Defining Quality in Undergraduate Education: Directions for Future Research Informed by a Literature Review

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Abstract

Objectives: This research brief explores the literature addressing quality in undergraduate education to identify what previous research has said about quality and to offer future directions for research on quality in undergraduate education.

Method: We conducted a scoping review to provide a broad overview of existing research. Using targeted search terms in academic databases, we identified and reviewed relevant academic literature to develop emergent themes and implications for future research.

Results: The exploratory review of the literature revealed a range of thoughtful discussions and empirical studies attempting to define quality in undergraduate education. Many publications highlighted the importance of including different stakeholder perspectives and presented some of the varying perceptions of quality among different stakeholders.

Conclusions: While a number of researchers have explored and written about how to define quality in undergraduate education, there is not a general consensus regarding a definition of quality in undergraduate education. Past research offers a range of insights, models, and data to inform future research.

Implication for Theory and/or Practice: We provide four recommendations for future research to contribute to a high quality undergraduate educational experience. We suggest more comprehensive systematic reviews of the literature as a next step.

Keywords: quality, literature review, research

Introduction and Literature Review

References to quality in undergraduate education in the popular media have been common in recent years as the general public questions the goals, methods, and value of undergraduate education (Arum & Roksa, 2011; Morse, Brooks, & Mason, 2017). In the United States, concern about the increasing number of students taking on debt to pay for college, the increasing amount of that debt to cover burgeoning tuition, and the rising rate of borrowers who have repayment difficulties has intensified national discussions about undergraduate education (Davidson, 2017; Hershbein & Hollenbeck, 2015; Perna, Kvaal, & Rudiz, 2017). Given the large amount of federal student aid, the U.S. government has voiced increasing concerns about how the quality of undergraduate education is defined and measured (U.S. Government Accountability Office, 2014). Various stakeholders continue to question if the undergraduate experience results in benefits worth the increasing costs and to debate the ultimate goal of undergraduate education.

The quality of education has long been a concern among undergraduate education researchers: at the very core of undergraduate education research is an implicit desire to create a high-quality educational experience for all students. Using the search terms of *quality* and *undergraduate*, a recent search in ERIC (an online education database; https://eric.ed.gov) identified 3,908 results, consisting of peer-reviewed journal articles, research reports, books, and conference papers, that discuss some aspect of quality and undergraduate education. While already large, this high number of results still fails to capture the full breadth of applicable research. Missed studies include those that aim to improve learning and teaching in the undergraduate classroom or to understand and enhance the extracurricular life of the college student but that lack specific language addressing the direct connection to quality. Similarly, other studies examine how to attract and retain certain groups of students or how graduates fare in the workplace after receiving their undergraduate degrees—all research that contributes to the conversation about quality in undergraduate education without explicitly discussing a contribution to a quality undergraduate experience.

Both academia and the general public, across the globe, clearly have an interest in the type of educational experience an undergraduate student has and the associated outcomes (Arum & Roksa, 2011; Arum, Roksa, & Cook, 2016; Morse, Brooks, & Mason, 2017; National Academies of Sciences, Engineering, and Medicine, 2016). But does that interest and the amount of published research translate into a true understanding of what constitutes a quality undergraduate experience? Is there a common definition of quality as it relates to undergraduate education? Have the numerous stakeholders been identified, studied, and invited to contribute to the conversation about quality? Before exploring these and other questions, it may be helpful to examine definitions and perceptions of quality more generally, outside of undergraduate education.

What Is Quality?

Generally, people have an idea of what they are talking about when they discuss quality. But operationalizing quality in education, or truly in any field, is a surprisingly complex undertaking. The general public frequently has ideas about the most prestigious colleges as rankings of educational institutions are readily available, which may lead to a conflation of prestige with quality (Hazelkorn, 2007, 2015; Marginson & van der Wende, 2007) The American philosopher, Robert Pirsig (2005), addressed the difficulty in defining quality:

Quality … you know what it is, yet you don't know what it is. But that's self-contradictory. But some things *are* better than others, that is, they have more quality. But when you try to say what the quality is, apart from the things that have it, it all goes *poof!* … But if you can't say what Quality is, how do you know what it is, or how do you know that it even exists? If no one knows what it is, then for all practical purposes it doesn't exist at all. But for all practical purposes it really *does* exist. … Obviously some things are better than others … but what's the "betterness"? … So round and round you go, spinning mental wheels and nowhere finding anyplace to get traction. What the hell is Quality? What *is* it? (p. 184)

Given the complications that arise when attempting to define quality, bypassing the definitional step and moving straight into assessing quality might be tempting. Donabedian (1988) warns against this very temptation when writing about quality in healthcare: "To proceed to measurement without a firm foundation of prior agreement on what quality consists in is to court disaster" (p. 1743).

Formal definitions of quality are context dependent and vary from sector to sector (e.g., https://asq.org/quality-resources/quality-glossary). The field of education has frequently borrowed ideas about quality from the business world and two oft-cited definitions from business include viewing quality as a conformance to requirements (Crosby, 1980) and quality as fitness for use (Juran & Gryna, 1988). Quality associated with value for money has contributed to the view of students as consumers (Cheng, 2016, 2017; Williams, 2013). Academics may emphasize quality as it relates to student engagement and student learning (Arum et al., 2016; McCormick, Kinzie, & Gonyea, 2013). Government has often defined quality education as education that leads to a competent workforce that can bolster the economy (Sparks & Waits, 2011; Stensaker & Harvey, 2010). Definitions of quality have been incorporated into codified standards, such as the *Standards and Guidelines for Quality Assurance in the European Higher Education Area* (Eggins, 2014), and in accreditation processes, involving both institutional and programmatic accrediting organizations (American Council on Education, 2012).

With this general understanding of quality, we conducted a literature review to identify academic literature that discussed quality in undergraduate education. The review was designed to explore whether there was an agreed upon definition and model of quality in undergraduate education. Our goal was to identify emergent themes in the literature to inform future work. In the process of this initial exploration, we uncovered gaps in the research base and an overriding need for a holistic model to define and portray quality in undergraduate education.

Methods

As part of preliminary efforts to inform a future systematic review, we conducted a scoping review to identify and explore the existing literature addressing quality in undergraduate education (Gough, Oliver, & Thomas, 2017). Our main focus was to identify any existing definitions and models of quality in undergraduate education presented in the academic literature. Using the search terms *quality in higher education* and *quality in undergraduate education*, we searched a combination of academic databases (ERIC, Academic Search Complete) and Google Scholar to locate relevant journal articles, conference papers, books, and book chapters. Searches were conducted in April 2017 and were not limited to a certain time period, as we were interested in exploring how discussions of the topic have evolved over time. We examined the reference lists of identified articles to find additional, relevant publications. Because this was not a systematic review of the literature, the review process did not involve exhaustive searches. For example, due to limited time and resources and the nature of scoping reviews, we did not review all results returned from database searching but rather focused on the first one to two hundred results, which are often the most relevant to the search terms. We conducted broad searches to give an overview of the field that would be useful for researchers new to this area of study.

Studies were included in the review if the authors explicitly addressed definitions and models of quality in undergraduate education, or in higher education if the discussion could also apply to undergraduate education specifically. As is common in many scoping reviews, we did not have formal criteria to assess the quality of the studies in this review (Armstrong, Hall, Doyle, & Waters, 2011). However, we limited searches to peer-reviewed journal articles or conference papers or books produced by academic publishers. Limiting sources to academic literature frequently means that the sources have undergone some form of expert review, although we recognize that the peer-review processes associated with academic publishing can vary tremendously. All included references were imported into EndNote, a bibliographic management program.

As the scoping review progressed, we realized that discussions of the stakeholders in undergraduate education were also relevant to our research question, and we included studies that examined the different stakeholder groups. Additional literature searches were conducted to identify studies that focused on specific stakeholders. For example, we employed new search-term combinations involving terms like *quality*, *undergraduate education*, and *faculty*. For these searches, we included non-peer-reviewed materials that were referenced in peer-reviewed publications or that were published by reputable organizations, such as the Association of American Colleges & Universities and the Pew Research Center.

To explore how views of quality in undergraduate education have changed over time, the analysis of the identified publications involved reading and reviewing sources in chronological order: older sources were read first and the most recent sources were read last. As we wanted an international perspective, studies were not limited to those only in our home country (the United States), but we did limit our searches to literature published in English. We used qualitative analysis involving open coding to identify and synthesize the themes that emerged from the literature (Charmaz, 2014; Corbin & Strauss, 2015). Below, we interweave findings and discussion to present the emergent themes; we also attempt to highlight works that take a stance not reflected in the emergent themes.

Results and Discussion

Definitions of Quality in Undergraduate Education

Our review uncovered a number of well-written, thoughtful publications addressing how quality is defined in undergraduate education as well as additional, relevant work that discussed quality in higher education with implications for and applicability to undergraduate education (see Schindler, Puls-Elvidge, Welzant, & Crawford, 2015, for a systematic review of the definitions of quality in higher education). Publications ranged from essays to reports on empirical findings. Similar to discussions about quality in other fields, a common theme involved the consensus that defining quality in undergraduate education is difficult. Harvey and Green (1993) referred to quality as a "slippery concept" and equated it with terms like "liberty" and "equality" (p. 10). Several authors (Green, 1994; Van Kemenade, Pupius, & Hardjono, 2008) invoked Pirsig's philosophical words about quality that we included in our discussion above to highlight the incredibly elusive nature of the definition of quality.

Many authors emphasized that definitions of quality in undergraduate education are context dependent. Defining quality must be done with an understanding of the purpose of undergraduate education (Green, 1994; Turner, 2011), which itself may be contested. Harvey and Green (1993) declared quality is not a "unitary concept" (p. 28) and that "in a democratic society there must be room for people to hold different views: there is no single correct definition of quality" (p. 28). Almost all of the reviewed publications agreed with the idea that different stakeholder groups may uniquely define quality education (Green, 1994; Harvey & Green, 1993; Houston, 2008; Lagrosen, Seyyed-Hashemi, & Leitner, 2004; Owlia & Aspinwall, 1996; Schindler et al., 2015; Tam, 2001). Several authors cited Srikanthan and Dalrymple's (2003) work, in which they identified and described four major groups of stakeholders in higher education who should be involved in defining quality: providers, users of products, users of outputs, and employees of the sector.

In contrast to the idea of needing to consult multiple stakeholders to determine quality in education, Turner (2011) referenced the "intensely personal nature of higher education" (p. 6) and asserted that "judgements of the quality of higher education can only be made by the individual

who is experiencing or has experienced the process first hand" (p. 3). This idea can be seen in other works that advocate for the primacy of the student experience. For example, after reviewing common approaches to quality assurance, Law (2010) lamented a perceived lack of focus on student learning and a need to emphasize the student experience. While acknowledging the need for a holistic approach to defining quality, Teeroovengadum, Kamalanabhan, and Seebaluck (2016) also highlighted the transformative approach to quality in higher education, which is all about enhancing and empowering the student and was first promoted by Harvey and Green (1993). While many of the authors cited above refer to higher education more broadly, their words are relevant to undergraduate education specifically.

The known difficulties associated with defining quality have not deterred academics from attempting to define it. Harvey and Green (1993) delineated five ways to reflect on quality in higher education: "Quality can be viewed as *exceptional,* as *perfection* (or consistency), as *fitness for purpose,* as *value for money* and as *transformative*" (p. 11; for further discussion of Harvey and Green's five definitional types see Biggs, 2001; Cheng 2016, 2017; Harvey, 2006; Lagrosen et al., 2004; and Srikanthan & Dalrymple, 2003). Van Kemenade et al. (2008) suggested that previous definitions of quality were not working and proposed defining quality using a value-systems approach. They identified four components of quality: process control, continuous improvement, commitment, and breakthrough (Van Kemenade et al., 2008).

When defining quality in education, authors often cited seminal works from business and industry; for example, researchers (Owlia & Aspinwall, 1996; Lagrosen et al., 2004; Van Kemenade et al., 2008) talked about the five approaches to defining quality (transcendent, product-based, user-based, manufacturing-based, and value-based) and the eight dimensions of quality (performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality) from Garvin's (1984, 1987, 1988) work on product quality. Other authors advised steering away from industry and business models that view education as a product and students as consumers. Turner (2011) wrote: "Education is not just another product, like toothpaste or corn flakes, however much politicians may like to speak of students as 'consumers'" (p. 6). Houston (2008) similarly distinguished education from business and industry:

> Labelling any group as "the customer" who defines quality over-simplifies the demands on higher education, presents a distorted picture of the environment in which it operates, and limits thinking about quality. Customer-focused definitions of quality fit the context of higher education poorly. (p. 63)

While we did not uncover a single, agreed-upon definition of quality in undergraduate education, we did find a consensus that while defining quality is not easy, the task is certainly worth pursuing in educational research and rhetoric. Harvey and Green (1993) wrote:

> Reaching the conclusion that we might all have different understandings of quality in higher education and that none of us is necessarily wrong or right does not mean, however, that we are absolved of the responsibility for maintaining and enhancing quality. It is merely the adoption of a pragmatic attitude. (p. 29)

Past research has already built on existing definitions of quality in education to develop early models of quality. Srikanthan and Dalrymple (2002) reviewed four previous models of quality that had been implemented in a higher-education setting and made specific recommendations for creating a generic model of quality. Using data gathered in their systematic review of quality definitions, Schindler et al. (2015) presented a model that included four conceptualizations of quality (purposeful, transformative, exceptional, and accountable), acknowledgement of different

stakeholders, and sample indicators to assess each conceptualization. Also building on past work, Teeroovengadum et al. (2016) tested a model of higher-education service quality involving five factors: administrative quality, physical environment quality, core educational quality, support facilities quality, and transformative quality. We believe these models can serve as a foundation to create a new, improved model that incorporates the latest research and understanding.

Role of Stakeholders in Defining and Measuring Quality in Undergraduate Education

We found significant support for the idea, alluded to above in Harvey and Green (1993), that there are a number of stakeholders in undergraduate education whose opinions and values associated with quality must be identified, collected, and heard. As already noted, some researchers may prioritize student expectations and experiences, but a number of other stakeholder groups have also been deemed important when defining quality. In addition to students, stakeholder groups often mentioned in the literature include providers of funding, faculty, university staff, parents, employers, alumni, and the general public (Houston, 2008; Schindler et al. 2015; Srikanthan & Dalrymple, 2003; Tam, 2001; Watty, 2006).

Given the almost unanimous call for inclusion of a variety of stakeholders when determining how to define and measure quality in undergraduate education, we wanted to know which stakeholder groups were already the subject of research. We used academic databases, Google Scholar, and Google to locate research and data focused on specific stakeholder groups. Figure 1 provides a representation of stakeholder groups we searched for and the resulting citations for the journal articles and reports. While not an exhaustive, systematic review of research, as part of this scoping review, these exploratory searches provided a quick snapshot of possible gaps in research and provide guidance for future systematic reviews.
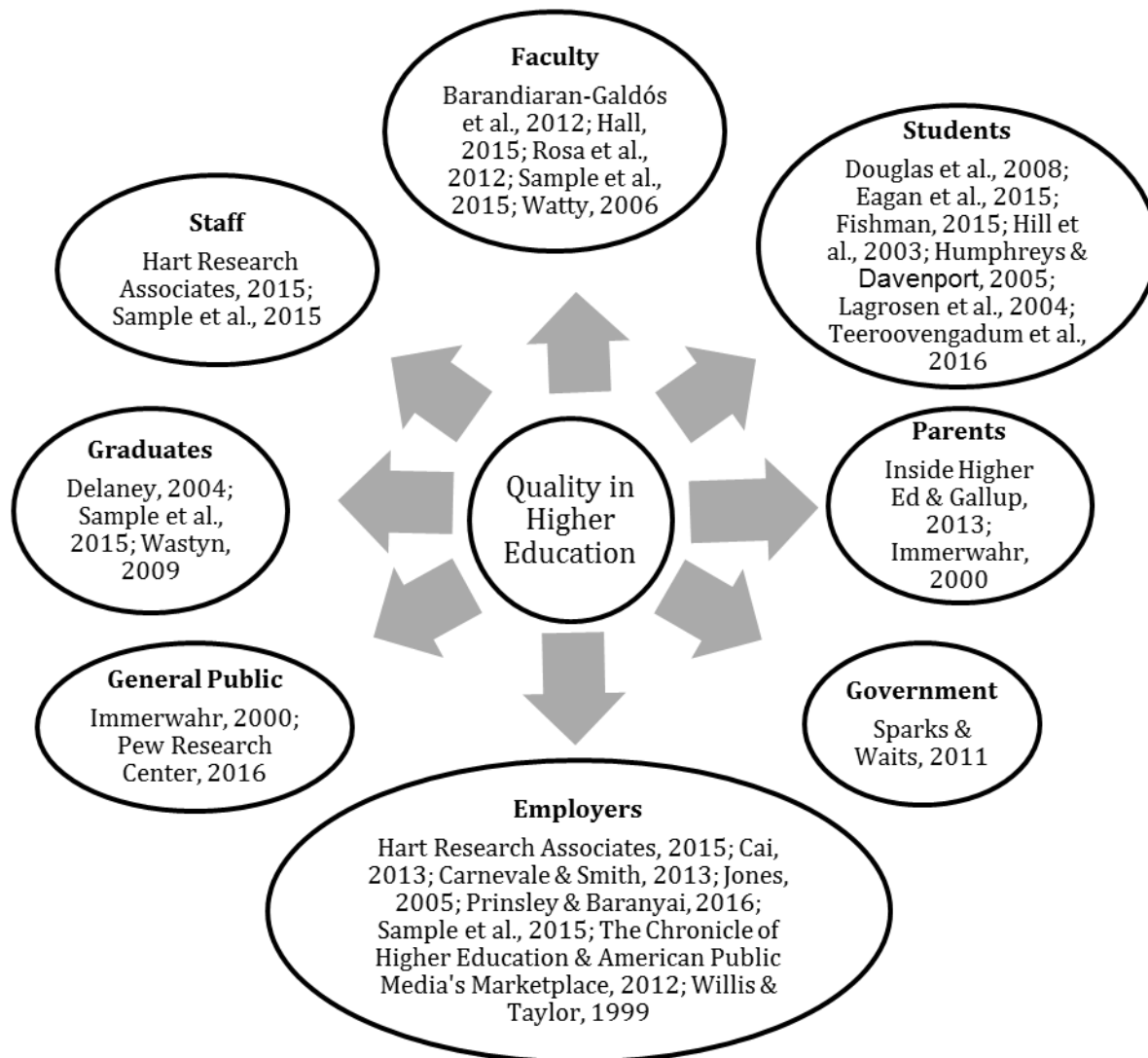
Figure 1. Selected stakeholders in undergraduate education and associated research.

Overall, the results of our literature search suggest that research is primarily focused on students and employers. Perhaps this is a reflection of the fact that these two groups are the most obvious stakeholders as they represent the users of the product (students) and users of the output (employers), as identified by Srikanthan and Dalrymple (2003). One growing area of research is work with faculty to understand their perceptions of quality. Understudied groups appear to be university staff, alumni, government, parents, and the general public. While conducting the search process for this portion of the literature review, we reviewed several publications that focused on stakeholder groups within a specific discipline. For example, Watty (2006) surveyed accounting faculty about quality in accounting education. Sample, Bixler, McDonough, Bullard, and Snieckus (2015) examined several stakeholder groups when they surveyed employers in the forest industry and faculty, deans, program directors, and recent graduates of forestry education programs. Many more discipline-specific studies have likely been published but did not emerge during our literature search, which employed general search terms related to quality in undergraduate education.

Tam (2001) warned that acknowledging the plurality of quality definitions based on stakeholders is not the final answer to the definitional question. The solution is not to survey all vested stakeholders and aggregate the results; doing so would give rise to a power struggle involving issues about knowing when all relevant stakeholders have been identified, whose definition of quality gets priority, and what to do when conflicting viewpoints clash (Barnett, 1994, as cited in Tam, 2001, p.49). Other than some researchers' belief that the student experience should be first and foremost, we did not see a lot of discussion in the literature addressing these questions.

Recommendations for Future Work

The results of our scoping review suggest several key potential directions that we discuss in more detail below:
a. Researchers identify key stakeholder groups in undergraduate education
b. Researchers conduct additional studies with key stakeholder groups
c. Researchers develop a minimum set of requirements for the definition of quality in undergraduate education
d. Faculty and administrators within specific disciplines work with methodological experts to build an interdisciplinary approach

Additionally, as this was an exploratory, scoping review, an exhaustive systematic review is needed to capture and review additional relevant literature to confirm our findings and recommendations. Prior research discussed a number of commonly named stakeholder groups, many of which we explored in our review as represented in Figure 1. Not wanting to fall victim to the streetlight effect, where researchers only explore what they can most easily see (Freedman, 2010), we recommend further discourse on this topic to identify all stakeholder groups, particularly ones not previously considered. The merits of prioritizing one stakeholder group over another are open to debate; however, a more worthy task may be figuring out how to integrate divergent stakeholder views of quality.

We recommend additional research examining the less-studied stakeholder groups, such as faculty, parents, and the general public, whose viewpoints traditionally have been less likely to be considered when defining quality in undergraduate education. Research could focus not only on how each group defines quality but also on how each group contributes to a quality undergraduate education experience. One group, faculty, has only recently begun to receive attention from researchers interested in quality in education, but clearly this is a group with high potential to influence the student experience. Future research could examine ways to work with current faculty members and doctoral students (future faculty) to improve the quality of undergraduate education, an area that could yield immense practical implications. Within each major stakeholder group, there are also countless subgroups that might emerge as worthy of attention. For example, when looking at students, future research could focus on students from underrepresented groups.

It is clear from past discussions about the definition of quality (in undergraduate education specifically and in other more general contexts), that an agreed upon definition is practically unobtainable. Quality is context-dependent, and undergraduate education encompasses a broad range of shifting and evolving contexts. While we do not advocate for a single definition of quality in undergraduate education, further reflection and research that builds on existing definitions and models of quality could potentially yield a group of shared attributes deemed necessary when defining quality. These minimum requirements could then guide researchers, practitioners, and policymakers in specific disciplines when they launch efforts to define quality in their domain.

Many efforts to define quality already exist, as represented by projects such as Measuring College Learning (Arum et al., 2016), Quality in Undergraduate Education (Albertine & Henry, 2004), and Quality Matters (https://www.qualitymatters.org/), as well as work by accrediting bodies such as the Council for Higher Education Accreditation. Many of these projects are tied to a certain context, such as a specific discipline or aspect of undergraduate education (e.g., coursework or online learning), or represent quality guidelines and definitions from only a select number of stakeholder groups. We recommend future research that systematically identifies these existing efforts to define quality and then synthesizes commonalities and illuminates differences. This work would build on the future research described above, where stakeholder groups have been identified and should be included in discussions of quality.

While the search for relevant literature was kept broad and general, several publications related to quality in specific disciplines did emerge (Sample et al., 2015; Watty, 2006). A thorough review of both the research literature and work supported by programmatic accrediting bodies would help identify which disciplines have begun to tackle the issue of quality and which disciplines need to start conversations about quality. As with discussions about quality for the broader area of undergraduate education, discipline-specific discussions of quality need to insure that all relevant groups of stakeholders are included. We recommend an interdisciplinary approach where researchers in a particular discipline work with methodological and quality experts to design and implement research to define and measure quality in each specific discipline.

Engineering education offers an example of a discipline-specific approach to researching quality that could incorporate several of the recommendations that emerged from this literature review. Engineering education research already boasts a number of quality-focused publications (e.g., Foor, Trytten, McClure, Walden, & Combrink, 2006; Kardanova et al., 2016; Martin, Maytham, Case, & Fraser, 2005; McNeil & Ohland, 2015; Sakthivel & Raju, 2006a, 2006b), indicating an opportunity for a discipline-specific systematic review of literature. The review findings could then inform discussions about definitions of quality in engineering education, the identification of stakeholders in engineering education, and development of research and tools to measure quality in engineering education in consultation with a range of stakeholders.

Conclusion

Assessing and improving the quality of the undergraduate education experience is a primary goal of undergraduate education research, practice, and policy. A literature review of quality-related publications revealed that past research offers a range of opinions, data, and models to support ongoing research addressing quality in undergraduate education. Numerous researchers have commented on the difficulty associated with defining quality in undergraduate education but also contend that doing so is a worthy task. A generic definition of quality in undergraduate education may not be possible, but research is capable of supporting guidelines for defining and measuring quality in specific disciplines. What is needed are additional reviews of literature in distinct fields of study (e.g., engineering, accounting, agriculture) that will bolster the design and implementation of tools and models to define, measure, and improve the quality of the educational experience.

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