



Rediscovering Teaching in University: A Scoping Review of Teacher Effectiveness in Higher Education

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Although teacher effectiveness plays a critical role in the learning process, little is known about its conceptualization and assessment, particularly in higher education (HE). This review aims to fill this gap by (a) listing the literature on teacher effectiveness, (b) identifying the instruments that have been used to assess teacher effectiveness (HE), and (c) highlighting the most effective teaching approaches based on the relevant literature. The selection process considered studies published since 1990 and conducted in higher education contexts with students. The research articles measured instructional processes and faculty effectiveness in terms of student outcomes, focusing on student achievement and student satisfaction. In reviewing the international research, special attention was paid to Southeastern Europe and Greece in particular. After a thorough review, the analysis revealed 26 studies. The results show that there is no universal definition of effective higher education teaching. Effective teaching may manifest itself in high scores on student performance assessments or in rewarding classroom interactions. Based on this principle, the way teacher effectiveness is defined is closely linked to proposed solutions in educational policy. Furthermore, research has shown that student-centered teaching styles are perceived by students as more effective, engaging, and performance-enhancing. However, several studies have not clarified why different teachers use different teaching styles in similar contexts. This review represents a step forward in our understanding of teacher effectiveness in HE. Nonetheless, effective teaching strategies could be better conceptualized through future research aimed at assessing the contextual nature of teaching along with student perceptions of effectiveness and expectations for an effective classroom climate.

Keywords: teacher effectiveness, higher education institutions, undergraduate students, scoping review, teacher student interaction

INTRODUCTION

The quality of teaching and learning in higher education (HE) has gained worldwide attention in the last decade (Devlin, 2007; Henard and Roseveare, 2012; Cardoso et al., 2015; Milienos et al., 2021). The new educational vision of higher education is to ensure effective teaching in universities and to be able to determine this effectiveness. University teaching can be defined as an academic activity that requires extensive professional skills and practices, as well as a high level of disciplinary and other contextual expertise. Attempting to apply effective teaching approaches as a university teacher ensures the foundation for a quality learning and teaching context (Tadesse and Khalid, 2022). Such an attempt is critical for all teaching staff, academic researchers, higher education institutions, and indeed for the entire higher education sector, both nationally and internationally.

Altbach et al. (2009) argue that there has been an unprecedented shift in the goals of higher education over the past 50 years. Society should be well prepared to respond effectively to the challenges of the global marketplace and high competitiveness by proactively engaging in the development, adaptability, and utilization of knowledge. All this could serve as a foundation for national growth in the service and manufacturing sectors (Zuñiga et al., 2010). In this context, higher education plays an important and crucial role in the development of human capital, entrepreneurial perspectives, and innovative practices related to a sustainable knowledge economy within the new teaching and learning paradigm (Dill and Van Vught, 2010).

The process of evaluating teacher effectiveness has changed over time, as has the definition of what constitutes effective teaching. Effective teaching has been defined in many ways over the years (Cruickshank and Haefele, 1990; Cheng and Tsui, 1999; Campbell et al., 2004; Muijs, 2006; Devlin and Samarawickrema, 2010; Hoidn et al., 2021), and approaches to assessing teacher effectiveness have changed with the development of different definitions and beliefs about what to measure. There is consensus that high-quality teaching is important and that it may be the most important education-related factor in improving student achievement (Ding and Sherman, 2006; Devlin and Samarawickrema, 2010). However, the measurement of teacher effectiveness has remained vague, in part because there has been no consensus on what an effective teacher is and does. In a discussion of research-based indicators of effective teaching, Cruickshank and Haefele (1990) pointed out that “a tremendous underlying problem in evaluating teachers is that there is no agreement on what constitutes good or effective teaching” (p. 34).

Faculty members are evaluated in a variety of ways to determine whether they should be promoted or rewarded and to potentially improve their performance. An appropriate measure of faculty members' research productivity that is often used is the number and quality of published scholarly papers and reports. A similar measure of teaching effectiveness is not as readily available (McBean and Al-Nassri, 1982; Khandan and Shannon, 2021). Aside from the fact that there is no clear agreement on what an effective teacher is and does-or perhaps because

of it-there is no universally accepted method for evaluating teacher effectiveness. Some of the common evaluation methods refer to classroom observations, which aim to measure teachers' approaches to a standard of effective teaching, and value-added models, which aim to measure the extent to which teachers can contribute to their students' achievement growth.

The purpose of this review paper is to improve understanding of and further conceptualize teacher effectiveness in higher education from both a practical and research-oriented perspective. The processes that occur in the classroom and student outcomes that relate to performance improvement are the focus of this review, as these issues are prevalent in the current educational policy landscape. Thus, the rationale for this review lies primarily in the complexity of teaching and learning and the relative novelty of the widespread inclusion of co-teaching in teacher education. More specifically, through a rigorous and systematic process, we aim to provide a comprehensive descriptive overview of the scope, range, and nature of research on teacher effectiveness in higher education. In addition, we provide a foundation for future research and practice in this area by presenting in three distinct ways (a) the range of findings, (b) clarifying conceptual boundaries, and (c) suggesting refinements to operational definitions of teacher effectiveness in higher education.

A Complicating Concept

Teaching and learning are two sides of the same coin. The most recognized criterion for measuring teaching effectiveness is the amount of student learning (Marsh, 1984; Devlin and Samarawickrema, 2010; Richardson, 2017; Vermunt and Donche, 2017). There are consistently high positive correlations between students' ratings of the amount learned in the course and their overall ratings of the instructor and the course: those who learn more give higher ratings to their instructors (Cohen, 1981; Theall and Franklin, 2001). In addition, students' perceptions of the learning context are known to influence the methods and tactics of learning (Karagiannopoulou and Milienos, 2015). Although this relationship between learning and teaching is discussed as reciprocal (Richardson and Watt, 2006), studies have clearly shown that students' perceptions of the learning environment have an impact on learning methods, which in turn influences academic performance (Karagiannopoulou and Christodoulides, 2005). The literature on instruction is replete with well-researched ways in which teachers can, first, teach content and skills that enhance students' learning opportunities, and second, assess learning through various types of assessments (Karagiannopoulou and Milienos, 2013; Entwistle and Karagiannopoulou, 2014). Moreover, the literature is equally focused on formulating suggestions about what not to do in the classroom. Yet, there is no rulebook on what teaching methods are most appropriate and effective for the skills and/or content being taught. Students often do not know whether the method chosen by an individual instructor was the best teaching method or simply the method with which the instructor felt most comfortable (Ramsden, 1991; Pratt, 1998; Bates and Poole, 2003).

More specifically, although research shows that college teachers have the greatest impact on student achievement

(Gibbs and Jenkins, 2014), defining the characteristics that describe quality teachers and measuring the evidence that would capture effectiveness remains quite problematic in education (Partee, 2012). Nonetheless, there have been few attempts to define those particular qualities—tolerating ambiguity, demonstrating authenticity and empathy—that characterize “outstanding teachers” and that are associated with better personal understanding of students (Fraser et al., 2010; Karagiannopoulou and Entwistle, 2019). Researchers contend that while there are many notable theories and ideas about assessment, there is no single tool that can be used to quickly and accurately determine and evaluate teacher effectiveness. There is talk of the need for teachers and stakeholders to cultivate a shared understanding of good practice (Yorke, 2003; Leiber, 2018).

There is a need to better understand the notion of teacher effectiveness in higher education, specifically what it is and whether and how it can be achieved. Therefore, the focus of this review was to examine the nature and scope of the empirical literature in this area, particularly studies that use observational data, as observational instruments and frameworks are an important method for understanding teacher effectiveness in practice. For the purposes of this study, the term “instrument” refers to any structured observational scale or organizational framework used to measure (or organize data) aspects of teacher effectiveness in higher education. Our scoping review served two purposeful research questions as follows:

- (1) *How has teacher effectiveness been conceptualized in empirical research to date?*
- (2) *What dimensions can be distinguished?*

The study also aims to provide further insights for pedagogical practice as to whether important lessons for quality teaching can be drawn from this literature.

METHODS

Design

Given the exploratory nature of the research questions, a scoping review method was used. Scoping reviews are a relatively new approach for which there is not yet a universal study definition or definitive approach (Arksey and O’Malley, 2005; Anderson et al., 2008; Davis et al., 2009; Levac et al., 2010; Daudt et al., 2013), particularly in the field of education (Egan et al., 2017; Hariharasudan and Kot, 2018).

Scoping studies represent an approach to reviewing research findings to contextualize knowledge in terms of:

- Examining the scope, diversity, and nature of research activities.
- Determining the appropriateness of a full systematic review—Abridging and disseminating research findings.
- Identifying research gaps in the existing literature (Arksey and O’Malley, 2005).

A scoping review is not a linear process (as typically prescribed in the protocol for systematic review), but a back and forth between

early results and new findings, with changes in search terms and even questions (Arksey and O’Malley, 2005).

Thus, in accordance with Arksey and O’Malley’s framework for scoping reviews, an “iterative” process was undertaken (Arksey and O’Malley, 2005, p. 8): the search terms defined below were not fixed from the outset, but were distinguished as the process progressed so that all relevant literature could be captured.

More specifically, the scoping review method used in this study was initially guided by Arksey and O’Malley’s (2005) five-stage framework, but then our research team, which consisted of four researchers, decided to add an additional stage after considering Daudt et al. (2013), who suggested additional recommendations.

Originally, the sixth stage was intended to be a voluntary stage where experts in areas related to the research question would be asked to review and comment on the stages of the study to ensure that it was conducted efficiently and proceeded without bias. Both Levac et al. (2010) and Daudt et al. (2013) emphasized that this phase is part of the process, and it is retained for this review.

Thus, we went through each stage of the review process independently. Conflicts were collaboratively resolved after each step.

Search Strategy and Source Selection

In this systematic scoping review (Arksey and O’Malley, 2005; Daudt et al., 2013; Andersen et al., 2021), a comprehensive search strategy was developed. After an initial search of the topic area in collaboration with an information search expert.

Definitions and understandings of teacher effectiveness vary in many ways. In general, the term seems to be associated with the “how” of teaching (i.e., teaching style and/or learning environment, student engagement) rather than the “what” of teaching (i.e., curriculum content). However, Gill and Singh (2020) note that the above term is sometimes used to refer to both. Based on this distinction, we focused on the “how” of teaching (i.e., teaching style and/or learning environment, course difficulty, student engagement).

Parameters were set for the study that influenced the scope of the search. Specifically, only studies published since 1990 and related to the relationship between teacher effectiveness and teaching evaluation were considered. In addition, only studies that were available in English and only studies in peer-reviewed journals were considered. A systematic search was conducted in the following electronic collections and databases: EBSCOhost Psychology and Behavioral Sciences Collection, ScienceDirect, Education Research Complete, and Web of Science (Science and Social Science Index). Searches for titles, abstracts, and keywords were also conducted using the search terms listed in **Table 1**. To be more specific, we matched terms from higher education (“higher education,” “universit*,” “University*,” “postsecondary”) with search terms from “effectiveness” (“teaching effectively*,” “effective teaching,” “effective learning,” “effective instruction”) in this review page.

The literature on teacher effectiveness is extensive and fragmented. Researchers working in various fields theorized, conduct studies, and publish articles in various journals. Often,

TABLE 1 | Sample of search terms for the ERIC database.**Step search terms**

1. To identify relevant research through title and full text in order to generate a wide range of responses: *effectiv**(*framework OR tool AND teach* OR higher education OR third level OR college OR postsecondary OR University OR tertiary*)
2. *Effectiv**(*approach* OR style AND teach* OR instruction OR learning OR third level OR college OR postsecondary OR University OR tertiary*)
3. To identify relevant research through title and abstract in order to refine range of responses: *effectiv**(*framework OR tool OR style and learning OR approach* OR initiative AND develop* OR enhance* OR increas* OR third level OR college OR postsecondary OR University OR tertiary*)

researchers do not attempt to identify connections among these disparate findings, or they do not build on findings from other fields. This could mean that the knowledge acquired is less cumulative than might be optimal. This means that views of research in such areas depend on the conceptual frameworks adopted by individual research papers (Okoli, 2019). The categories selected for our review were deemed useful; however, scholars in other disciplines may have used different categories.

Study Inclusion and Exclusion Criteria

The identification and selection of articles for this review began with broad categories and many search terms (Sibgatullin et al., 2022). The authors gradually narrowed the group of studies to those that met specific criteria. More stringent standards and criteria could have been applied. Dynarski (2008, p. 27) stated in this regard that: “Selective exclusion of research requires great caution, as selectivity can be interpreted as compromising scientific objectivity for purposes that educators cannot discern and may misinterpret.” Consistent with Dynarski’s (2008) statement, this review refrained from using narrow criteria so that studies that might be informative for specific purposes or audiences were included. Dynarski also stated:

“Of course, it is possible that the results of some studies are due to publication bias or that they result from local conditions that are unusual or difficult to replicate. But if syntheses review all the evidence and apply sound standards, educators can make up their own minds about whether the results are credible or whether the implementation conditions are unrealistic and not useful to them.” (p. 28).

The breadth of the above search terms resulted in a wide range of items. After removing duplicates, this initial search yielded more than 1,080 studies. To narrow the results, abstracts were reviewed to determine if studies met the following criteria (see **Table 2**):

Research Methodology. Since the main objective of this review is to identify frameworks for teaching effectiveness and related characteristics, both qualitative and quantitative research were considered.

Participants. The research must have been conducted in a higher education context with undergraduate students, either as part of a module or as a stand-alone module. We did not exclude studies based on a specific discipline.

Location. The research was conducted internationally, with a particular focus on Southern European countries and Greece in particular.

TABLE 2 | Inclusion and exclusion criteria.

Criterion	Inclusion	Exclusion
Date	1990–2019	Pre-1990
Language	English	Language other than English
Study focus	Predominantly focused on the educational experiences of undergraduate students	Slight reference to educational experience, but focus is elsewhere (e.g., administrative services); students are in institutions other than universities (e.g., schools).
Location	International	
Participants	Undergraduate students	Postgraduate students, PhD candidates (in general, outside the specific range)

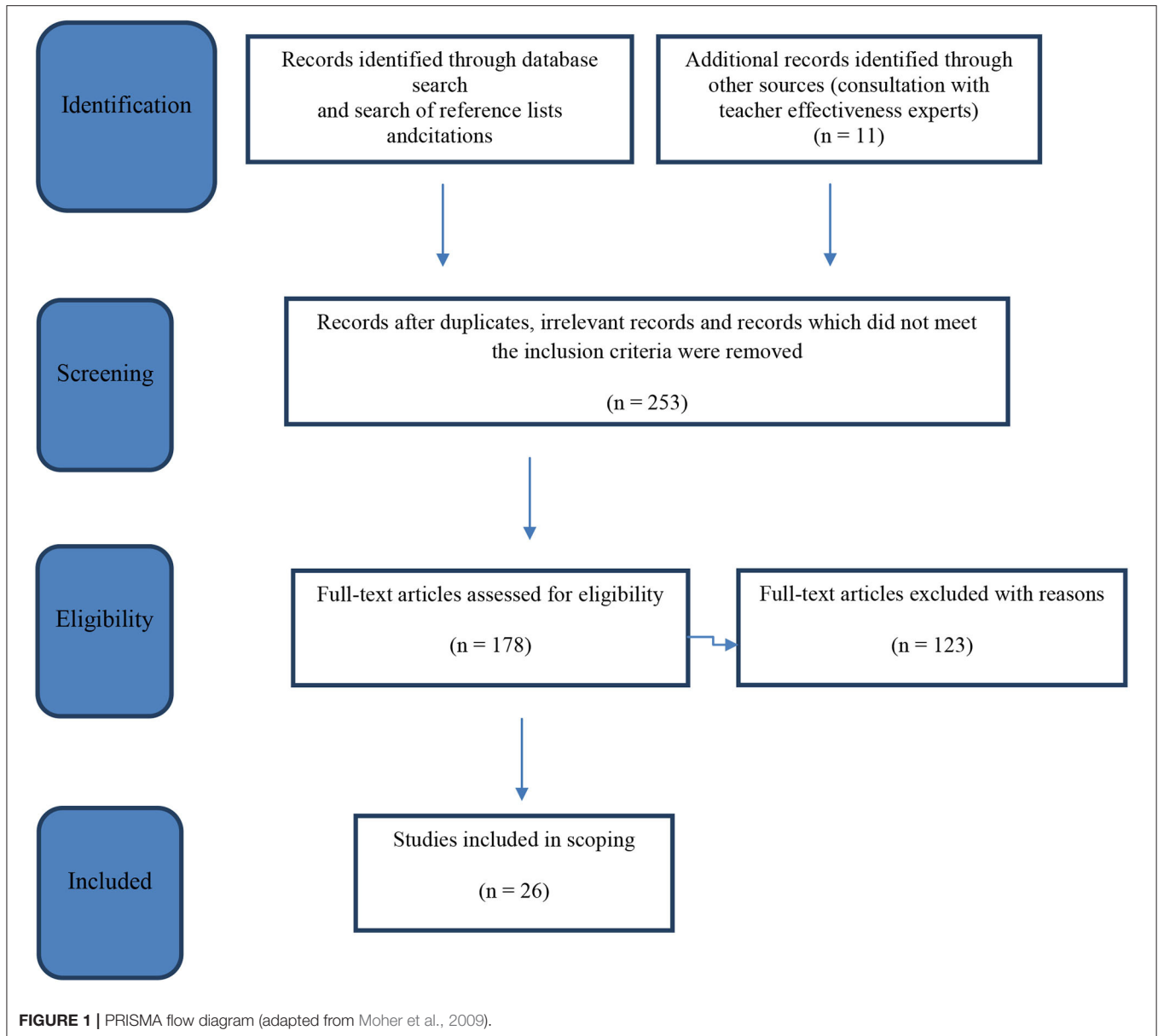
Relevance. Finally, the work under review must state in its own words that the goal of the research was to improve teacher effectiveness in order to be considered appropriate.

Approximately 250 articles met the above criteria and were therefore included in the next phase. Subsequently, this pool of the initially selected 250 articles was reviewed for relevance and methodological rigor. Articles were selected according to the Preferred Reporting of Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Moher et al., 2009).

For studies to be included in this review, they should also meet a number of additional criteria:

- Use an instrument to measure teacher effectiveness or instructional practice.
- Include a measure of student outcomes or impact on teacher effectiveness.
- They should report methods that meet high research quality standards, such as reliable and validated instruments, appropriate study design, and necessary controls.

In the next phase, the resulting collection of studies was evaluated. Additional exclusions were made if a closer reading revealed that they were of a different scope or did not meet the quality standards of this synthesis. Specifically, research was excluded if it was of poor quality, did not fit the topic, was beyond the scope, focused on schooling, or even lacked descriptions of data and methods. The overall analysis yielded 26 studies (**Figure 1**) that were



thoroughly reviewed. Full-text versions of the articles were obtained, and each article was reviewed and deemed appropriate by members of the research team. A review of the reference lists for each article also helped to identify additional relevant literature that could be considered for the study.

As mentioned earlier, the search was narrowed by focusing on studies that measured instructional processes and outcomes that impacted student outcomes. Particular attention was paid to studies that measured teacher effectiveness in terms of adding value to student achievement and satisfaction.

This narrowing of scope was important to ensure that the amount of literature to be reviewed and summarized was sufficient to turn it into a practical and informative paper.

Quality Appraisal

All 29 identified studies were assessed for methodological quality using the Crombie model for critical appraisal of qualitative or quantitative research (Glasper and Carpenter, 2021). Although not strictly required in a scoping study (Engel-Yeger et al., 2018), critical appraisal involved the use of a series of questions that serve as a process or framework for assessing studies for their trustworthiness, value, and relevance in a particular context, culminating in a critique of each research article's objective(s), method(s), findings, and conclusions (Glasper and Carpenter, 2021). Three studies were excluded due to lack of trustworthiness, leaving 26 studies (five descriptive papers: 2, 6, 8, 16, 17; twelve qualitative studies: 1, 3, 5, 7, 10, 11, 13, 14, 19, 20, 23, 26; eight quantitative studies: 4, 9, 15, 21, 22,

24, 25; and one that used mixed methods: 12) to review and summarize. The selected studies are marked with an * in the *References* section.

RESULTS

This scoping review resulted in 26 articles from five countries. Of these, 9 studies were conducted in Australia, seven in the United Kingdom, three in the United States, one in Canada, one in Hong Kong, one in Iran, one in South Africa, one in Pakistan, one in Tanzania, and one in both Australia and the United Kingdom. Conspicuous by its absence was literature from Europe. In this section, we present articles that were the focus of our original research questions.

To improve conceptual clarity and determine the nature and scope of research on effectiveness in higher education, we first present the methodological characteristics of the studies descriptively (in alphabetical order of the last names of the first authors of each article). Second, our analysis focuses on how teacher effectiveness is conceptualized and implemented in higher education. We also provide a nuanced discussion of the findings and phenomena within these studies. In addition, noteworthy trends and implications for teacher efficacy and for future theoretical and empirical studies are discussed. Rather than providing the results of statistical analyses or summarizing the overall findings, we have chosen to describe the characteristics of typical manifestations of teacher effectiveness in higher education and how it has been researched to guide academic staff and researchers (see **Table 3**).

How Has Teacher Effectiveness Been Conceptualized in Empirical Research to Date?

Teacher effectiveness in higher education can be viewed from three different but interrelated perspectives: Measuring inputs, processes, and outputs (Devlin and Samarawickrema, 2010). Input refers to what a faculty member brings to their position. It is generally measured and includes elements such as the teacher's background, beliefs, expectations, experience, pedagogical and content knowledge, certification and licensure, and educational background. These measures are sometimes defined in the literature with the term "teacher quality" (Qureshi and Ullah, 2014). Processes, on the other hand, refer to the interaction between teachers and students. This may include a teacher's professional activities within the larger University community. Outcomes are the results of instructional processes, such as the impact on student achievement, graduation rates, student behavior, engagement, attitudes, and social-emotional wellbeing. Other outcomes may include contributions to the University or community in the form of taking on leadership roles or training other faculty.

Numerous attempts have been made to classify the characteristics of teacher effectiveness. Numerous theoretical perspectives have been used, based on qualitative or quantitative approaches, and from different disciplinary viewpoints (McMillan, 2007). Student perspectives have also been used

in attempts to classify (Vulcano, 2007). However, there is no universally accepted definition of effective higher education teaching (Johnson and Ryan, 2000; Trigwell, 2001; Paulsen, 2002).

Effective teaching is generally understood to be instruction that is focused and centered on students and their learning (Devlin and Samarawickrema, 2010; Qureshi and Ullah, 2014).

Given the importance of these distinctions, it is suggested that the term teacher effectiveness be used, but much more broadly than is common in current policy discussions and the specific frameworks under study. In the following lines of this section, a more nuanced definition of teacher effectiveness is provided that encompasses both the broad tasks teachers perform and the various outcomes that education stakeholders value.

Gradually, policy discussions tend to define teacher effectiveness as a teacher's ability to make higher than expected progress as reflected in student standardized test scores. This emphasis on attributing success on standardized tests to teachers and measuring the outcome of teaching by averaging test scores has a number of strengths. However, the definition also has significant shortcomings and has been viewed with skepticism.

The first limitation is related to the assumptions about causality that underlie this approach. If one directly relates student achievement to teacher effectiveness, one must determine what portion of the effectiveness score is attributable solely to the teacher. This determination is difficult not only for practical reasons, but also for logical reasons: It requires assumptions that may be irrational. According to Fenstermacher and Richardson (2005, pp. 190–191), "[...] learning requires a combination of circumstances that go far beyond the actions of a teacher."

It is worth noting that teacher effectiveness can be measured without considering classroom climate if teacher effectiveness is narrowly defined as a teacher's apparent impact on his or her students' learning, as is the case with standardized tests. Adopting this limited aspect ignores other important teacher resources and behaviors that contribute to successful learning.

Another criticism of this definition is that too narrow a focus on standardized test scores as the most important and reliable—and in some cases only—measure of student outcomes is not always consistent with all perspectives on effective teaching and learning (Bassey et al., 2019). A review of the literature on teacher evaluation revealed that researchers' definitions of teacher effectiveness are more expansive. More specifically, according to Campbell et al. (2004, p. 3), "teacher effectiveness is the impact that classroom factors, such as instructional practices, teacher expectations, classroom organization, and use of classroom resources, have on student achievement." This definition describes what happens in the classroom, but the measure of effectiveness is still student achievement. However, many researchers believe that there are other important outcomes that make for effective teachers besides student performance on standardized tests (Atkins and Brown, 2002). A number of studies looking at factors that predict academic achievement have found that the influence of students' perceptions of the learning environment is a stronger predictor of academic achievement than prior academic ability, possibly

TABLE 3 | Included studies from 1990 (in alphabetical order).

(Study number) References	Location	Study design and aim(s)/participant sample	Relevant/key findings
(1) Åkerlind (2004)	Australia	<i>N</i> = 28. Qualitative. University academics, all of whom hold teaching and research appointments at a traditional, research-intensive University in Australia. The academics interviewed were selected to bring as many different experiences as possible. Thus, participating academics came from a variety of disciplines, cultural backgrounds, and genders, with varying degrees of experience as academics, and with varying terms of appointment.	Substantial variation was found in how instruction is experienced, within a spectrum ranging from a primarily teacher-centered to a primarily student-centered experience. Part of the most teacher-centered experience as a University teacher found in this study is the view that students are passive recipients of knowledge or facts and that teachers impart knowledge that is passed on to students. Conversely, part of the most student-centered experience of being a teacher is the view that students actively create their own learning.
(2) Berk (2005)	USA	Descriptive paper that proposes a unified conceptualization of teaching effectiveness. Evidence is gathered from a variety of sources to define the construct and make decisions about its realization. No qualitative or quantitative data.	<p>Student rating is a necessary source of evidence of teaching effectiveness for both formative and summative decisions, but not a sufficient source for the latter. Nevertheless, it is an essential component of any system of faculty evaluation.</p> <p>Peer rating of teaching performance and materials is also critical and can be considered a complementary source to student ratings.</p> <p>Student and peer ratings, when considered together, provide a very comprehensive picture of teaching effectiveness that can be used to improve teaching.</p> <p>Learning outcome measures should be used only with extreme caution as evidence for faculty evaluation. It is safer to use learning outcome measures in conjunction with direct data sources.</p>
(3) Bidabadi et al. (2016)	Iran	<i>N</i> = 10 faculty members. Qualitative. Semi-structured interviews were conducted with the aim of investigating effective teaching in higher education in Iran.	Interviewees concluded that the best teaching method is a mixed method (student-centered and teacher-centered), supplemented by pedagogical planning and prior preparation.
(4) Coffey and Gibbs (2002)	UK	<i>N</i> = 141 HE teachers. Quantitative. The data are drawn from HE teachers on initial training programmes at 19 universities in eight countries. Data were collected at two time points.	The data suggest that teachers' repertoire of methods remained stable over the course of a year, regardless of whether they participated in in-service training.
(5) Dall'Alba (1991)	Australia	<i>N</i> = 20. Qualitative. Teachers in four subject areas were interviewed about the teaching of their subject, five teachers being interviewed in each subject area.	Preliminary analysis of the data obtained from the pilot interviews revealed the following perceptions of teaching in higher education: a. Teaching as the transmission of information. b. Teaching as transmission of information (from teacher to student). c. Teaching as illustrating the application of theory to practice. d. Teaching as developing concepts/principles and their interrelationships. e. Teaching as developing the ability to be an expert. f. Teaching as exploring understandings from particular perspectives. g. Teaching as bringing about conceptual change.
(6) Devlin and Samarawickrema (2010)	Australia	Descriptive paper outlining the notion of effective teaching as articulated in the Australian Learning and Teaching Council (ALTC) award system. No qualitative or quantitative data.	<p>Effective teaching in higher education also involves technological change.</p> <p>Teaching approaches that influence, motivate, and engage students in learning could usefully be expanded to include a broader concept of student engagement.</p> <p>Curricula that prepare students for professional life might also be worth considering.</p>

(Continued)

TABLE 3 | Continued

(Study number) References	Location	Study design and aim(s)/participant sample	Relevant/key findings
(7) Dunkin (1990)	Australia	<i>N</i> = 55. Qualitative. New lecturers at an Australian University focused on early experiences in the institution as well as attitudes and perceptions regarding teaching and student evaluations. Interview data were used to describe the induction perceived by the lecturers.	Help in getting to know the institution and special consideration of the workload favored the more academically qualified. Help in solving problems favored the less academically qualified, those without employment experience at the University, those appointed on probation, and those with less impressive publications. Faculty who were less confident in their teaching skills were more likely to report having participated in development activities than others.
(8) Entwistle and Walker (2002)	UK	Descriptive paper examining how academic staff conceptualize teaching. No qualitative or quantitative data.	This paper emphasizes that effective teaching goes far beyond listing individual competencies. Rather, effective teaching involves a sophisticated conceptualization of the relationship between learning and teaching. This includes a commitment to encouraging students to reach higher epistemological levels and to develop a deeper understanding of the discipline or professional field.
(9) Gow and Kember (1993)	Hong Kong	<i>N</i> = 3,372. Quantitative. Participants were the academic staff at two institutions in Hong Kong. The academic staff measured their students' approaches to learning using Biggs's (1987) Study Process Questionnaire.	In departments where teaching was primarily focused on imparting knowledge, students' use of a deep learning approach tended to decline over the course of their studies, as did their perceptions of the effectiveness of their instructors. In contrast, in departments where teaching was primarily focused on facilitating learning, students were much less likely to report using a surface approach to learning throughout their studies.
(10) Kember and Kwan (2000)	Australia	<i>N</i> = 17 lecturers. Qualitative. This study aimed to characterize the alternative approaches to teaching of University lecturers. It also examined the relationship between lecturers' approaches to teaching and their conceptions of good teaching. Lecturers were interviewed individually about their conceptions of good teaching, motivational strategies and effective teaching.	Analysis of the interview data revealed the following key points regarding academics' approaches to teaching and their relationship to notions of good teaching: (a) faculty teaching approaches could be characterized by one motivational and five strategic dimensions; (b) faculty teaching approaches were best described by two main orientations, transferring and facilitating; (c) faculty who viewed teaching as knowledge transfer tended to use content-centered teaching approaches, while those who viewed teaching as facilitating tended to use learning-centered approaches. The key message of the study was that fundamental changes in the quality of teaching and learning were unlikely without a change in the lecturers' approach to teaching.
(11) Martin and Shoho (2002)	UK	<i>N</i> = 26. Qualitative. The participants constituted a subject or topic for their students to study. The study examined how they taught the subject and subsequently how their intentions and their practice were interrelated.	Data analysis revealed that when teaching and learning contexts are narrowly defined, there is a clear relationship between faculty intent and practice. Specifically, University instructors who adopt a more conceptual change and student-centered approach to teaching present objects of study that are more relational and focused on student knowledge.
(12) Mbalamula (2017)	Tanzania	<i>N</i> = 206. Qualitative and quantitative measures (mixed methods). The aim of the study is to investigate undergraduate students' learning styles and the extent lecture pedagogy complements students' learning needs in inclusive classes during lecture sessions.	The results show that the majority of undergraduate students were accommodative and preferred to experiment with their concrete experiences. In addition, the results show significant differences between students' academic year, major, work experience, and specialty. The study concludes that delivering lectures is only one part of pedagogy that needs to be flexible to accommodate the prevailing contexts of inclusive teaching and learning and to account for student differences, including academic year, major, professional experience, and student specificity in lecture halls.
(13) McMillan (2007)	South Africa	<i>N</i> = 10 lecturers and 15 students. Qualitative. A case study approach was selected. Data were collected through semi-structured interviews and open-ended questionnaires.	Three thematic categories for possible staff development were identified. Roughly, they could be described as the "what", "how", and "why" categories. The first category includes suggestions from students on how to teach better. The second category includes requests for skill development - the "how" of teaching - and addresses those skills that require some level of demonstration by someone with experience. The final category includes suggestions for developing the "why" that is at the core of any teaching philosophy.

(Continued)

TABLE 3 | Continued

(Study number) References	Location	Study design and aim(s)/participant sample	Relevant/key findings
(14) Murray and Macdonald (1997)	UK	<i>N</i> = 39. Qualitative. Questionnaires were distributed to 80 staff members and were completed anonymously; 39 usable returns represented a 46% response. Ten per cent were completed by part-time staff. The questionnaire was piloted on four members of staff and this resulted in some refinement of the open-ended questions.	Respondents' main perceptions of teaching describe the role of the instructor as either imparting knowledge, supporting students, inspiring and motivating students, facilitating student learning, or a combination of these perceptions. The vast majority of respondents see themselves as either facilitators or supporters of students.
(15) Norton et al. (2005)	UK	<i>N</i> = 638. Quantitative. A questionnaire measuring nine different aspects of teachers' beliefs and intentions concerning teaching in higher education was distributed to teachers at four institutions in the United Kingdom.	Teachers' intentions with regard to teaching were more focused on imparting knowledge than on their beliefs. Teachers' intentions regarding teaching represent a compromise between their ideas about teaching and their academic and social context.
(16) Paulsen (2002)	USA	Descriptive paper outlining comprehensive systems for the evaluation of faculty performance and guidelines for the development of such systems. No qualitative or quantitative data.	Evidence of teaching effectiveness can be used for both formative and summative assessment. The purpose of formative assessment is to provide informative feedback to assist teachers in improving the effectiveness of their teaching. The purpose of summative assessment is to provide useful information to assist department chairs, faculty committees, and deans in making personnel decisions related to faculty hiring, renewal, or termination, as well as in granting tenure, promotions, and salary increases.
(17) Qureshi and Ullah (2014)	Pakistan	Descriptive paper examining the relationship between students' perceptions of their learning environment, their approaches to learning and the quality of learning outcomes. No qualitative or quantitative data.	The quality of students' learning is determined by their approach to learning: The deep approach leads to better quality learning and the shallow approach leads to poor learning outcomes.
(18) Ramsden (1991)	Australia	<i>N</i> = 3,372. Quantitative (Secondary data). Students in final year undergraduate programmes in 13 higher education institutions testing the Course Experience Questionnaire (CEQ).	The CEQ provides a reliable, verifiable, and useful means of determining the perceived teaching quality of academic units in higher education systems based on UK models.
(19) Samuelowicz and Bain (1992)	Australia	<i>N</i> = 13. The sample consisted of academic teachers. Qualitative. This study examines conceptions of teaching held by academic teachers in the fields of science and social science in two universities: a distance University in the UK and a traditional University in Australia.	A five-level classification of teaching concepts is proposed (expected learning outcome, knowledge acquired or constructed by the student, existing conceptions of the student, orientation of instruction, control of content). It has been made clear that teaching concepts are context dependent.
(20) Samuelowicz and Bain (2001)	UK Australia	<i>N</i> = 39 academic teachers. Qualitative. This study examines conceptions of teaching held by academic teachers from three universities in Brisbane, Australia representing a range of disciplines: architecture (7), education (3), nursing (7), psychology (2), physiotherapy (7), engineering (3), chemistry (5), physiology (2) and entomology (1).	Basic distinctions between teaching-centered and learning-centered orientations of teaching and learning have been pointed out.
(21) Sander et al. (2000)	UK	<i>N</i> = 395. Quantitative. First-year University undergraduates at the start of their University life participated in this research. They were enrolled on a medical, business studies or psychology degree course at one of three British universities	The similarities in expectations and preferences among the three groups were greater than the differences. Specifically, students expected to be taught through formal and interactive lectures, but preferred interactive lectures and participation in group-based activities. The least preferred learning methods were formal lectures, role-playing, and student presentations. In terms of coursework assessment, they preferred essays, research projects, and problems/exercises.

(Continued)

TABLE 3 | Continued

(Study number) References	Location	Study design and aim(s)/participant sample	Relevant/key findings
(22) Shao et al. (2007)	USA	<i>N</i> = 1.300 (in two research phases: May 2002, 501; May 2003, 799). Quantitative. An electronic questionnaire was subjected to in-depth review by both academic administrators and faculty members from various business disciplines.	In terms of evaluating teaching effectiveness, respondents believe that emphasis should be placed on the currency of the discipline, peer evaluation, classroom visits, and professor preparation. On the other hand, teaching awards and the use of technology should not be given as much weight as they currently are.
(23) Trigwell and Prosser (1993)	UK	<i>N</i> = 24. Qualitative. An interview-based study of academic staff who taught freshman chemistry and physics courses.	Interviewees talked about five different approaches to teaching that differed in their intentions and teaching strategies.
(24) Trigwell et al. (1999)	Australia	<i>N</i> = 46 science teachers and 3.956 science students. Quantitative. The purpose of the study is to examine the relationship between a teacher's teaching approach and the learning approaches of the students in that teacher's class.	According to the findings in classes where teachers describe their teaching approach as focused on their actions and the transmission of knowledge, students are more likely to report that they take a superficial approach to learning this subject. They also emphasized the importance of discouraging teacher-centered delivery instruction and promoting higher quality, conceptual change/student-centered instructional approaches in attempts to improve the quality of student learning.
(25) Vulcano (2007)	Canada	<i>N</i> = 629. Quantitative. This study employed two samples of Canadian undergraduates (first sample: <i>N</i> = 373; second sample: <i>N</i> = 260; in each sample two questionnaires were eliminated because of respondent errors) concerning their views of a "perfect instructor".	49.1% of total responses (529) emphasized teacher skills and attitudes, including: (a) knowledgeable, (b) enthusiastic about teaching, (c) interesting and creative lectures, (d) effective communicator, and (e) encourages student participation. The other 50.2% of responses emphasized student-teacher relationships to almost the same degree.
(26) Willcoxson (1998)	Australia	<i>N</i> = 15 academic teachers and 23 students. Qualitative. Of the 15 academics interviewed, four were from engineering, four from mathematics, four from nursing, and three from psychology. Seven engineering students were interviewed, six mathematics students, six psychology students, and four nursing students. Students and academics were asked questions about the strategies they found most effective for their own learning and the characteristics of their best teacher(s).	The results indicate little enthusiasm for lectures as a teaching or learning method, but also few attempts by academics to deviate from the traditional lecture method, even among those with a personal preference for group learning. Significant contrasts were found between teacher and student reports of teaching strategies used in lectures and teacher and student reports of student activity in lectures.

leading to better learning outcomes (Karagiannopoulou and Christodoulides, 2005; Richardson and Watt, 2006; Entwistle, 2009).

Student achievement growth should be an important element in assessing teacher effectiveness; however, criticism of the performance-based view of teacher effectiveness is warranted. A broader view of teacher effectiveness that includes other features of teaching needs to be part of the discussion.

Teaching effectiveness is a controversial, value-laden concept with varying definitions. Therefore, a meaningful definition of teaching effectiveness should be related to the specific context in which teaching is assessed (Laurillard, 2002; Devlin and Samarawickrema, 2010). Communities should openly classify the values and assumptions that underpin their understanding of what it means to be an effective teacher and what they define as best practices (Fry et al., 2008). For example, a definition might reflect a college's mission, the unique practices of an academic discipline, or the values underlying a particular teaching award.

Thus, there are three elements to consider when evaluating the effectiveness of teaching in a given context:

- Criteria: Characteristics of effective teaching.
- Evidence: Documentation of instruction.
- Standards: expectations of quality and quantity.

What Dimensions of Teacher Effectiveness Can Be Distinguished?

Even when teaching analogous courses, different teachers teach in different ways, and this can affect their students' satisfaction, motivation, and achievement (Theall and Franklin, 2001).

Approaches to Teaching in Higher Education

Trigwell and Prosser (1993) conducted an interview-based study of 24 academic staff members who taught freshman chemistry and physics courses. They identified five different teaching approaches that differed in terms of their goals and teaching strategies. Some methods were teacher-oriented and aimed at conveying information to students, while other techniques were "student-oriented and aimed at effecting conceptual change in students" (Prosser and Trigwell, 1999, pp. 153–154). Trigwell and Prosser also developed a quantitative instrument, the Approaches to Teaching Inventory (ATI), to measure the teaching practices of a larger number of teachers. This questionnaire "contained 16 items that measured teachers' intentions and strategies related to two basic approaches to teaching: a conceptual change or student-centered approach and a delivery or teacher-centered approach" (Prosser and Trigwell, 1999, pp. 154–157).

Accordingly, using this questionnaire, Coffey and Gibbs (2002) found that teachers who took a student-centered approach reported using a more specific repertoire of teaching methods than teachers who took a teacher-centered approach.

In addition, Trigwell et al. (1999) demonstrated that students whose teachers took a student-centered approach showed a deeper approach to learning according to their scores on ATI and were rated as effective. At the same time, they show a less superficial approach to learning than students whose teachers took a teacher-centered approach. Moreover, when teaching

TABLE 4 | Gow and Kember's (1993) orientations to teaching.

Learning facilitation	Knowledge transmission
Problem solving	Training for specific jobs
More interactive teaching	Greater use of media
Facilitative teaching	Imparting information
Pastoral interest	Knowledge of subject
Motivator of students	

methods involved a sense of acceptance and mutual respect for each other's thinking, a class climate emerged that fostered a "meeting of the minds" (Karagiannopoulou and Entwistle, 2013).

Sander et al. (2000) argued that students expected to be taught primarily through frontal lectures but preferred more interactive and group-based activities, even calling them more effective.

However, these studies do not shed light on why different teachers use different teaching methods in similar contexts. Some researchers have attributed this to constitutional characteristics of the teachers themselves: different teaching styles (Mbalamula, 2017), thinking styles, or personality traits (Zhang and Sternberg, 2002). This is not entirely acceptable, as it remains unclear why teaching styles should evolve as a result of training (Gibbs and Coffey, 2004) or experience (Åkerlind, 2004). Other scholars have underscored that different approaches to teaching reflect different fundamental conceptions of teaching and that teaching approaches improve as more sophisticated and refined conceptions are acquired (Entwistle and Walker, 2002; Bidabadi et al., 2016).

Conceptions of Teaching in Higher Education

Interview-based research has confirmed a number of different teaching beliefs that also determine teaching effectiveness among University faculty (Dunkin, 1990; Dall'Alba, 1991; Samuelowicz and Bain, 1992, 2001; Pratt, 1998; Willcoxson, 1998). Gow and Kember (1993) used the analytic categories that emerged from their own interviews to create a questionnaire on teaching beliefs (see **Table 4**). The questionnaire contained 46 items measuring nine subscales subsumed under two broad orientations to teaching.

Gow and Kember (1993) obtained 170 responses to this questionnaire from staff at two institutions in Hong Kong and calculated student learning approaches using Biggs's (1987) Study Process Questionnaire. In departments where teaching was primarily focused on imparting knowledge, students' use of a deep learning approach tended to decline over the course of their studies, and with it their perceptions of their teachers' effectiveness.

On the other hand, students in departments where the main idea of teaching was to facilitate learning reported less use of a surface approach to learning (Kember and Gow, 1994).

Subsequently, Kember (1997) reviewed the accumulating interview-based research on this topic. While noting that there was some variation in terminology, he argued that most of the studies adhered to five conceptions of instruction that can be located on a path from a fully teacher-centered, content-oriented

conception of instruction to a fully student-centered and learner-oriented conception of teaching and teacher effectiveness as follows (Kember, 1998):

- Teaching as communicating and reporting information.
- Teaching as transmission of structured knowledge.
- Teaching as interaction between the teacher and the student.
- Teaching as the promotion of understanding on the part of the student.
- Teaching as generating conceptual change and intellectual development in the student.

The relationship between students' perceptions of the teaching and learning environment could lead to more effective teaching in terms of the quality of student learning. Recent studies take a step beyond established theories (Kember, 1998; Prosser et al., 2007) and propose an additional sixth approach to teaching that considers the experiences of "meeting the mind" and supports perceptions related to emotional-cognitive teaching experiences (Entwistle, 2018; Karagiannopoulou and Entwistle, 2019).

Beliefs and Contexts vs. Objectives in Teaching

There is substantial indeterminacy-even fuzziness-in the conception of approaches to teaching and teaching effectiveness in higher education. On the one hand, a teacher's approach to teaching and teaching effectiveness may reflect the teaching behavior that, other things being equal, the teacher finds most comfortable. In this case, it is likely to be closely related to the teacher's conception of teaching (Kember and Kwan, 2000). On the other hand, an approach to teaching and teaching effectiveness might reflect a behavior that the teacher is compelled to engage in by the curriculum, the institution, or the students themselves. In this case, it is probably more closely related to the teacher's perception of the teaching environment than to his or her own conception of teaching: It embodies a specific response to a particular teaching situation that is directly manifested in the teacher's classroom behavior (Martin et al., 2002).

According to Pratt (1998), there is an internal balance between the activities, intentions, and principles of different teachers and the specific environments in which they operate.

Accordingly, Dunkin (1990) introduced the term "orientations in relation to teaching effectiveness" in a similar way. While, Gow and Kember (1993) used the term only to refer to broad categories of ideas, their questionnaire also included items that might refer to teaching purposes rather than principles of teaching.

Despite these assumptions about substantial agreement between teachers' views and purposes, Samuelowicz and Bain (1992) found evidence in their interviews that teachers may have adopted two different kinds of conceptions of teaching effectiveness: the "ideal" and the "working."

From the limited data available, it appears that academic teachers' articulated instructional goals are consistent with their "ideal" conception of teaching, while their teaching practices, including assessment, reflect their "working" conception of teaching. If this is the case, research could profitably be directed toward the factors (teacher-, student-, and institution-related)

that prevent academic teachers from acting in accordance with their ideal conception of teaching, thus helping to solve one of the puzzles of higher education-the discrepancy between stated goals (fostering critical thinking) and teaching practices (unimaginative delivery of content and testing of factual knowledge) so often referred to in the literature (Samuelowicz and Bain, 1992, p. 110).

Murray and Macdonald (1997) found that there are differences between teachers' beliefs and perceptions of teaching effectiveness and their actual teaching practices and actions. This discrepancy appears to be more common among teachers whose beliefs about learning are more focused on supporting students. Murray and Macdonald suggested three possible explanations for this phenomenon: teachers may be dissatisfied and discouraged in their actual goals by environmental constraints; teachers' actual beliefs about teaching may be more accurately reflected in their actual actions than in their conceptions or principles; and teachers may not have experienced adequate training or staff development to facilitate operationalizing their conceptions of teaching into applicable teaching strategies.

DISCUSSION

This paper has attempted to capture teaching effectiveness in HE (i.e., the dimensions and approaches to teaching effectiveness) to determine how scholars have conceptualized, described, and researched this phenomenon. The wide range of definitions used to describe teaching effectiveness is a testament to the continuous evolution of the teaching and learning process.

Considering that the first article cited in this review was published in 1990, there is still no consensus on how to define and identify effective teaching, despite the large amount of research that has been conducted in the area of teacher effectiveness over the years.

The data examined in this scoping study have shown a lack of evidence for a common and widely accepted definition. This is perhaps not surprising given that teacher effectiveness is a very broad concept that encompasses a wide range of variables that need to be considered (i.e., imponderable and predictable factors), beginning with the bilateral relationship and connection between teaching and learning, and thus between teachers and students. Shedding light on the ways in which teacher effectiveness is defined is important for two main reasons. First and foremost, what is measured is a consideration of what is valued, and therefore what is measured is valued (Goe et al., 2008). Definitions recommend and shape what needs to be calculated. For example, if policy discussions are only about standardized tests, important outcomes can be truncated to those that can be calculated using standardized test scores. In contrast, when policy discussions focus on teacher-student interfaces, the focus shifts to classrooms and documenting effective interactions between teachers and their students.

Moreover, different definitions lead to different policy solutions. When the discussion focuses on teacher effectiveness, the conversation potentially leads to improving teachers' scores on measures of knowledge or signals of that knowledge, such

as certification. When the conversation is about instructional practices or standards, specific instructional concepts, practices, or approaches come into focus.

It is also noteworthy that a high percentage of the articles came from the Anglo-American context (i.e., 7 from the United Kingdom and 3 from the United States). The remaining articles were either from more economically advanced nations (e.g., Australia, Canada, and Hong Kong) or from low-income countries (e.g., Tanzania and Pakistan). This suggests that teacher effectiveness in HE is of particular interest in certain international settings. The concept of teacher effectiveness in HE was popularized by countries in the global North in the second half of the twentieth century and has traditionally taken on less importance in less economically developed countries—probably because of financial constraints, different political situations and social contexts, and/or different educational conditions. Nevertheless, some of them—such as Pakistan and Tanzania, which are officially moving from low-income to middle-income country status in 2020 (Diao et al., 2020)—are trying to gain a foothold in the field of teaching innovation and provide educational opportunities worthy of those in the developed world, with the goal of reducing their out-migration rates in favor of better learning and work opportunities.

LIMITATIONS

Scoping review studies have several limitations. Scoping studies identify the amount and type of literature that currently exists in the area of interest rather than assessing the quality of that evidence. Consequently, they cannot determine whether particular studies provide robust or generalizable results (Arksey and O'Malley, 2005). In addition, scoping studies do not aim to summarize findings or combine results from different studies (Arksey and O'Malley, 2005). This review is limited to measuring teacher effectiveness and does not address methods for measuring the impact of universities, the effectiveness of curricula or the implementation of professional development (unless they include measures that explicitly apply to teachers), or other evaluations of educational interventions or frameworks. Although these are important and related topics, they are beyond the scope of this review.

In addition, for feasibility reasons, this study only considered articles written in English, which may have resulted in applicable articles not being included in the review. Another limitation of this study is that proxies for the term “teacher effectiveness”, such as “teacher mastery”, were not included in the key search terms. In addition, searches of electronic databases may have overlooked articles that did not include the key search terms in their title, abstract, or keywords. Despite attempts to be as comprehensive

as possible, not all studies on teacher effectiveness may have been identified in this review.

CONCLUSIONS

In this review, we presented the results of a systematic review of the peer-reviewed and published literature on teacher effectiveness in HE. Teacher effectiveness should broadly encompass competence in four areas (teaching style, course organization, student engagement, and determination of progress). This review represents a first step toward understanding evidence-based practices in teaching.

It is important to note, however, that the summary themes of practice do not contain an exhaustive list of all possible practices of teachers. Instead, the themes embody the most important practices related to implementing teacher effectiveness.

While many of the instruments promoted a comprehensive analysis of effectiveness using multiple methods of data collection, many of them did not take into account the contextual nature of instruction. Some of the instruments recommended other data collection techniques for assessing the overall quality of effectiveness to be used in conjunction with observation techniques.

Nevertheless, additional research is needed to assess teacher effectiveness along with student perceptions of effectiveness and expectations for an effective classroom climate. In this way, scholars and education stakeholders can gain a better understanding of effective teaching practices and how they relate to the evaluations of higher education's most important consumers, the students.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

SM conceived and designed the study. SM and CL performed the literature search and study selection process. SM, CL, AK, VD, and EK performed the final analysis process. All authors approved the final version of the manuscript.

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