cited by other scholars. Such citations show that an article's ideas have become building blocks in other research works. In other words, citations show an article has caught the attention of others and is useful in the field. Citation metrics are also used as measures by schools in accreditation reviews. Business schools that are accredited by the Association to Advance Collegiate Schools of Business (AACSB) are required to demonstrate research impact, with attendant measures being an important review area (AACSB International, 2020). So, not only are citation metrics useful in showing acceptance of an article's ideas in a field but they also have school level importance in accreditation reviews.

If BME research citation metrics are lower than those in traditional business disciplines, it is important to discover potential causes and understand their research support implications. Arbaugh and Hwang (2015) pointed to researchers' traditional training in disciplinary areas, and therefore unfamiliarity with BME research as one possible cause of lower attention to BME research. Hwang et al. (2019) pointed to traditional research resource support for business disciplinary research rather than learning and teaching research as another likely reason. Such practices hinder BME research motivation and effort and slow the field's development. They also decrease perceptions of legitimacy in the eyes of scholars as recognition and rewards tend to be funneled to disciplinary rather than BME research.

Three BME research streams that exhibit differing citation patterns may shed light on how they may have different support and legitimacy bases which suggest implications for the field's wider development. The first is experiential learning. This stream has a long

history going back to the 1970s. Despite it being one of the longest streams in existence, its articles have not gotten the highest citation attention, especially when contrasted against those in the relatively new entrepreneurship education, which started in the early 2000s or even the online/hybrid learning stream of the 1990s (Arbaugh & Hwang, 2015). While some experiential learning articles have received citation attention (Cunliffe, 2004; Bobbitt, Inks, Kemp, & Mayo, 2000), the stream as a whole has not gotten the attention that one would expect it to have over its long existence. Thus, it would seem there are differences in BME research stream development and related recognition that are not accountable by the passage of time and that the expected isomorphism of research areas in a field for a common legitimacy basis has not set into these streams (Alvesson & Gabriel, 2013). These differences in recognition are related to deeper BME research stream characteristics that could have lessons for other BME streams and the whole BME field. Thus, our current study to uncover differences across the three BME streams.

Hambrick and Chen's (2008) theoretical framework and its three dimensions of *differentiation*, *legitimacy* and *mobilization*, have proven useful in examining field development in other business disciplines. We use it here to examine the three BME streams. This study's results showed distinct differences in the nature and degree of research and citation patterns across the streams. Important lessons are drawn on the need for BME scholars to build upon each other's work and develop an inclusive theoretical foundation in each stream. Building on each other's work will produce greater stream coherence and help achieve Hambrick and Chen (2008) *legitimacy*. This study also revealed *differentiation* in-stream research foci and investigative approaches such as an inclination toward quantitative studies in one stream versus the use of managerial samples in another. Finally, the three literature streams showed diverse *mobilization* approaches through the utilization of different sources in the communication of research ideas and findings. These differences in *differentiation*, *legitimacy* and *mobilization* are shown in this study to affect citation attention.

The next section of this paper provides a literature review of the three BME streams and discusses Hambrick and Chen (2008) framework as the basis to examine their development. This is followed by the study's methodology and sample inclusion process. Finally, the presentation of results and a discussion of findings and limitations, along with suggestions for future research, complete the paper.

Literature review

Entrepreneurship education

Entrepreneurship, as a field of practice and study, has grown significantly in recent decades (Nabi, Linan, Fayolle, Krueger, & Walmsley, 2017; Rideout & Gray, 2013). It has been surrounded by the excitement in – and funding from – global academic and political circles (Martin, McNally, & Kay, 2013). In turn, this momentum has led to more academic programs and students majoring in the field, with contemporary teaching methods helping students increase their venture creation knowledge (Greene & Saridakis, 2008; Pittaway & Cope, 2007a). High-stakes elevator pitches, incubators, accelerators and student-run ventures dominate business school entrepreneurship program activities (Fretschner & Weber, 2013) as students increasingly demand personalized and participative pedagogy (Fayolle & Gailly, 2008; Lund Dean & Fornaciari, 2014; McNally et al., 2020). Entrepreneurship education research has also benefitted from the European public policy of encouraging economic and entrepreneurial growth via higher education (O'Connor, 2013). The pressures for entrepreneurship-led growth and students wanting knowledge in this area have motivated educators to develop effective teaching strategies and show their impact (Fiet, 2001b). This, in turn, has produced a flurry of studies and an increasingly large body of research.

Despite being comparatively young, the entrepreneurship education literature has already been subject to extensive reviews through both qualitative (e.g. [Nabi et al., 2017](#)) and quantitative (e.g. [Martin et al., 2013](#)) studies. Most of these reviews point to a small, but statistically positive, link between the effectiveness of entrepreneurship education and its intended outcomes. Overall, research on entrepreneurship education outcomes is growing with most studies drawing attention to short-term, individual-level, subjective impact indicators such as undergraduates' attitudes toward entrepreneurship and intentions to become an entrepreneur ([Martin et al., 2013](#); [Nabi et al., 2017](#)). Notably, there has been a proliferation of entrepreneurship programs across schools in North America and Europe ([O'Connor, 2013](#)), the formation of a separate entrepreneurship division in the Academy of Management (<http://aom.org>) and the creation of many entrepreneurship and entrepreneurship education journals ([Nabi et al., 2017](#)), all of which signal high growth and an expanding influence in the BME literature.

Online/blended learning

Online/blended learning research has existed as a research area since at least the early 1990s (e.g. [Alavi, 1994](#); [Bailey & Cotlar, 1994](#); [Leidner & Jarvenpaa, 1993](#)), experiencing rapid development through the first decade of the 21st century ([Arbaugh et al., 2009](#)). Management and information systems scholars were the early leading discipline-based contributors to this stream. Some of the more prominent themes of this period included comparative studies of online and classroom-based delivery ([Arbaugh, 2000](#)), the incorporation of frameworks developed from discipline-based perspectives such as the technology acceptance model (TAM) and the more recent unified theory of acceptance and use of technology: unified theory technology ([Davis, 1989](#); [Venkatesh, Thong, & Xu, 2016](#)). Program-level studies of online learning effectiveness are also prominent in this stream ([Arbaugh, 2005](#); [Bocchi, Eastman, & Swift, 2004](#)).

Increasing emphasis has been placed on online course mechanics and contexts during the past decade, including group dynamics ([Comer & Lenaghan, 2013](#); [Schaefer & Erskine, 2012](#)), teaching skill development ([Callister & Love, 2016](#)), online business education outside of North America ([Durand & Dameron, 2017](#)), methodological issues in online learning research ([Arbaugh & Hwang, 2013](#)) and extensions of online approaches to blended learning environments ([Arbaugh, 2014](#)). Like entrepreneurship education, online and blended business education research has garnered significant attention, with scholars publishing works across a range of BME journals, including those with roots in information systems ([Venkatesh et al., 2016](#)), management ([Comer & Lenaghan, 2013](#)), operations management ([Callister & Love, 2016](#)) and top BME outlets (e.g. [Arbaugh, 2005](#)).

Experiential learning

Experiential learning has a long history ([Dewey, 1938](#)), although key contributions (e.g. [Kayes, 2002](#); [Kolb & Kolb, 2005](#)) remain surprisingly under-used in the BME literature. Kolb defines experiential learning as "knowledge created through the transformation of experience" (1984: 38) with an emphasis on application and reflection. Research has demonstrated that experiential learning can improve course-relevant skill proficiency (e.g. [Knowles, Holton, & Swanson, 2005](#); [Merriam & Caffarella, 1999](#)), promote growth and development and contextualize learning for applications ([Devasagayam & Taran, 2009](#); [Illeris, 2007](#)). The adoption of experiential learning components in courses seeks to fulfill learning needs by pairing academic rigor with practical relevance and practice opportunities ([Godfrey, Illes, & Berry, 2005](#)). Further, it provides a clear opportunity for students to link

and integrate course concepts with concrete experience, which is necessary for authentic learning (Kolb, 1984; Smith & Van Doren, 2004).

Researchers in this area have examined a wide range of topics including classroom role-plays and student interaction processes (Devasagayam & Taran, 2009), computer-based simulations (Faria, Hutchinson, Wellington, & Gold, 2009) and many other interventions that require some form of behavioral interactions other than purely cognitive approaches (Godfrey et al., 2005). Nevertheless, despite its vast scope and range of possibilities, experiential learning has not received the same level of attention as has the more recent entrepreneurship education or online/blended learning research streams, even after considering its much longer comparative history. Given the relevance of the experiential learning stream to practice and its foundational role in BME, it is curious to find experiential learning journal articles not enjoying dominance in citation impact when compared against those of the entrepreneurship education and the online/blended learning streams.

Relevant conceptual framework

Hambrick and Chen (2008) framework on the development of academic fields is useful for examining the three BME streams in this paper as it integrates social movement theory and the sociology of science to explain research stream development. Specifically, Hambrick and Chen's (2008) constructs of *differentiation*, *legitimacy* and *mobilization* are used to showing differences among the three BME research streams.

Differentiation. Differentiation refers to the idea that something distinctive sets a phenomenon apart from others (e.g. a new stream with a focal field such as entrepreneurship education, that examines business education issues, which are pertinent and unique to specific needs). The distinctiveness of an area often occurs at the intersection of different research streams: boundary research issues and questions often exist here and are often considered to be peripheral to an existing stream's core topics. A task for scholars in emerging research areas is to identify those boundary issues and then highlight the distinctive qualities that differentiate them from the core topics of existing streams. To the extent researchers could carve these peripheral issues into a distinctive area, the eventual distinctiveness/differentiation of that new area will be less of a threat to stakeholders in existing streams with a greater chance of acceptance by the community of this differentiated area (Benford & Snow, 2000). Acceptance by the community is a key step toward an emerging stream's legitimacy as it allows scholars to ask questions and build research agendas; however, many other considerations need to be addressed before an area can become fully legitimate. To the extent an emerging boundary stream is initially accepted for its unique questions, there still must be long term work before it is judged fully worthy of widespread scholarship attention and allocation of ongoing research resources to ensure its survival and vitality (Mahoney, 1985). The path toward acceptance of a differentiated area and consequent legitimacy requires years of effort in ensuring the research is subjected to expected procedural and structural legitimacy, if not personal legitimacy (Rynes & Brown, 2011). Such procedural legitimacy would include literature reviews, clear research methods and other typical academic journal expectations of a research article. Structural legitimacy may include acceptance of a publication in a peer-reviewed journal outlet and personal legitimacy may include works by well-known researchers (Rynes & Brown, 2011; Suchman, 1995).

From brief research overviews of the three streams, research content and theories are clearly different among them. In addition, there are other seeming differences. For example, experiential learning tends to have more class exercises and cases while online/blended learning tends to have more empirical studies and entrepreneurship education tends to have

more literature reviews (Arbaugh et al., 2017). Therefore, this study will examine generally verifiable research categorizations such as literature reviews, conceptual pieces, classroom studies, essays, studies of specific learning exercises, the use of quantitative, qualitative (e.g. case) or mixed analysis methods and the use of student or manager samples across the three research streams. Thus, the first research proposition, based upon Hambrick and Chen (2008) differentiation dimension, is:

- P1. Other than generally accepted disciplinary content differentiation across the three research streams of entrepreneurship education, experiential learning and online/blended learning, there are discernable differences in research foci and methodological approaches (e.g. focus on classroom studies, quantitative studies, field samples, etc.).

Legitimacy. Legitimacy has been defined by Suchman (1995: 574) as “a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions.” Rynes and Brown (2011) highlighted characteristics of legitimate research areas that included theoretical development, agreements on methods and theories, empiricism, quantification of findings and paradigm development (Kuhn, 1970; Pfeffer, 1993). For an emerging area, such characteristics are likely to be initially minimal or non-existent. Therefore, it is difficult for an emerging research area to have immediate legitimacy, as all these characteristics can happen only with ongoing efforts to explore the area, raise issues, develop research questions, allocate resources and uncover emerging results to garner community support. Rynes and Brown (2011) traced three legitimacy criteria from Suchman (1995): *structural* legitimacy, which is the presence of signals and symbols of competence in the research area to do the job; *personal* legitimacy, which is the presence of recognized leadership in the area; *procedural* legitimacy, which is the adoption of socially accepted procedures in doing work in the area; and fourth criteria of *consequential* legitimacy, which is the recognition or impact of the output on the community.

These four criteria could be translated into legitimacy practices. To gain structural legitimacy, research from an emerging area may need the publication of findings in peer-reviewed journals or journals that are sponsored by reputable organizations. The inclusion of such journals in citation metric systems would also be helpful (Rynes & Brown, 2011). For personal legitimacy, the leadership of the emerging area may need to involve recognized leaders of established domains who could serve as the focus of research efforts. For procedural legitimacy, emerging area research works would need to follow establish area protocols such as the inclusion of a literature review, proper citations and references to other related works and where there are data collection and examination, clear definitions of variables and research questions/hypotheses of relationships, research methods and nature of the analysis.

With differences seen in research approaches across the three BME streams such as experiential learning's focus on classroom pedagogical exercises (e.g. case studies for analysis), online/blended learning on empirical testing of classroom technologies and entrepreneurship education on reviews of developments in its area, the nature of research in each of these streams could affect not only content focus but also outlets of research, methods and analyzes. Such content and related research approach differences could impact legitimacy considerations. For example, rigorous empirical testing procedures in online/blended learning research that demonstrate procedural legitimacy in traditional academic journals may be of lower relevance in experiential learning with its focus is on developing case studies and simulations such as role-plays or other exercises for classroom learning

experiences. Then, with such materials also being useful to executive learning outside of the classroom, publication outlets could expand beyond traditional academic journal outlets. Likewise, the focus of entrepreneurship education on literature reviews may involve more well-known leaders for personal legitimacy considerations. Therefore, the second research proposition, based upon [Hambrick and Chen \(2008\)](#) legitimacy dimension, is:

- P2. There are possible differences among the three streams of entrepreneurship education, experiential learning and online/blended education in terms of peer-reviewed journals versus other outlets, accepted research publication norms, recognized authors and high impact measures.

Mobilization. Mobilization refers to how a group (e.g. authors) enacts influence over others and communicates for collective action. Important for mobilization are shared interests (i.e. to define the group's identity and solidify its membership), political opportunity (i.e. environmental conditions of support) and social infrastructure (i.e. the existence of avenues to connect each other among early advocates). Shared interests are more likely to encourage mobilization when the number of interests is limited and clearly agreed upon by individuals in the group ([Davis & Thompson, 1994](#)). *Mobilization* can be seen in researchers disseminating their works through different outlets and being cited by stakeholders of these outlets. Such outlets may include conference presentations and proceedings, BME or disciplinary journal publications, books or other sources. To the extent researchers can disseminate their knowledge and obtain needed citation attention, they are able to mobilize support for their works and their research stream from those outlets. As experiential learning's focus is on classroom pedagogical exercises such as cases for analysis and executive learning outside of the classroom, its reach is for a wider audience outside of academic journals. In comparison, online/blended learning's focus is on empirical testing of classroom technologies and entrepreneurship education has a higher focus on reviews of development in its stream.

Arising from these differences the third research proposition, based on [Hambrick and Chen \(2008\)](#) mobilization dimension, is:

- P3. There are differences in mobilization mechanisms of the three BME research streams of entrepreneurship education, experiential learning and online/blended learning via sources such as conference presentations, BME or disciplinary journals, books and other sources.

Methods

Sample article data set

For this study, only highly cited BME peer-reviewed journal articles are included in the sample. This decision was informed by the known weaknesses of citation tracking systems such as the *Web of Science*, *Scopus* and *Google Scholar*, in accurately measuring citation counts for books and book chapters ([Harzing, 2013](#)). The importance of citations as a criterion for inclusion of articles in this study is also supported by research that has shown citations are useful in uncovering important works and that high-quality work will garner more citations from scientific colleagues than low quality work ([Van Raan, 2005](#)). This perspective is also echoed by [Bornmann and Daniel \(2008, p. 45\)](#) in their review of studies that examine citing behavior:

[...] there is evidence that the different motivations of citers are 'not so different or 'randomly given' to such an extent that the phenomenon of citation would lose its role as a reliable measure of impact.'

While there are critiques of citation measures (e.g. [Macdonald & Kam, 2011](#)) and on citation enhancing-focused behaviors (e.g. [Harley, 2019](#)), the overall evidence is that they are still useful in uncovering important works. [White \(2004\)](#) concludes that citers of an article are rewarding intellectual property and [Talukdar \(2011\)](#) suggests that publications can be viewed as units of production of scientific knowledge, which represent patterns of outputs across authors.

Another reason for only considering journal articles is the precedent from other business bibliometric studies where journal article sampling is the norm (e.g. [Ferreira, Santos, Ribeiro do Almeida, & Reis, 2014](#); [Fornaciari & Lund Dean, 2009](#); [Schulz & Nicolai, 2015](#)). The literature for the three BME streams comes from a larger sample of the 250 most-cited peer-reviewed journal articles covering all BME research topics going back to 1970. These articles cover the business disciplines of accounting, economics, finance, information systems, management, marketing and operations management, regardless of journal source. They were uncovered using [Harzing's \(2013\) Publish or Perish](#) citation analysis tool on *Google Scholar* through [Arbaugh and Hwang's \(2015\)](#) search terms. These terms included: business education; management education; experiential learning and undergraduate business courses, etc.

The top 250 article sample size was a direct result of examining the flattening out of citation rates at the bottom of the top 250 articles. In other words, after an initial steep decline in citation rates (the most cited article had 3,013 cites, the 10th ranked had 1,026 cites and the 50th had 419 cites), the curve flattened toward the end of the sample (i.e. the 200th had 203 cites and the 250th had 179 cites). This flattening pattern indicates generally similar level citation rates with small declines after the top 250 sample. The choice of stopping at the top 250 articles allowed a balance between meaningful citation impact and overall sample size: in fact, the 250 identified articles are the largest sample that has ever been captured in examining the BME literature. A listing of the articles, including the journals in which they appeared and their individual citation counts, is available from the authors upon request.

This data set of 250 highly cited BME articles addresses educational issues and/or practices within business schools. It excludes articles that mention search terms in a peripheral way. Articles were classified in each stream by two different authors and then examined for differences in classification. Where there were differences in classifications, the authors got together to discuss different views and resolve these differences. One article ([Pittaway & Cope, 2007b](#)) was placed in both the entrepreneurship education and experiential learning streams due to its equal coverage of both literature streams. There was a total of 114 articles that were in the three BME streams of interest: 49 in online/blended education; 40 in entrepreneurship education; and 25 in experiential learning. This subset made 114 articles made up about 46% of the overall data set of the original 250 BME articles. [Table 1](#) presents the 114 article references.

Measures

Google Scholar citation rates of articles were collected as the basis for stream recognition (i.e. consequential legitimacy). These included the number of citations by an article to articles within its respective stream and the number of times an article was cited by other articles in the same stream. Similar counts were made of the number of citations from a stream article to the original top 250 BME article data set and the number of times a stream article was cited by other articles in the 250 BME article data set.

Entrepreneurship education (<i>n</i> = 40 articles)	Online/blended learning (<i>n</i> = 49 articles)	Experiential learning (<i>n</i> = 25 articles)
Bechard and Gregoire (2005)	Alavi (1994)	Bobbitt et al. (2000)
Brush et al. (2003)	Alavi and Leidner (2001)	Boyatzis and Saatcioglu (2008)
DeTienne and Chandler (2004)	Alavi, Wheeler, and Valacich (1995)	Boyatzis, Stubbs, and Taylor (2002)
Fayolle and Gailly (2008)	Alavi, Yoo, and Vogel (1997)	Cunliffe (2004)
Fiet (2001a)	Arbaugh (2000a)	De Vita (2001)
Fiet (2001b)	Arbaugh (2000b)	Faria (1998)
Franke and Luthje (2004)	Arbaugh (2000c)	Faria (2001)
Gartner and Vesper (1994)	Arbaugh (2001)	Faria et al. (2009)
Gibb (1987)	Arbaugh (2002)	Faria and Wellington (2004)
Gibb (1993)	Arbaugh (2005)	Gray (2007)
Gorman, Hanlon, and King (1997)	Arbaugh and Duray (2002)	Hawk and Shah (2007)
Hamidi, Wennberg, and Berglund (2008)	Arbaugh et al. (2009)	Holman, Pavlica, and Thorpe (1997)
Henry, Hill, and Leitch (2005a)	Arbaugh and Hwang (2006)	Kayes (2002)
Henry, Hill, and Leitch (2005b)	Aviv, Erlich, Ravid, and Geva (2003)	Keys and Wolfe (1990)
Hills (1988)	Bailey and Cotlar (1994)	Kolb and Kolb (2005)
Honig (2004)	Benbunan-Fich and Hiltz (1999)	Ladd and Ruby, Jr. (1999)
Jack and Anderson (1999)	Bocchi et al. (2004)	Mainemelis, Boyatzis, and Kolb (2002)
Jones and English (2004)	Brown and Liedholm (2002)	Ng, Van Dyne, and Ang (2009)
Johannisson (1991)	Concannon, Flynn, and Campbell (2005)	Pedler et al. (2005)
Katz (2003)	Davies and Graff (2005)	Pittaway and Cope (2007b)
Kirby (2004)	Drennan, Kennedy, and Pisarski (2005)	Reynolds (1997)
Kolvereid and Moen (1997)	Eom et al. (2006)	Taylor and Ladkin (2009)
Kuratko (2005)	Gagne and Shepherd (2001)	Vince (1998)
Laukkanen (2000)	Hayashi, Chen, Ryan, and Wu (2004)	Wolfe (1997)
Matlay (2008)	Holsapple and Lee-Post (2006)	Yamazaki and Kayes (2004)
McMullan and Long (1987)	Ives and Jarvenpaa (1996)	
Neck and Greene (2011)	Johnson et al. (2008)	
Oosterbeek, van Praag, and Ijsselstein (2010)	Klein et al. (2006)	
Pittaway and Cope (2007a)	Lee, Yoon, and Lee (2009)	
Pittaway and Cope (2007b)	Leidner and Jarvenpaa (1993)	
Plaschka and Welsch (1990)	Leidner and Jarvenpaa (1995)	
Rae (2007)	Levy (2007)	
Rasmussen and Sørheim (2006)	Liu, Liao, and Pratt (2009)	

(continued)

Table 1.
The 114
entrepreneurship
education, online/
blended learning and
experiential learning
articles from 250
most-cited BME
articles

Table 1.

Entrepreneurship education (n = 40 articles)	Online/blended learning (n = 49 articles)	Experiential learning (n = 25 articles)
Shepherd (2004)	López-Pérez, Pérez-López, and Rodríguez-Ariza (2011)	
Solomon (2007)	Lu, Yu, and Liu (2003)	
Solomon et al. (2002)	Lynch and Dembo (2004)	
Tracey and Phillips (2007)	Marks et al. (2005)	
von Graevenitz, Harhoff, and Weber (2010)	Martins and Kellermanns (2004)	
Vesper and Gartner (1997)	Navarro and Shoemaker (2000)	
Zhao, Seibert, and Hills (2005)	Ocker, Hiltz, Turoff, and Fjermestad (1995/96)	
	Ocker and Yaverbaum (1999)	
	Piccoli, Ahmad, and Ives (2001)	
	Saadé and Bahli (2005)	
	Stacey (1999)	
	Van Raaij and Schepers (2008)	
	Volery and Lord (2000)	
	Warkentin, Sayeed, and Hightower (1997)	
	Webster and Hackley (1997)	
	Wojciechowski and Palmer (2005)	

Total *Google Scholar* citations of each stream article that extends beyond those of the 250 BME data set were also captured here. Given that a relatively small number of highly influential articles that cite a specific article may also draw attention to that article (Aguinis, Suarez-Gonzalez, Lannelongue, & Joo, 2012), such highly cited articles that may have cited a stream article were also included in the study. The criterion for such highly influential articles was for *Google Scholar* articles that have at least 100 citations from other articles “Influential *Google Scholar* articles.” For each of these highly influential articles, the nature of its source was captured as follows:

- BME journal;
- discipline-based journal;
- non-BME educational journals;
- books/dissertations;
- conference/working papers; and
- others (e.g. websites and blogs).

The nature of these sources that cite articles in each stream should uncover the avenue of research support, and therefore support mobilization by each stream.

To develop a deeper understanding of the nature of articles in each stream and its differentiation from other streams, each stream article was coded on these qualities: literature review, conceptual piece, classroom study, essay or study of a specific learning exercise, quantitative, qualitative (e.g. case), mixed-method analysis, student sample or manager sample in classroom studies. The process of counting and coding involved different authors in different streams with an added inter-rater reliability check on 20% of the articles in each stream by a different author within this study. Inter-rater agreement

between a stream coder and the one who performed a 20% reliability check was 91% on the entrepreneurship education stream, 94% on the experiential learning stream and 96% on the online/blended learning stream. Disagreements and inconsistencies were fully resolved via discussions between the coding authors.

Results

The nature of the 114 articles (i.e. review, conceptual, quantitative, etc.) is presented with chi-square differences across streams in [Table 2](#).

The entrepreneurship education stream shows a significantly higher number of review articles (e.g. [Pittaway & Cope, 2007a](#)), conceptual articles (e.g. [Kirby, 2004](#)), qualitative studies (e.g. [Matlay, 2008](#)) and essays (e.g. [Fiet, 2001a](#)) than those of the other two streams. In contrast, online/blended learning articles showed a significantly higher number of classroom studies (e.g. [Arbaugh & Hwang, 2006](#)), quantitative studies (e.g. [Marks, Sibley, & Arbaugh, 2005](#)) and use of student samples (e.g. [Klein, Noe, & Wang, 2006](#)). Experiential learning articles were significantly higher in the use of managerial samples (e.g. [Pedler, Burgoyne, & Brook, 2005](#)). These results showed that other than research content and theoretical differentiation across the streams, there are significant differences in research foci and approaches across the three streams. These findings are consistent with [Hambrick and Chen \(2008\)](#) position on how a research area could differentiate itself from others to establish clear boundaries that legitimize the area. [Table 2](#) also shows consequential legitimacy as measured by the average Google *H5* impact factor for journals in each stream: Entrepreneurship Education was 38.4, Experiential Learning was 29.7 and online/blended learning was 25.3. Mean citation count of stream articles to and from other stream articles, to and from other articles in the original 250-article data set, from the Google Scholar citation database and from the Influential Google Scholar articles are shown in [Table 3](#).

The average number of references for a stream article is 61.6 for experiential learning, 56.3 for entrepreneurship education and 55.5 for online/blended learning. Overall, the mean number of references is 57.1 across all three streams. The mean number of citations by an article of its stream articles is 3.8 in online/blended learning, 3.4 in entrepreneurship education and 0.9 in experiential learning. Citations by stream articles of an article in its stream show an average of 3.7 in online/blended learning, 3.1 in entrepreneurship education and 1.1 in experiential learning. Experiential learning articles notably have the lowest

Stream	EXP total	ENT total	ONL total	TOTAL	Chi-square
Sample size	25	40	49	114	
Review article	6	<i>12*</i>	1	19	13.6 (2 df)
Conceptual article	9	<i>13</i>	2	24	15.0 (2df)
Classroom study (not a program)	0	<i>7</i>	<i>42</i>	49	65.9 (2df)
Quantitative study	6	11	<i>43</i>	60	42.6 (2df)
Qualitative study (e.g. <i>case</i>)	2	<i>14</i>	5	21	11.3 (2df)
Mixed method	4	1	2	7	No sig diff
Classroom exercise	2	3	0	5	No sig diff
Essay	1	<i>13</i>	2	16	17.4 (2 df)
Student sample	8	12	<i>45</i>	65	42.5 (2 df)
Manager sample	<i>4</i>	1	0	5	10.6 (2 df)
Average article journal impact	29.7	38.4	25.3	5	10.6 (2 df)

Note: *Significantly above expected high values are in italic

Table 2.
Significant
differences in nature
of articles by a
stream

Table 3.

Mean citation count values to/from stream, 250 article data set and google scholar articles

Variable	EXP mean (n = 25)	ENT mean (n = 40)	ONL mean (n = 49)	Total mean (n = 114)
<i>Number of references in an article</i>	61.6	56.3	55.5	57.1
<i>Stream/250 data set citations of an article</i>				
No. of stream articles cited by an article	0.9	3.4	3.8	3.0
No. of stream articles that cited an article	1.1	3.1	3.7	2.9
No. of 250 articles cited by an article	0.4	0.4	0.1	0.3
No. of 250 articles that cited an article	0.4	0.0	0.4	0.3
<i>Google Scholar (GS) citations of an article</i>				
No. of GS articles that cited an article	451.1	550.1	481.2	498.8
No. of GS articles with over 100 cites (GS influencer) that cited an article	15.6	24.3	29.0	24.4
GS influencer from BME Jrnl	3.2	4.6	4.7	4.3
GS influencer from disc Jrnl	6.7	18.0	10.3	12.2
GS influencer from Ed Jrnl	1.8	0.1	11.7	5.5
GS Influencer from Bks/compilations	3.5	0.7	1.8	1.8
Influencer from conf/Ppr	0.04	0.8	0.05	0.05
Influencer from other	0.4	0.2	0.1	0.2
<i>GS influencer % out of GS article that cited an article</i>	3.4%	4.4%	6.0%	5.0%

within stream citation of each other's works, and therefore the lowest recognition of each other's works in the stream. Citations to and from articles in the 250 BME article data set that are outside of each of the three respective streams are low for all three streams, ranging between 0.0 and 0.4.

The total *Google Scholar* database of articles that cite a stream article is high, with the mean number of citations at 451.1 for experiential learning, 550.1 for entrepreneurship education and 481.2 for online/blended learning. The smaller group of Influential *Google Scholar* articles that cited stream articles is lower, with an average of 15.6 citations for experiential learning, 24.3 for entrepreneurship education and 29.0 for online/blended learning. The set of Influential *Google Scholar* articles is a small subset of the total *Google Scholar* article database: 3.4% were in experiential learning, 4.4% were in entrepreneurship education and 6.0% were in online/blended learning. Recognition by this small subset of articles indicates the legitimacy of articles in each of the three streams by researchers from the wider environment.

A breakdown of Influential *Google Scholar* articles by the type of publication outlet revealed interesting patterns. The average of 15.6 Influential *Google Scholar* articles that cited experiential learning stream articles could be broken down into 3.2 from BME journals, 6.7 from discipline-based journals, 1.8 from educational journals, 3.5 from books and compilations, 0.04 from conferences/papers and 0.4 from other sources (e.g. websites). The average of 24.3 Influential *Google Scholar* articles that cited the entrepreneurship education stream can be broken down into 4.6 from BME journals, 18.0 from discipline-based journals, 0.1 from educational journals, 0.7 from books and compilations, 0.8 from conferences/papers and 0.4 from others. The average of 29.0 Influential *Google Scholar* articles that cited the online/blended learning stream can be broken down into 4.7 from BME journals, 10.3 from discipline-based journals, 11.7 from educational journals, 1.8 from books and compilations, 0.05 from conferences/papers and 0.05 from others. In sum, the three research streams show citation support from different research sources, and therefore reflect different methods of mobilization support for each of the three streams.

A MANOVA model to test differences in citation patterns across the three streams indicated significant model differences (Pillai' trace = 1.134, $F = 10.06$, $p < 0.000$), with significant mean value differences shown in Table 4.

The online/blended learning stream is significantly higher than experiential learning ($mean\ diff = 2.96$, $p < 0.01$) in having an article cite its stream articles and, in turn, stream articles citing a particular article in its stream ($mean\ diff = 2.57$, $p < 0.03$). Thus, online/blended learning researchers have more effectively-recognized important journal article research in their own streams when compared against that of the experiential learning stream. These results show higher within stream recognition given by online/blended learning stream researchers of their colleagues' works in their own stream vis-a-viz that of the experiential learning stream.

There are also more Influential *Google Scholar* articles citing the online/blended learning stream than that of the experiential learning stream ($mean\ diff = 13.42$, $p = 0.034$). The percentage of Influential *Google Scholar* to total *Google Scholar* article database that cites stream articles also revealed significantly different patterns with 2.1% ($p = 0.025$) more of these articles citing online/blended learning than that in experiential learning and 1.6% ($p = 0.025$) more of these articles citing online/blended learning than that in entrepreneurship education.

Entrepreneurship education has a higher number of Influential *Google Scholar* citation sources from discipline-based journals than that for experiential learning ($mean\ diff = 11.27$;

Stream	EXP mean diff	ENT mean diff	ONL mean diff	< p -value (diff)	*MANOVA model F value
Number of references					Not sig
Stream articles cited by an article	ONL- EXP = 2.96			0.012	4.5 (2 df)
Stream articles that cited an article	ONL- EXP = 2.57			0.034	3.4 (2 df)
250 articles cited by an article					Not sig
250 articles that cited an article					Not sig
Google Scholar article that cited an article					Not sig
Google Scholar with over 100 citations (influencer) that cited an article	ONL- EXP = 13.42			0.034	3.3 (2 df)
GS influencer % out of GS article that cited an article	ONL- EXP = 0.021	ONL- ENT = 0.016		0.025	5.8 (2 df)
GS influencer from BME journal					Not sig
GS influencer from discipline journal	ENT- EXP = 11.27		ENT- ONL = 7.66	0.026	6.2 (2df)
GS influencer from education journal	ONL- EXP = 9.89	ONL- ENT = 11.66		0	63.1 (2 df)
GS influencer from book/dissertation		EXP- ENT = 2.85	EXP- ONL = 1.74	0.019	9.6 (2df)
GS influencer from a conference paper	ENT- EXP = 0.76			0.04	5.4 (2df)
GS influencer from other			EXP- ONL = 0.28	0.019	1. (2 df)

Notes: *Overall MANOVA model stream difference: Pillai' trace = 1.134, $F = 10.06$, $p < 0.000$

Table 4.
Significant mean
differences in citation
patterns by a stream

$p < 0.026$) and online/blended learning (*mean diff* = 7.66, $p = 0.026$). In contrast, a higher number of Influential *Google Scholar* citation sources from educational journals cited online/blended learning than experiential learning (*mean diff* = 9.89, $p < 0.000$) and entrepreneurship education (*mean diff* = 17.66, $p = 0.00$). Experiential learning garners a higher number of Influential *Google Scholar* citations from books/dissertations than entrepreneurship education (*mean diff* = 2.85, $p < 0.019$) and online/blended learning (*mean diff* = 1.74, $p < 0.019$). Entrepreneurship education has a higher number of Influential *Google Scholar* citations from conference presentations and papers than experiential learning (*mean diff* = 0.76, $p < 0.04$). Experiential learning has a higher number of Influential *Google Scholar* citations from “other” sources such as websites and blogs than online/blended learning (*mean diff* = 0.28, $p < 0.019$). These significant differences show entrepreneurship education researchers mobilize their support for recognized works through traditional business discipline journal articles, while online/blended learning mobilizes support through educational journals and experiential education through books/dissertations and online sources.

In addition to examining differences across the three streams for the nature of stream articles and citation patterns, a multivariate analysis was performed here by regressing: (1) the number of articles in a stream citing a stream article and (2) the number of articles in the 250 BME article data set citing a stream against *Google Scholar* article citations and Influential *Google Scholar* article citations. The results showed that the number of stream articles citing an article has a significant impact on *Google Scholar* article citations ($F = 15.60$, 1 df) and Influential *Google Scholar* article citations ($F = 173.13$, 1 df) of a specific article. There were no significant effects from the 250 BME article data set.

Discussion

Explanation of findings by research proposition

P1. This proposition explored differences in research foci, methodologies and analytical approaches across the three research streams that could serve as the further basis of *differentiation* among the streams. The results showed cross-stream differences in terms of the nature of articles (e.g. review, conceptual, quantitative, etc.), stream citation patterns, BME article citation patterns, *Google Scholar* article citation patterns and Influential *Google Scholar* article citation patterns. All these differences indicate varying development patterns for each BME stream and sources explaining *differentiation*, *legitimacy* and *mobilization* for each respective stream (Hambrick & Chen, 2008; Rynes & Brown, 2011).

Entrepreneurship education. This stream’s focus on review articles, conceptual articles, essays and qualitative studies indicates researchers’ interests in defining research scope and theoretical foundations. These foci areas of research interests and approaches are the entrepreneurship education stream’s differentiating qualities. Its focus on conceptual and foundational theoretical works, as well as qualitative studies, is consistent with the emergence of the entrepreneurship education research area where such a focus is important in building the stream’s foundation (e.g. Johannisson, 1991; Plaschka & Welsch, 1990). The need to develop this foundation is a function of the relative youth of the entrepreneurship curriculum in business schools, where demands for entrepreneurship education have grown substantially in the last 15 to 20 years (Martin et al., 2013; Nabi et al., 2017).

Online/blended learning. In contrast, this stream has few review and conceptual articles but significantly more quantitative and classroom studies with student samples. This finding can be explained by many of these studies having their roots in TAM (Davis, 1989) – one that has been in existence since the 1980s and has been widely accepted as the foundation to study student behavior in learning technologies and their outcomes

(Arbaugh, 2005; Eom, Wen, & Ashill, 2006; Johnson, Hornik, & Salas, 2008). TAM theory has enabled researchers to focus on testing different parts of the model in the higher education learning environment.

Experiential learning. This is, perhaps, the most interesting stream in the study as it has been in existence far longer than both the other two streams. Its greater focus on studies that cover managerial samples (the only stream to do so) and higher recognition from “other” sources (e.g. books, websites, blogs) are unique differentiation points from the other two streams. Thus, experiential education’s research focus is more directed at managerial samples in the field and this orientation has been expressed through more practitioners than traditional journal outlets.

In sum, all three investigated streams have differentiated qualities to justify their uniqueness (Hambrick & Chen, 2008). This is seen in the types of articles and methodological approaches that each stream has engaged to this point.

P2. This proposition first explored the presence of recognized authors in the three streams whose works are consistently cited and recognized by other scholars. The results showed some high-profile authors in entrepreneurship education (e.g. Katz, Kuratko and Shepherd) and the online/blended learning streams (e.g. Arbaugh and colleagues) who have conveyed legitimacy by contributing to these streams. Likewise, in the experiential learning stream, authors such as Kolb and Boyatzis and colleagues are highly recognized, stream scholars.

Consequential legitimacy. Differences across the three BME streams can be seen in citation impact. For example, entrepreneurship education attracts more citation attention than online/blended or experiential learning streams from discipline-based articles. Such recognition suggests the likelihood that the entrepreneurship education stream is more closely aligned with concepts and ideas from the entrepreneurship disciplinary literature (Arbaugh, 2016). In contrast, the online/blended learning stream has higher Influential *Google Scholar* article citations from education journals than those of entrepreneurship education or experiential learning. Therefore, the online/blended learning stream obtains its legitimacy from the wider education field. Finally, the experiential learning stream has higher Influential *Google Scholar* citations from books and other sources (e.g. websites, dissertations) than those of entrepreneurship education or online/blended learning. This indicates that its legitimacy comes from a wider public domain than traditional academic journal outlets. All three streams have articles that are published in peer-reviewed journals in each stream, and therefore shows stream *structural legitimacy* (Suchman, 1995). Most journal articles in each stream also follow many traditional research norms of having literature reviews, citations and references, use of appropriate procedures in qualitative or quantitative methods, etc., thus demonstrating *procedural legitimacy* (Rynes & Brown, 2011). The presence of well-known researchers in these three streams (c.f., Arbaugh et al., 2017) such as Kolb and Kolb (2005) and Boyatzis and colleagues (e.g. Boyatzis, Stubbs, & Taylor, 2002) in experiential learning; Arbaugh and colleagues (e.g. Arbaugh et al., 2009) in online/blended learning; and Pittaway and colleagues (Pittaway & Cope, 2007a; Pittaway & Cope, 2007b) in entrepreneurship education demonstrate *leadership/personal legitimacy* (Rynes & Brown, 2011).

In summary, the sources of legitimacy reflected across the three streams show each stream’s unique ability to draw impact attention for its existence (Hambrick & Chen, 2008). Entrepreneurship education draws attention from discipline-based research, online/blended learning from education research and experiential learning from books and other sources (e.g. web blogs). The results also showed all three streams have different foci in the type of article

(e.g. review article, conceptual article, quantitative article, etc.) and have different consequential legitimacy indicators for their existence.

P3. This proposition explored the avenues that each stream mobilizes to support its development. *Mobilization* is reflected in the ability of articles to draw citation attention from other works. The entrepreneurship education stream has some citations to the 250 highly cited BME article data set but has not been cited by articles from the 250 BME article data set in return (Table 3). In contrast, entrepreneurship education articles have significantly more citations from entrepreneurship journal articles (Table 4), thus showing the ability of this stream to mobilize support from its discipline-based researchers. This finding may in part be attributable to the comparative youth of the entrepreneurship education literature and many of its researchers who have roots in the entrepreneurship discipline. Related to this, entrepreneurship education programs are still a relatively new phenomenon within business schools and researchers who are working on questions in the entrepreneurship discipline are bringing their concepts into entrepreneurship education (Martin et al., 2013; Solomon, Duffy, & Tarabishy, 2002). The relative youth of entrepreneurship education is also reflected in some of its key articles dealing with well-discussed BME topics such as curricular and program design (Kuratko, 2005; Plaschka & Welsch, 1990; Solomon, 2007).

Review articles were highly cited by researchers in the entrepreneurship education stream. This finding is consistent with those of other studies that have found review articles to be important in supporting the development of research streams (e.g. Judge, Cable, Colbert, & Rynes, 2007). The stream has significantly more review pieces than those of the other two streams. The paucity of review articles in experiential learning (only one review article in the top 250 BME article data set) could probably be related to its roots in developing classroom activities for pedagogical needs and experiential exercises for practitioners but which often do not conform to procedural legitimacy expectations. An example is Bolman and Deal's (1979) classic *Journal of Management Education* (JME) article on teaching "power" to organizational behavior students. While this article is important to JME readers, as seen in its receipt of JME's "Lasting Impact Award" (Lund Dean & Forray, 2017), it has not appeared in the data set of 250 highly cited BME articles. According to *Google Scholar*, it has garnered only 18 citations as of November 2019. Related to this issue is the fact that historically, experiential learning articles have directed more attention to addressing learning needs in practice settings rather than adhering to tenets of the growing Scholarship of Teaching and Learning (SoTL) movement. This lack of adherence to and pre-dating of, SoTL norms by many experiential learning articles have reduced the stream's ability to compare and generalize results across studies and research streams (Jane Schmidt-Wilk (2010) JME editor's essay), which, in turn, makes it more difficult to create comprehensive stream review pieces. The focus on classroom experiential exercises and practice needs in the field is also reflected in more citations from books and other practice sources (Table 4) when compared against those from blended/online education literature or the entrepreneurship education stream. Thus, the *mobilization* for experiential education comes from practice outlets and not journal sources. Two well-cited experiential learning articles in the 250 data set that bucked the trend by including strong academic literature and theoretical context were Cunliffe (2004) and Bobbitt et al. (2000).

The extensive number of quantitative classroom-based studies in online/blended learning streams and their publication in traditional academic journals along with citations by articles in the established education field (Table 4) showed the stream mobilization base is from the wider education literature. The blended/online stream has been able to use TAM (Davis, 1989; Venkatesh et al., 2016) as a common foundation to carry out empirical studies

in the stream and in so doing, has found *mobilization* support from the wider education field and other disciplines that have adopted TAM as their research foundation.

Contextualizing the findings

The three tenets of Hambrick and Chen's (2008) work – *differentiation*, *mobilization* and *legitimacy* – are helpful in explaining the development of the three BME research streams and support the three propositions in this study. First, in terms of *differentiation*, experiential learning is focused on pedagogy and the needs of the practice and it cuts across multiple BME areas. Perhaps, because of this unique focus on pragmatic practice needs, the experiential learning community has not been able to devote high effort to BME academic article norms that could address SoTL principles for traditional citation recognition. In so doing, experiential learning's immediate pedagogical/practice focus has taken priority over a longer-term need for a common theoretical foundation to ground different strands of its research base. For this stream to garner citation attention, researchers will need to work together on more inclusive theoretical frameworks that will support the many different strands of experiential learning research. In contrast, researchers in online/blended learning and entrepreneurship education, which are also poised at the intersection of different business functional areas, have devoted more effort to academic article norms, and thus were able to cite from and agree on a common set of works in building their respective streams.

Second, in terms of *mobilization*, all three research streams have different mobilization sources, with entrepreneurship education mobilizing support through its roots in the entrepreneurship discipline's journal articles, online/blended learning through wider educational journal articles and experiential learning through more general community outlets such as books, conferences and blogs. In terms of research community mobilization, the mobilization process for entrepreneurship education is related to its ideas and concepts being closely aligned with its entrepreneurship discipline home, and thus gets its support through its discipline's articles. The mobilization support for online/blended learning is related to its ideas being more closely aligned with those of higher education research concepts, and thus it has support from the wider education community. For experiential learning, its focus on practical learning activities has drawn the attention of the wider public community as seen in its dependence on books, blogs and other public domain sources for support.

Finally, in terms of Hambrick and Chen's (2008) concept of *legitimacy* impact, the entrepreneurship and online/blended streams showed better legitimacy qualities in terms of within stream citation patterns than those in the more established experiential learning stream.

Implications

This study has implications for authors taking part in the three streams that were the focus of this study, as well as the broader BME field and journal editors who are attempting to build and develop other BME research streams. First, when compared against the entrepreneurship education stream, both the experiential and online/blended learning streams did not have as many review articles. The lack of integrative literature reviews, meta-analyses and, perhaps, the development of topic-based theoretical frameworks to consolidate knowledge in a stream make it more difficult for researchers to share a common set of literature concepts for their development. This lack of sharing, in turn, affects *differentiation* and *consequential legitimacy* (Hambrick & Chen, 2008). For example, in experiential learning, there are many pedagogical tools such as case studies, software

simulations, role-plays and other interactive exercises that could benefit from clear literature surveys and reviews that could help develop a common experiential learning theoretical framework. By adopting a common framework and intentionally considering shared constructs to conceptualize the basis of different tools, researchers in this stream could better articulate a set of shared concepts, and therefore focus research effort and direction in building these concepts and the stream. For the online/blended learning stream, despite its few literature reviews, researchers have been able to converge on the widely accepted TAM model as its research foundation, and thus alleviate some concerns about *differentiation* and *consequential legitimacy*.

Given the importance of mobilization (Hambrick & Chen, 2008) to support the development of a stream, a strong political structure in the research community that enables shared interest and dialogue among scholars such as seen in entrepreneurship and online/blended learning where there are recognized authors who build on each other's works, is an important consideration. How can such infrastructure develop for BME streams that are lesser cited by the research community, like experiential learning? Streams need to consider avenues for high-profile authors to interact and participate for both *legitimacy* and *mobilization* purposes. These avenues could include the Management and Organizational Behavior Teaching Society (MOBTS) Conference and the Management Education and Development (MED) Division sessions and the Teaching and Learning Conference (TLC) at the Academy of Management Meetings. For this outcome to happen, initiators and leaders, especially senior discipline-based scholars, who are committed to building the stream are needed here (Harley, 2019). Table 5 presents some suggestions on ways to improve different legitimacy considerations in the BME field.

Limitations and conclusion

There are several limitations to this study. First, this study only includes highly cited works in the BME domain that could raise the concern of "left-censored" distribution (Huang, Zeger, Anthony, & Garrett, 2001) – i.e. biased toward highly cited published studies, journals and recognizable authors. This concern is alleviated to some extent by the care of the authors to ensure that articles below the top 250 BME article data set do not show a significant decline in citation patterns. In other words, articles outside of the top 250 were

Table 5.
Strengthening
legitimacy in BME
research

Ways to increase legitimacy	Structural	Personal/ leadership	Procedural	Consequential
Encourage integrative literature reviews			X	
Encourage meta-analyzes			X	
Improve networking support mechanisms, both virtual and face to face		X		
Increase mechanisms supporting senior BME author interactions, within and across streams		X		
Institutionalize conference tracks/sessions devoted to assessing the BME field	X			
Encourage periodic BME stream assessments (e.g. "state of the industry")			X	
Create integrative mechanisms (e.g. inter-locking directorates) across MOBTS, TLC and MED	X			
Strengthen peer review processes, as needed, in BME conference/journals	X			
Encourage citation of useful sources to and from pedagogical focused classroom materials	X			X

unlikely to produce extreme “left-censored” patterns that affect the study. Nevertheless, this sample is still a relatively small sample, despite being the largest ever studied to date in the management literature. Future researchers may want to use a larger sample in their studies.

Future studies may also include book chapters and other types of intellectual contributions. While these are less amenable to capture by traditional citation metrics, they may include more experiential learning publications that have a review and conceptual pieces not released through academic outlets. Studies could also code for the nature of citation sources such as pedagogical, basic and applied research sources. There is also potential to dig deeper into even narrower areas such as diversity education, executive coaching, cross-cultural management education and academic careers in business. Also, while we have focused on highly cited BME articles, lower cited works could be studied separately to possibly answer questions on how they grow over time to become highly cited works. In summary, for future bibliometric studies of the BME literature, scholars could continue the examination of different BME stream development patterns and help, thus, help BME researchers share ideas and findings that will draw needed BME stream recognition, as well as improve classroom learning, regardless of disciplinary background (Bento, Hwang, Asarta, Arbaugh, Cochran, Fornaciari & Jones, 2017).

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Corresponding author

Alvin Hwang can be contacted at: ahwang@pace.edu