Higher Education

A History of Research Trends from 1970 to 2020

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Research within the field of higher education has rapidly expanded over the past 50 years. The purpose of this study was to synthesize the research of higher education from 1970 through 2020 and identify the trends and themes in that time period. While many authors have surveyed higher education research by studying all publications (output), we reviewed the field by focusing on the publications that made the biggest impact through the number of citations (outcome). We used a bibliometric literature analysis to identify the 20 most highly cited journal articles of each decade and then measured the number of citations. This comparison of citation counts allowed us to trace the growth and changes in topics of the most interest to higher education researchers and determine which themes had the most impact on the field. Themes centering on students and learning—such as effective teaching, retention, engagement, assessment, feedback, and employability—were the most common among the high-impact articles. Our findings suggest that over time, the field of higher education has moved away from a teacher-centered approach and more towards a student-centered focus in order to encourage deep, applied learning. The results of our analysis also showed that many of the identified

trends are connected to the social, political, and economic influences of the same time periods, including an increasingly diverse and growing student population and a transformation in education delivery methods.

Higher education has changed dramatically in the last 50 years. The casual observer may point out the increasingly diverse and growing student population despite rising tuition costs or the transformations in education delivery methods due to worldwide technological advances. They might have even noticed an expansion of the possible areas of study. In our analysis of the last 50 years in higher education, we also observed these same changes and other developments not so easily identified by the casual observer.

Just before the 1970s, the Higher Education Act was introduced in the United States, which made education more accessible for lower-income individuals, while simultaneously encouraging growth at smaller colleges. In this same period, during the Vietnam War (1955–1975), college enrollment increased 4–6% in young men (Card & Lemieux, 2001). The end of the war brought a shift in educational progress, evidenced by the rapid growth of higher education research, and the beginning of a quantitative leap in research (Marton & Svensson, 1979).

In the last 50 years, publications on the topic of higher education have grown rapidly. In our analysis of major journals from the field, we found the 883 articles that were published on the topic in the 1970s grew to more than 10,000 articles in the 2010s and more than 2,000 articles in the year 2020 alone (see Figures 1 and 2). This reflects the enormous growth of higher education institutions and researchers around the world (To & Yu, 2020). A variety of reasons have been identified for this exponential growth, but one likely reason is funding. As early as 1985, having noted that higher education research had

already begun its dramatic rise, (see Figure 2) Altbach (1985) wrote,

In recent years, funds have become available for higher education research and a variety of institutions have sponsored research. . . . Agencies have been concerned with specific policy-related questions, and researchers have, in general, responded to the questions posed by funding sources and government agencies. Thus, the scope, sophistication, and coverage of the research [have] increased dramatically.

Figure 1

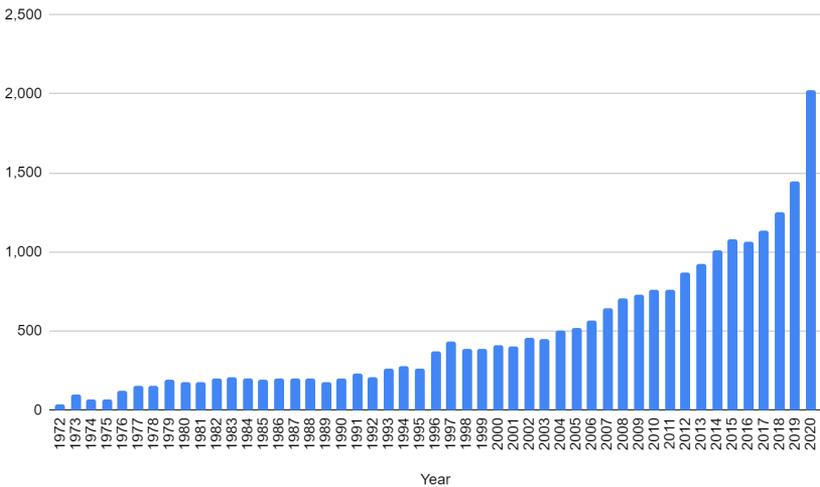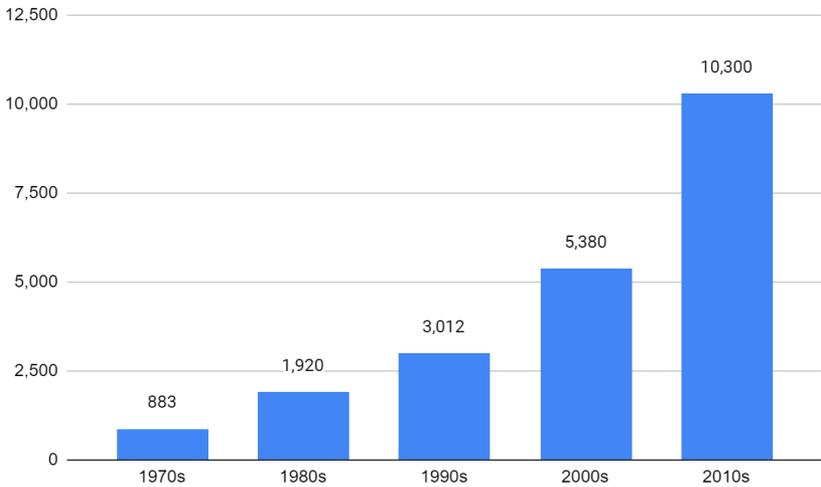Number of Articles Published by Year

Figure 2

Number of Articles Published by Decade

Since 1985, other influences and reasons for the increase of publications have been identified, including the large number of researchers working and publishing in all fields of higher education. To and Yu (2020) recently recorded a three-fold rise in the number of active higher education level researchers since the 1980s from 4 million in 1980 to 13.1 million in 2018. They also registered a four-fold increase in publications, from 0.65 million in 1980 to 3.16 million in 2018 (To & Yu, 2020). While the dramatic increase represents researchers and research interests across an array of fields, the numbers also explain the drastic increase in publications focused on the area of higher education.

Understanding trends in the field of higher education as a whole has become increasingly difficult due to the large number of articles published in the past 50 years. Several researchers have previously attempted to understand common themes and patterns using both different topics and methods of analysis. Trow (1972) used the topic of analysis approach, and his research focused on access to education. Using a method of analysis, both Altbach (1985) and Budd (1988)

completed literature reviews. Altbach's literature review centered on a topical analysis and Budd's research tracked authors with repeated citations. Other methods of analysis included Teichler's (1996) and Frackman's (1997) attempts to organize the growing amount of research in the field of higher education into categories and major themes, which divided the research into specific areas that could then be analyzed more closely.

These thematic studies as well as topically focused bibliometric studies (see Appendix) have contributed to the discussions on broad themes and trends within higher education research. Tight, a prominent higher education researcher, has completed extensive research in order to organize higher education research themes into eight categories (2020c). To build on this comprehensive research, we have not only identified emergent themes from the last 50 years, but we have also attempted to show the impact specific publications have had on broader thematic discussions by comparing the themes addressed by the most cited articles with Tight's eight themes. Citation counts indicate the popularity of an article within its decade and indicate topical priorities among the larger body of literature.

Higher Education Research Themes (Tight, 2020)

1. Teaching & Learning
2. Course Design:
   a. Types of Instruction
   b. Types of Learning
   c. Distance, Online and Elearning
   d. Curriculum
   e. Assessment
   f. Outcomes
3. The Student Experience
4. Quality
5. System Policy
6. Institutional Management
7. Academic Work
8. Knowledge & Research

We analyzed 20 journals with the most influence in the subdiscipline of higher education research (see "Methodology" chapter) to identify articles with the most citations per decade and also per year. We examined the 20 top cited articles of each decade, which were pulled from 15 of the original 20 journals of influence. (Refer to the Appendix for a complete list of journals and the number of cited articles.)

In the following sections, we have connected and grouped articles addressing common topics by decade. In the 1970s, researchers addressed learning environments, student ratings, study processes, and attrition. Attrition continued as a topic of interest in the 80s, along with instructor effectiveness and self-assessment. By the 1990s, topics were shifting towards student-centered learning, and we started to see newer perspectives influencing researchers' topics, resulting in more top cited research in the areas of critical theory and postmodernism. In the 2000s, student-centered topics continued to be of interest; internationalization also became prominent, showing the growing globalization of higher education. Finally, the 2010s brought

a focus on the employability of graduates from higher education institutions as well as continued interest in engaging students. In anticipation of the 2020s, a survey of the research from one year (2020) showed a growing interest in online learning as well as continued interest in employability and internationalization.

To conclude our research, we (a) compared impactful topics identified by citation count (output) with those identified by Tight (outcome), (b) traced the evolution of both the student experience and the role of instructors, (c) discussed the emergence of the internationalization of higher education, and (d) evaluated the changes in researchers' perspectives as evidenced by increased publications in the areas of critical theory and postmodernism.

The 1970s: Learning Environment, Student Ratings, Study Processes, and Attrition

Multiple themes of research in higher education emerged when we analyzed the most popular articles written in the 1970s. The research examined student–professor relationships and student-centered learning environments. The research also emphasized students' learning processes and student motivation. Less than half of the 20 most cited articles of the decade were empirical research, which was completed primarily with questionnaires and in-person interviews. Most of the articles were theoretical, pulling from previous studies to make conclusions.

Learning Environment

In the research of the 1970s, we saw an interest in learning methods and best teaching practices. This revealed an experiential focus, as understanding the experience of the learner became more important

in helping the learner (Marton & Svensson, 1979). Experiential learning was not a new idea in the 1970s, but this was the decade that the phrase was coined and presented as a theory by Kolb in 1976 (Fry & Kolb, 1979). The focus on individual student experiences made it more difficult to translate theory and research into practice. However, Marton and Svenson made the point that learning and teaching is a "human act" that cannot just be prescribed (1979, p. 483).

When Ramsden (1979) asked students what helped them learn, the students responded with three aspects: when a teacher can (a) reach the students' level through lecture, (b) create a warm environment for learning rather than an environment of fear, and (c) be humble as a teacher. The students' responses reflected a careful balance between being too harsh and too lenient. To Ramsden, it seemed that a teacher's attitude was an important factor in the learning environment.

Elton and Laurillard (1979) wrote that educational research in the past had been done using the same methods as the physical sciences (i.e., creating a hypothesis and testing it in a controlled environment). They found this to be less effective in the field of education, suggesting instead that researchers study students and teachers within their current environments. In their article, they mentioned that in place of a hypothesis, the purpose of a study could reveal itself as teachers and students are observed. They thought the focus of an educational research study should be more on the relationship between teacher and student, rather than on a particular event. Elton and Laurillard advocated for more research to be done in the natural environment of the classroom rather than the laboratory, with closer interaction between researcher, teacher, and student.

Students, as well as teachers, benefited from being more involved in research and the learning process. Students tended to be more involved in their learning and to seek deeper understanding if they took more active (rather than passive) roles in their learning

(Dahlgren & Marton, 1978). Student-centered learning was implemented through peer teaching; it was enacted for social reasons—namely, greater support and relatability—and stemmed from an effort to encourage students to be more active in the learning process (Goldschmid & Goldschmid, 1976).

Depending on the field of study, the learning process differed. Various disciplines viewed learning differently; some disciplines were more focused on experiential learning, and some were more theoretical in their approach (Marton & Svensson, 1979). The applied sciences preferred formal education with a focus on lectures, graduation rates, and employability. In contrast, the social sciences had a much less formal learning environment with more interaction between students and teachers. However, Ramsden (1979) found that students in the social sciences were seen as less employable. In a further comparison of disciplines, Ramsden also found differences in levels of processing by students. Where students had weaknesses or less interest in a subject, there was shallower processing and less learning involved.

In a further discussion of students' processing levels, Laurillard (1979) investigated what made students more likely to engage in deep-level processing versus surface-level processing. She noted that students using a surface-level processing method to complete a project were not necessarily lazy but were simply reacting to the particular learning situation. How well students processed material was related to the learning environment, not just the students as learners. For instance, students tended to spend more time on assignments that were crucial to their grades. If their learning environments promoted surface-level learning (e.g., regurgitating facts on a test), then students would likely use surface-level processing. In one popular article, researchers addressed processing depth by advocating for a qualitative approach to learning: lessening the materials quantitatively (reducing an overload of facts and information) for the sake of deeper understanding (Dahlgren & Marton, 1978).

Many students tended to take for granted the learning processes they used, while some were able to pull from their learning experiences and better able to analyze what made their learning successful (Säljö, 1979). Those who took their learning processes for granted often misperceived their learning as mere memorization of facts, but other students became "cue conscious" as they became more aware of their learning environment and what might be important to their learning (i.e., classrooms where certain materials will be on a test). Being cue conscious meant they became aware of the implicit rules of a classroom and adapted their level of processing to meet the different demands of each learning environment (Säljö, 1979, p. 448). For example, a student was cue conscious if they recognized that their teacher expected them to prepare for multiple choice answers on a test rather than full sentence answers. Ramsden (1979) mentioned that these students had also been labeled "cue-seekers" in other studies (p. 414). As students started to understand learning, especially outside of the formal structure of school, they started to see learning as a process (which Saljö termed "thematized" learning), rather than a method to reach a goal (Säljö, 1979, p. 446). These learners started to gain deeper understanding of the material and made changes to their study habits. These changes influenced other significant research in the 1970s.

Study Processes

Approximately a quarter of the research in the 1970s sought to understand students' study methods and whether they were helpful in the retention of material. In the most cited study of the decade, Biggs (1979) researched possible effects on the quality and quantity of learning. In the study, students were either given instructions to focus on the facts or the purpose of the experiment they were reading. Students who were asked to retain facts were successful if they were already familiar with memorization as a type of learning. However, researchers found the quality of those students' learning to be less robust than if they had focused on understanding instead of rote

memorization. Biggs demonstrated that students would adjust their study methods based on the quality of learning required of them, but their study methods were still affected by previous study habits.

The theme of study processes was also represented by the second-most cited publication of the decade; it was a theoretical analysis categorizing methods of study using the Lancaster Inventory. The Lancaster Inventory measured study methods and categorized them as "[a] deep level approach" or "intrinsic[ly] motivat[ed]" (Entwistle et al., 1979, p. 370). The researchers found three types of student study habits: (a) meaning, some students studied to find greater meaning; (b) reproduction, some students studied to follow the instructor's requirements exactly; and (c) achievement, some students studied to receive the grade or recognition they desired. Study processing research provided another way to understand students' experiences, providing methods to help students learn through observation of their environment. Study process methods are an ongoing area of interest; expanded research studies in this area frequently cite these foundational studies from the 1970s.

Student Ratings

Research on student ratings was also a popular research topic in the 1970s. Feldman wrote five of the 20 most cited articles of the decade, all focused on student ratings of teachers. With a recognition of the growing popularity of student ratings, Feldman (1977) sought to better understand their reliability, though it is possible his interest stemmed from curiosity about his own students' ratings.

Feldman (1979) found that students were likely to give higher ratings when they felt the consequences were higher (for example, if the professor would be evaluated for promotion based on the ratings). The amount of students who completed ratings also tended to go up when the ratings were completed anonymously or if the teacher was present during completion. In another article, Feldman (1978) studied student

rating consistency, either between disciplines or over time and contexts. He found the factors that influenced ratings were larger class sizes, student motivations, course levels, course requirements, meeting times, and fields or materials studied. In a research review, Feldman (1976a) also found that students' grades were positively correlated to the ratings students left for their professors. Feldman was unable to find instructor bias as a factor in this correlation.

Feldman did not hold a monopoly on the topic of ratings. At least two other articles sought to understand how students felt about their learning experience and their teachers' effectiveness. Frey (1978) pointed out that most students were incapable of understanding and judging the scholarship and research that professors engage in; therefore, they could not be adequate judges of professors' teaching. Students often based their ratings on professors' teaching styles or class rigor rather than on the material the professors taught. Frey questioned students about professors' most important characteristics and found respect and friendliness to be the most important, followed by knowledge of the material. This was similar to Feldman's (1976b) findings that respect and friendliness were rated highest, followed by knowledge of topics taught, enthusiasm, and organization. Feldman pointed out that students could be basing their ratings on initial impressions and cautioned against analyzing ratings without considering all the possible influences affecting student perception. Similarly, Powell (1977) found a correlation between the level of work students were asked to complete in a class and their corresponding instructor rating, finding that although students learned less in a course with less work required of them, they gave higher ratings. Also, students who received higher grades rated their instructors more highly. Perhaps student ratings have been a large focus of higher education research because professors want to better understand the feedback they receive and how much weight it can be given. This understanding, in turn, can improve students' experiences.

Freshman Attrition

Another focus of research in the 1970s was helping college freshmen continue their studies rather than abandoning the university experience. Terenzini and Pascarella (1977) found that freshmen who eventually left without graduating were lacking places on campus where they could fit in both socially and academically. These same authors also conducted another study focused more on previous factors affecting freshmen, including high school extracurricular activities and grade point average (Terenzini & Pascarella, 1978). Interest in the topic of freshman attrition continued well into the 1980s.

Outliers

Two articles in the 1970s focused on unique topics. The first article was by Neave (1979). He concluded that higher education became less accessible to many people in the 1970s due to "academic drift," or a shift away from the institutions' founding principles. This shift caused institutions to focus more on research and less on students, especially part-time students, returning students, or students with a career background. The second article, "Innovation Processes in Higher Education," explored the tendency of systems in education to resist changes and innovations (Berg & Östergren, 1979). These outlying articles focused on higher education as an institution; overall, research in the 1970s focused primarily on student-related themes, many of which carried into the 1980s.

The 1980s: Instructor Effectiveness, Attrition, and Self-Assessment

Interest in higher education research increased in the 1980s with twice as many published articles compared to the 1970s. In a continuation of research from the 1970s, there was much interest in

student ratings and the effectiveness of instructors. Researchers continued to focus on issues of attrition and retention with the development of enrollment management programs at institutions. These programs took a more comprehensive view of the university and provided ways to keep enrollment steady or increasing (Demetriou & Schmitz-Sciborski, 2011). Compared with the previous decade, self-assessment gained interest as a research focus; a literature review on self-assessment became one of the top three most cited articles in the decade. In this section, we will discuss the research on teacher effectiveness, attrition, and self-assessment, as well as a brief mention of other topics from the top 20 most cited articles, such as cheating and critical thinking.

Teacher Effectiveness

Following the large growth of Faculty Development Centers at universities in the 1970s (Lewis, 1996), the 1980s started to respond to a new set of needs. A report from the Carnegie Foundation for the Advancement of Teaching in the late '70s, which criticized current college teaching practices (Gaff, 1999), caused institutions to more carefully assess their curriculum (Watson 2019). Institutions considered "general education, review[ed] majors and minors, embedd[ed] writing across the curriculum, address[ed] diversity issues, and incorporat[ed] international perspectives" and also encouraged faculty development centers to focus on "mental processes and conceptual constructs" alongside student behavior (Watson 2019). Later, in the 1990s, this translated to an amendment of the earlier Higher Education Act requiring institutions to produce instructor report cards (Sass, 2021).

Many of the most cited articles in the 1980s carried a major theme of effective teaching and developing faculty teaching ability. One of the most influential articles (the second-most cited in the 1980s) discouraged additive approaches to learning—the types of teaching that viewed students as a 'vessel to be filled'—labeling them as

ineffective and encouraging more interactive and contextual approaches to teaching (Biggs, 1989). This reflects the decade's major shift away from behaviorism towards more cognitive methods and attitudes about teaching.

Four meta-analyses on effective teaching were also heavily cited in the '80s, the first of which came out in 1980 and combined two studies addressing the effectiveness of student ratings on teaching. Researchers found a modest improvement in teacher effectiveness due to student ratings; in the second study, however, researchers found a more marked increase in effectiveness when student ratings were combined with colleague consultation (Cohen, 1980).

The other three meta-analyses were performed by the same author, Feldman, whose work in the 1980s appeared as five of the most cited articles, the same number among the top 20 as in the 1970s. Much of Feldman's research in the 1970s was focused on student ratings, and this continued into the 1980s. Chronologically, the first of Feldman's analyses investigated the connection between faculty research productivity and teaching. He found the effect so small as to be unrelated (1987). Feldman's 1988 analysis centered on student ratings, stemming from a general concern about the criteria students used to rate teachers. He found that students' and teachers' views on what constitutes effective teaching were rather similar; both groups placed high importance on teacher preparedness and organization, clear and understandable instruction, and sensitivity to class level and student progress. Some importance was placed on instructors being open to discussion and other opinions in class, but he found instructor enthusiasm, personality, and research productivity to be relatively unimportant.

Feldman's (1989) last meta-analysis of the decade considered instructor effectiveness as rated by the teachers themselves, current and former students, and colleagues and administration. He compared the ratings of current students, colleagues, and administrators, and he

found the latter two groups gave the most similar ratings. Surprisingly, it was not the teachers themselves and students who had the most similar ratings. Feldman interpreted the results of this research to mean that either (a) teachers already thought they knew how their students would rate their strengths and weaknesses and rated themselves accordingly (but wrongly), or (b) teachers really did not know how students would rate them.

Attrition

By the 1980s, attrition concerns had been plaguing institutions for 20 years (Metzner & Bean, 1987). Concerns continued for two main reasons: a desire to develop and improve theories explaining student behavior and because attrition is costly to the student and the institution alike (Metzner & Bean, 1987). This research, however, could not stop a decline in enrollment at universities by the end of the 1970s. These factors led to the development of enrollment management in the early 1980s (Demetriou & Schmitz-Sciborski, 2011) whereby student retention became one part of a university-wide approach to recruitment and marketing. Three of the most cited articles in the 1980s were empirical studies of attrition and retention in universities.

Bean's 1980 publication on attrition was the most cited article of the decade. His research focused on attrition by applying an employee turnover model to a group of university freshmen, thereby developing a causal attrition model to investigate reasons students might stay at or leave a university. Both male and female students were found to have been most affected by the perceived institutional commitment to students, but secondary reasons for departing differed: GPA was the second-most cited reason males left, and performance was the second-most cited reason for females (Bean, 1980). Several years later, the causal model was a topic of further interest. As a second part of the research, the model specified "intent to leave" as the most significant variable affecting students. Unexpectedly though, a student's major or

job certainty correlated positively with intentions of leaving. Bean explained this correlation with the recognition that a student's interest in a job not requiring a degree, or a student's certainty about a major of study better served at another institution, would cause them to intend to leave (Bean 1982). Bean and Metzner further adapted the model for non-traditional students and published research in 1985 concerning the rise in non-traditional students—such as part-time students, older students, and commuters—and found that "nontraditional students [were] more affected by the external environment than by the social integration variables affecting traditional student attrition" (Bean & Metzner, 1985, p. 485). By the late '80s, Metzner and Bean revised the model even further and used it to investigate specific reasons non-traditional students were leaving a university. They found the two most significant variables to be related to academic performance (GPA and previous high school performance) and commitment to the institution, which involved things like enrolling for fewer credit hours or ongoing intent to leave. They offered a variety of approaches for retaining nontraditional students, such as entrance assessments and career or faculty counseling, in an attempt to increase the students' perceptions of the institution (Metzner & Bean, 1987).

Self-Assessment

Self-assessment was another highly cited topic in 1980s education research, with a literature review of the research on self-assessment among the top three most cited articles. According to Boud and Falchikov (1989), two publications laid the groundwork in this area. The first was an influential book, Freedom to Learn for the '80s (Rogers 1983), which analyzed "the nature and politics of the assessment process." The second publication was "Assessment Revisited" (Heron 1988), in Developing Student Autonomy in Learning, which discussed "the role of self-assessment in promoting student responsibility for learning" (Boud & Falchikov, 1989, p. 531). These works propelled interest in self-assessment research forward,

culminating in the 1989 literature review of self-assessment studies to that date, which sought to incorporate self-assessment research completed from the 1930s (Sumner, 1932) through the 1980s.

In 1986, an empirical study compared the grading of tutors (today, they would be called "teaching assistants") with a collaborative, peer-created self-assessment and found them to be similar and beneficial to students (Falchikov, 1986). This research also found that older students had less tendency to over-inflate their grades on the self-assessments.

By the end of the decade, two influential researchers had emerged whose work focused on self-assessment: Boud and Falchikov. Boud's publications on self-assessment during the 1980s especially showed a keen interest in the topic, with ten publications during the decade.

Three of Boud's publications or co-authored publications appeared in 1989, two of which ranked in the most cited of the decade. A theoretical article, "The Role of Self-Assessment in Student Grading" (1989), focused on the role of self-assessment in formal grading and encouraged its adoption in higher education. Based on evidence from previous research finding that students graded themselves as consistently as staff (Boud & Falchikov, 1989), the article recommended strategies for incorporating self-assessment: scheduled grading with marks moderated by staff, grading moderated by peers, weighting grades based only on the quality of the self-assessment, counting grades by students only after demonstrated competence in self-assessment, or implementing grade contracts (Boud, 1989).

A literature review (the first of its kind on self-assessment) and meta-analysis were also published the same year by the research team. The team's review of the literature found some inconclusive results but also identified a clear link between students' overall ability and capability of assessing themselves (Falchikov & Boud 1989). The researchers found students who lacked ability overall tended to

overassess themselves. The meta-analysis (Falchikov & Boud, 1989) evaluated important corresponding factors between instructor grading and student self-grading, including (a) the quality of the design study and the importance of having closer student-teacher correspondence; (b) the course level, with students in advanced courses appearing more accurate; and (c) the area of study, with science courses producing more accurate student self-assessors. Boud continued to publish extensively, and several other of his articles also made an impact by citation count in future decades.

Outliers

Many other topics appeared in the list of most cited articles, but unlike teacher effectiveness, attrition, and self-assessment, they were single-topic articles; no other articles of the same topic were as highly cited in the 1980s. These articles are discussed in chronological order. First, Fox's (1983) article focused on theories of teaching. His article was more a collection of observations than a research study or theoretical model development, but it attempted to categorize teachers' teaching theories, which Fox claimed influenced teaching style. Another article focused on knowledge creation (Eraut, 1985). In a preview of research in future decades, Eraut analyzed the connections between higher education and the employability of graduates. His research encouraged institutions to recognize the expertise based outside university systems and that students' ability to access that knowledge and create knowledge was a valuable skill for employment.

Other unique themes in 1980 were cheating, critical thinking, non-native English speakers, and study skills. One empirical study identified three factors as impactful to student cheating: immaturity, lack of commitment to academics, and a neutralizing attitude toward the practice of cheating (Haines et al., 1986). Another researcher used a literature review to discuss the possibilities of improved critical thinking by students attending a university (McMillan, 1987).

Other researchers highlighted faculty perceptions of the highest needs of non-native English speakers (Samuelowicz, 1987). In 1988, a three-part study evaluated effective ways to study and implement an accompanying study pack in a large open-enrollment math course (Vermunt & Van Rijswijk).

The final theme in the single-topic articles from 1980 was student ratings and student achievement. Feldman (1989), mentioned previously as the most cited researcher in the 1970s and 1980s, completed a meta-analysis using the same data and extending the previous work of Cohen (1980, 1981, 1987). Feldman found a good association between student achievement and perceptions of students' own learning and a modest connection between student achievement and the instructors' openness and encouragement of discussion. He found less correlation between student achievement and instructor impartiality and none between student achievement and course difficulty or workload.

Research in the 1980s increased the focus on students in the following ways: (a) engaging students, (b) understanding their experiences in learning and assessing themselves, (c) discussing students' perceptions of their instructors, and (d) recognizing their reasons for staying or leaving the university. These were all themes present in the most cited articles of succeeding decades.

The 1990s: Student-Centered Learning and Ethnicity, Race, and Power Structures

The 20 most cited articles from the 1990s built on themes from previous decades—improving the effectiveness of instructors, creating active instead of passive learning environments, addressing attrition rates, and discovering more about cheating on college campuses.

In addition to the established research trends, other emergent topics

appeared within the top 20 most cited articles, indicating a shift in research priorities within higher education. For the first time, the most cited articles of the decade included research on race and ethnicity from a critical theory perspective, and postmodern ideals began to receive representation, addressing issues of power structures within institutions of higher education.

Student-Centered Learning

One of the strongest themes throughout these highly cited articles in the 1990s was reshaping the student experience based on constructivist models of learning, where learners could be active participants in constructing their own knowledge based on previous experience. Researchers were interested in the shift from surface-level to deeper-level understanding when students were required to engage as active participants.

Changes in Teaching to Promote Constructive Learning

Research from this decade recognized the deficiencies of past models of learning, which were teacher-focused with an emphasis on information transmission. Biggs (2014) explained,

Until the nineties, teaching in universities was generally seen as a departmental responsibility, which in most cases devolved to the discretion of individual teachers to teach pretty much how and what they wanted to, in the name of 'academic freedom'. The result was a huge range in the quality of teaching and learning, from the irresponsibly bad to the individually excellent (pp. 9–10).

Research from this era called on teachers to replace former practices of information transmission with learning activities that allowed students to actively construct knowledge (Biggs, 1996; Trigwell et al., 1999).

The most cited article of the 1990s was a proposal for how to

integrate the well-established principles of constructivist learning with good instructional design (Biggs, 1996). Biggs noticed the divide between the espoused theories and actual theories-in-use of practicing teachers. He developed a theory, Constructivist Learning, to align principles of constructivism with the learning objectives, activities, and assessments that were actually happening in the classroom. The number of references to his work suggests the widespread recognition of the need to integrate theory and practical applications.

Many researchers found that when teachers replaced information transmission with a more interactive learning environment, students were better able to construct their own knowledge. Vermunt (1996) stated that education is "an active, self-directed, constructive process" (p. 48). He investigated whether learning activities actually led to learning and advocated for teachers to encourage students to discover meaning and application, instead of relying on reproduction. Boud and Walker (1998) argued that reflection activities were problematic "when combined with a teacher—rather than a learner—centered approach to education" (p. 193). They posited that reflective activities were only effective in classroom environments where students were invited to discover meaning and understanding rather than memorizing answers to regurgitate on a test. Trigwell et al. (1999) compared teachers' descriptions of their teaching with students' perceptions of their learning. Their interviews confirmed that students felt the teachers' instruction was better when it required active participation and deeper engagement with the material. Their perception was that merely transmitting information led to lower learning outcomes. The Trigwell et al. (1999) study demonstrates another instance of a theme of students viewing themselves more as consumers of their education and demanding higher quality learning from their teachers.

Ramsden (1991) noted that performance indicators in higher education measured faculty based on their research without assessing

the quality of their teaching. In response, he created a Course Experience Questionnaire (CEQ) where student evaluations could be used to measure the quality of teaching and give students a method to hold faculty accountable for the quality of their teaching. Harvey and Green's (1993) theoretical article concluded that improving the quality of education involved empowering students to evaluate their learning and the programs of the institution, to make selections about their learning, and to develop critical thinking skills.

Using Assessment to Facilitate Learning

Considering how assessments could be used to facilitate deeper learning was also important to researchers in the 1990s. Dochy et al. (1999) noted that the goal of testing had shifted significantly enough to merit using a different term: assessment. Since the purpose for assessments was no longer just as a measurement of the final grade, Dochy et al. argued for the integration of instruction with assessments to provide students with opportunities to learn more deeply. They recommended making assessments more true to life through "authentic tasks" and using assessments as "tool[s] for learning" (pp. 331–332).

Scouller (1998) also addressed the connection of assessment to learning by considering how students prepared for assessments. She required students in a course to take a multiple-choice test and write an assignment essay. After completing both assessments, students reflected on their experience, noticing that they used surface-level learning approaches for the multiple-choice test and deeper-level learning strategies in writing the assignment essay. The results suggested that the form of assessment can affect the way students learn the material.

Although Boud et al. (1999) researched the effects of peer collaboration on learning, they discovered that assessment choices could undermine students' willingness to fully engage in collaborative

work. The study concluded that "[a]ssessment exerts a backwash effect on learning" if it encourages surface-level regurgitation (pp. 418–419). Conversely, the authors suggested that when assessments are carefully selected, they can simultaneously move students toward more effective learning and encourage, rather than discourage, peer collaboration.

Influence of Peer Interactions on Learning, Retention, and Cheating

In addition to Boud et al. (1999), many researchers in the '90s studied how peer interaction impacted students' learning experiences. Topping (1996) found that the metacognitive work involved in students' ability to act as peer tutors led to a deeper understanding of the subject matter. Tinto's (1997) research also concluded that students' learning improved when classes were structured with social interactions in mind. Students placed in a Coordinated Studies Program with the same peer group worked together more collaboratively to construct knowledge, rather than relying solely on a teacher's instruction.

Tinto's 1997 study on peer collaboration led to additional research on the impact of student involvement on both learning and retention. Tinto (1998) discovered that when students became socially and academically involved in college, both learning and persistence improved. He found involvement was especially important during the first year of college since that was the year with the highest rates of attrition. In Astin's (1999) research on the power of student involvement, he developed a theory positing that "[t]he amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program" (p. 519). He found student–faculty involvement particularly influential, similar to Nagda et al.'s (1998) findings which confirmed early student–faculty involvement to have drastic influences on retention.

Interestingly, two articles focused on one specific form of student involvement: service. Bringle and Hatcher (1996) argued that universities were uniquely positioned to offer community service. Their research suggested a curricular model for expanding student service opportunities where universities offered courses with service assignments built into the curriculum. They argued that such courses would provide both a chance to get involved and a chance to learn through written or verbal reflections. Astin and Sax (1998) also studied the impact of service involvement on learning, concluding that participation in service "enhances the student's academic development, life skills development, and sense of civic responsibility" (p. 251). Although opponents argue that serving in the community will take time away from studies, Astin and Sax found a positive correlation between giving service and all 10 academic outcomes tested, including student persistence in completing degrees.

Unfortunately, research in the 1990s found that not all peer interactions strengthen learning outcomes, rather the opposite, that some peer interaction is connected with academic dishonesty. Whitley (1998) conducted a review of literature on cheating in higher education spanning 26 years from 1970–1996. His review of 107 articles revealed one factor correlated with cheating to be "perceiving that social norms support cheating" (p. 235). McCabe and Trevino (1997) also found that peer interactions influenced cheating. In their empirical study of students from nine universities, they discovered many factors that influenced whether undergraduate students would cheat, with peer disapproval being the strongest deterrent to cheating. Their findings suggested the need for students to be the driving force in creating a social environment on campus that supports academic honesty.

Ethnicity, Race, and Power Structures in Higher Education

Notably, only two articles of the 20 most cited in the 1990s dealt

directly with issues of diversity and inclusion in higher education (Hurtado et al., 1998; Nagda et al., 1998). Hurtado et al. (1998) provide the clearest example of critical theory research in the articles we reviewed, acknowledging that "[p]robably few policy areas of higher education have received more recent attention than the issue of race on campus" (p. 279). To give this statement context, they reviewed and summarized much of the literature through the framework of considering historical, structural, psychological, and behavioral climates of race in higher education institutions. Then, the authors made strong recommendations for actions that are needed in order to address the concerns that emerged from the research.

Improving higher education for minority students was also a focus in the study conducted by Nagda et al. (1998). In this study, Nagada et al. determined whether or not retention rates increased when students were integrated into strong communities of academic and social support. First- and second-year students were placed into research partnerships where they worked closely with faculty, had access to peer mentors, peer support groups, and faculty advisors and received other academic services. Although retention rates improved for all students who participated in the study, minority and at-risk students benefited the most from the intervention. Studies such as those conducted by Nagda et al. demonstrated an increased awareness of the need to make learning opportunities in higher education more equitable, particularly in terms of access for minority groups.

In addition to critical theory research, postmodern ideals, such as deconstructing the inequitable power structures of higher education, were woven into many of the highly cited articles from this decade. Lea and Street (1998) suggested that many of the traditional power structures of university settings posed challenges to students in developing academic writing skills. In researching challenges with writing, they considered three areas: students, student–tutor work, and institutions. They concluded that "all three . . . are located in

relations of power and authority" (p. 170), and the authors formulated an academic literacy framework to address the problems they saw.

While Lea and Street (1998) wrote about the need to deconstruct power overtly, power deconstruction was also an underlying theme in several other highly referenced articles. Ramsden (1991) advocated for students to have a greater voice in the university through assessing their instructors' performance. Boud et al. (1999) addressed the way assessments create an imbalance of power when they concluded that "[a]ssessment is the principle mechanism whereby staff exercise power and control over students'' (p. 418). And Boud and Walker (1998) encouraged teachers to carefully consider their use of reflective activities in classrooms because acquiring too much personal information may lead to a "misuse of power" (p. 195). Although this was the first time these research paradigms appeared in the top cited articles, they quickly became common features in higher education research.

As we continued to review the decades after the turn of the century, we found many of the well-established topics of the past being studied through critical theory and postmodern research. Other themes related to student-centered learning continued to evolve from the 1990s into the following decades.

The 2000s: Student Success, Internationalization, Teaching and Learning Practices, and Survey Response Bias

The top cited higher education research during the turn of the 21st century continued to discuss the strong themes of student support and success from previous decades. This is apparent through the abundance of literature focused on varying aspects of retention,

engagement, supporting feedback, and proper preparation of college students. Authors in this decade also revealed an emerging focus on the internationalization of education, including perceptions of discrimination toward international students. Researchers in this decade focused attention on effective teaching and learning practices, such as conceptual frameworks for teaching and learning, and the alignment of assessment with long-term learning. Similar to previous decades, authors addressed feedback conceptually and proposed it as a specific way to support college students. Additionally, the growing effects of widespread internet adoption influenced top publications of this decade with a new focus on the potential biases of online versus paper survey responses.

Student Success

At least half of the 20 most cited publications of the 2000s could be categorized by a focus on student success, with the most cited article on formative assessment and feedback leading the way. Nicol and Macfarlene-Dick (2006) proposed that formative assessment and feedback could be used as self-regulation tools and techniques to help students take control of their own learning, creating a proactive, rather than reactive, role in their success. Specifically, the authors proposed principles of good feedback practice with implications for teacher implementation and allowing for greater facilitation of student success.

A pronounced theme related to the idea of student success was student engagement. Several authors addressed various angles of this influence on student success, three of which focused specifically on the effect of student engagement on first-year college students. Kuh et al. (2008) found student engagement in educationally purposeful activities to have a positive relationship with grades in the first year and student persistence into the second year of college. Similarly, Carini et al. (2006) confirmed that engagement could support first-year college students and seniors in their academic achievement and

higher performance on critical thinking tests. Other researchers arrived at similar, positive findings and concluded that students with the lowest ability benefited the most from increased attention to engagement (Carini et al., 2006).

Kuh (2009), a repeat author in the category of student success, focused a literature review on the benefits of student engagement in educationally purposeful activities, specifically focusing on students coming from low-income or historically underserved backgrounds. Kuh found that engagement increased the odds that these students would achieve their academic goals. Krause and Coates's (2008) research provided a different but confirming perspective. They reported on calibrated scales of student engagement and considered implications for policy and pedagogy that could enhance the quality of the student experience.

Parallel to the research of student engagement, other top cited authors in this decade devoted efforts to the study of student success as related to student retention, students' perceptions of the learning environment, and the mentoring of college students. Tinto (2006) conducted an extensive literature review examining past and present research on student retention. He acknowledged the complex components that influenced student persistence and identified specific areas of future research and practice.

Lizzio et al. (2002) investigated the relationship between students' perceptions of their environments on their academic outcomes and success. The researchers analyzed responses from a large, cross-disciplinary sampling of college students according to "hard" (academic achievement) and "soft" (satisfaction and development of key skills) learning outcomes. Results indicated that students' perceptions of their current learning environment were an even stronger predictor of learning outcomes than their prior academic performance was.

Through an extensive, critical review of the literature spanning almost two decades, Crisp and Cruz (2009) made efforts to reframe and update definitions and characteristics of mentoring and presented theoretical perspectives on the effects of mentoring college students, specifically from the literature of business, psychology, and education.

Lastly, other researchers studied yet another component of student success: considerations for the success of students post-graduation. Bridgstock (2009) acknowledged that shifts in the education and labor markets of the time were placing increased pressure on universities to produce more employable graduates, even though there was no agreement on how employability was defined. In her highly cited article, Bridgstock proposed that more than skills, graduates needed to be able to proactively navigate the world of work and self-manage the career process. More specifically, in a combined literature review and four-year longitudinal study, Austin (2002) argued that graduates seeking to fill available faculty positions must demonstrate even more talent than their predecessors. She also identified reforms that would guide changes in education to better prepare students for the realities of the academic workplace.

Internationalization of Education

Research in the 2000s brought new insight into the internationalization of education. Altbach and Knight (2007) proposed that intentional efforts to stay aware of international initiatives and ensure quality are essential to the environment of international higher education. They also offered important and helpful clarification about the distinction between the meaning of globalization and internationalization of education, explaining that globalization is the context of the economic and academic trends of the century, while internationalization refers to the policies and practices of individuals and academic institutions that adapt to the global academic environment. This distinction offered an important lens through which to view the remaining top cited articles on the internationalization of

education.

Knight (2004) updated the conceptual frameworks of internationalization in light of the changing world of higher education, studying the meaning, definition, rationales, and approaches to internationalization from the perspective of the institutional level, a bottom-up view, where she argued the real process of internationalization takes place, and from the national/sector level, a top-down view encompassing policies, funding, and programs. Through this framework, she identified key questions and policy issues essential to the future direction of internationalization.

Deardorff (2006) recognized that a move toward internationalization increased the need for intercultural competence. Deardorff (2006) sought to define intercultural competence and determine an appropriate assessment with which to measure this competence as a student outcome of these efforts. She found that both intercultural scholars and administrators agreed that it was possible to assess cultural competence by degrees, and two models of intercultural competence were presented in the findings of her article.

Further top cited research of internationalization in the decade focused on the reality of national and global competition in higher education. Marginson (2006) noted that higher education, along with potential research performance, has been postulated as 'positional goods' that increase income earnings and social prestige. He noted a worldwide market of elite universities in the United States and United Kingdom and the reality that the English language dominates the research capacity. Marginson's work proposed the need for a more balanced distribution of capacity globally.

Finally, with the growth of education globalization and the increase of intermingling multicultural students, opportunities increased for either hospitality or unfair treatment towards international students. In a frequently cited article, Lee and Rice (2007) analyzed the

experiences of international university students at a Southwestern university in the United States. Based on the conceptual framework of neo-racism, the authors conducted interviews to explore the students' perceptions of discrimination. The researchers concluded that some of the challenging issues faced by international students were not just matters of adjustment, as much of the research had suggested, but they could also represent inadequacies within the host society.

Teaching and Learning Practices

Efforts to improve teaching and learning practices were also evident in varying forms in the top cited literature from 2000 to 2009. Researchers Meyer and Land (2005) addressed complex issues of threshold concepts within and across disciplines, with an effort to transform the internal view of subject matter. They sought to (a) examine these concepts within the personal understanding of discipline-specific discourses, (b) develop more extensive notions of boundaries and borders, and (c) provide a conceptual framework teachers could use to advance their own reflective practice.

Addressing very different aspects of teaching and learning practices, and similar to previous decades, researchers Boud and Falchikov (2006) examined the alignment of assessment with long-term learning. They discussed the kinds of practices needed to refocus the placement of assessment within higher education and explored the characteristics of assessment tasks that might be used to promote a more sustainable approach to helping students with future learning challenges.

Lastly, Carless (2006) contributed to the growing body of research from previous decades concerning perceptions in the feedback process. Carless argued that assessment dialogues were a way to potentially help resolve some of the issues of trust and misconception that at times may be unwanted outcomes in the feedback and assessment process.

Survey Response Bias

The 2000s also brought the emergence of widespread internet use. This change was manifest in the top educational journal articles through an interest in online- versus paper-survey response bias. Two articles by different authors addressed this topic from similar perspectives, through different methods. Nulty (2008) offered a review of online surveying in general, including a review of data and practical advice to help boost survey response rates. Additionally, Nulty offered recommendations to improve the effectiveness of this evaluation strategy. Similarly, Sax et al. (2003) addressed survey response bias. They collected and analyzed data from first-year college student surveys, which had been administered in four forms: paper-only, paper with web option, web-only with response incentive, and web-only without response incentive. Results indicated that the mode of administration had an effect on response rate.

In summary, the continued themes of student support and success, effective teaching and learning practices, and feedback continued in the 2000s from previous decades. The 2000s also brought an emerging focus on the internationalization of education and the growing interplay between technology and education. These themes persisted into the coming decade.

The 2010s: Economy, Student Experience, and Gender Equality

In the 2010s, new topics developed such as the influence of the economy and gender equality in education. Student experience continued to be a prevalent theme in this decade. Much of the research in this decade also responded to the economic, social, and educational challenges from the previous decade.

Economy

The economy played an increasing role in education research during the 2010s. "Between 2000 and 2018, total undergraduate enrollment in degree-granting postsecondary institutions increased by 26% (from 13.2 million to 16.6 million students)" (National Center for Education Statistics, 2021). This rapid increase was likely driven by a growing global and highly competitive knowledge-based economy requiring workers with postsecondary education and training. Barro and Lee (2013) argued that education is essential in a knowledge-based economy because it increases the ability of a workforce to carry out existing tasks more quickly and promotes the transfer of knowledge about new information, products, and technologies. Marginson (2016) stated, "this worldwide trend foreshadowed a world in which knowledge, skills, and personal agency would be much more widely distributed" (p. 414). Marginson's top cited research in the 2010s discussed the effects of high participation in tertiary education on social stratification and inequality. Recognizing the universal desire for social betterment is articulated through higher education systems, he argued that the quality of mass higher education could be problematic and there was a limit to the number of socially advantaged positions on offer. He claimed that higher education "can never bring every family what it seeks" (p. 415).

Consumerism

The global financial crisis of 2007–2008 was considered by many economists to have been the most serious financial crisis since the Great Depression (Williams, 2010). This event spotlighted the link between the economy and education and caused governments to expand higher education while at the same time reducing public expenditure and shifting more costs to students. Students, now paying more in tuition and fees, were viewed not just as students, but consumers of education. Students as consumers (SAC) viewpoints shifted power from providers to consumers, who, with more control

over expectations and the ability to evaluate services, expected higher standards and quality of service (Tomlinson, 2014). Universities have not historically regarded education as a product or service, so the SAC approach represented not only a political and financial shift in higher education but also a fundamental educational shift. Williams (2013) found that the SAC approach reinforced attitudes toward learning and inhibited students from taking responsibility for developing their own knowledge and skills. Researchers found that students who were personally responsible for paying their tuition fees (e.g., through a loan from student finance), as opposed to having their fees paid on their behalf (e.g., by a scholarship or employer), did express a higher consumer orientation, which, surprisingly equated to lower academic performance (Bunce et al., 2017).

Employability

The economic influence on higher education also increased policy makers' interest in higher education's ability to produce more measurable outcomes (Holmes, 2013), including graduate employability. Clark (2018) researched the trend of adopting skill-based learning outcomes in order to increase graduate outcomes. She developed a framework that incorporated six key dimensions—human capital, social capital, individual attributes, individual behaviors, perceived employability, and labor market factors—as a method of explaining graduate employability. Clark claimed that graduate employability remained underexplored and underdeveloped and that its complex nature had often been oversimplified.

Another top cited article approached employability by evaluating work-integrated learning (WIL) programs used to equip new graduates with the required skills to function effectively in the work environment. Jackson (2015) investigated best practices in the classroom and placement activities to both develop employability skills and identify factors impeding skill performance during WIL.

Pickering and Byrne (2014) discussed the employability of PhD candidates in terms of how they benefited from increased publication rates, emphasizing the importance of publishing early and often. The authors described a successful method used by PhD candidates and early career faculty to undertake and publish literature reviews.

Entrepreneurship

Also on the topic of economic influences, we saw a top cited article centered around entrepreneurship. Researchers and public policy makers widely recognized that entrepreneurship is an important driver of economic growth. Nowinski et al. (2019) found that entrepreneurship education does have a positive impact on the development of entrepreneurial intentions, particularly among females.

Student Experience

Student experience was a common theme throughout the research in this decade. Topics in this theme included engagement, feedback, cheating, and the use of technology. Researchers in this decade found understanding the student experience can influence policy and practice as well as improve student retention.

Engagement

Student engagement was found to be key to student achievement and retention in earlier decades (Krause & Coates, 2008). In the 2010s, Kahu (2013) found that other researchers had studied, theorized, and debated student engagement with growing evidence of its critical role in achievement and learning; it was even suggested later that the value of engagement is no longer questioned (Trowler & Trowler, 2020).

Kahu (2013) reviewed and critiqued the four dominant research perspectives on student engagement: the behavioral perspective, the

psychological perspective, the sociocultural perspective, and the holistic perspective, which takes a broader view of engagement. Kahu presented a conceptual framework attempting to overcome student engagement problems and frame future research to improve student outcomes. An expansion of her framework affirmed students' engagement is influenced by a combination of student factors and institutional factors. Continued research found there were psychosocial constructs that strongly influenced student outcomes such as academic self-efficacy, emotions, belonging, and well-being. She claimed "critical mechanisms [are needed] for mediating the interactions between student and institutional characteristics and student engagement and success" (Kahu & Nelson, 2018, p. 58).

Feedback

The most prominent theme within the 2010s' top cited articles was centered on the pedagogical practice of giving and receiving feedback. This trend was probably also influenced by the SAC approach as faculty were expected to be increasingly available to students and to respond more promptly to questions and concerns.

Giving students detailed feedback about the strengths and weaknesses of their work, with suggestions for improvement, is common practice in higher education. Building upon feedback research conducted in previous decades, this decade produced diverse approaches to the topic. Nicol (2010) worked with a goal of understanding the purpose of feedback and increasing its effectiveness, concluding his research with a call for wider changes in teaching and learning and in the pedagogical models underpinning feedback designs. Additional research completed by Nicol et al. (2014) consistently showed that students were less satisfied with feedback than with any other feature of their courses. Another highly cited article even went so far as to argue that feedback seems to have little or no impact, despite the considerable time and effort put into its production (Sadler, 2010). One qualitative investigation led

researchers to argue that effective feedback should lead to demonstrable improvements in student work and learning strategies (Dawson et al., 2019).

Other research findings from the 2010s proposed criteria for understanding and applying feedback. For students to be able to apply feedback, they need to understand the meaning of the feedback statements (Sadler, 2010). They also need to identify the particular aspects of their work that need attention. In order to identify those aspects, Sadler asserted that students must possess critical background knowledge.

Some of the feedback research presented possible suggestions for improvement to existing feedback models. Carless and Boud (2018) identified four interrelated features underpinning students' feedback literacy: appreciating feedback; making judgments; managing effect; and taking action. In addition, teachers were identified as playing important facilitating roles in promoting student feedback literacy through curriculum design, guidance, and coaching. Another article explored a model that positioned learners as having a key role in driving learning, enabling them to generate and solicit their own feedback. Boud and Molloy (2013) identified the design of the curriculum as an important means of encouraging students to operate as judges of their own learning. Researchers also identified learning benefits resulting from giving and receiving peer feedback (Nicol et al., 2014). Finally, researchers reviewed the skill of evaluative judgment to improve feedback, suggesting that the capability to make decisions about the quality of one's own and others' work should be a goal of higher education. Researchers argued that employing evaluative judgment within a discourse of pedagogy would enable students to improve their work and to meet future learning needs (Tai et al., 2018).

Technology

Research in the 2010s also discussed some of the ways in which technology continued to change the student experience. Interest in flipped classrooms grew exponentially after the introduction of the model in 2011. In the top cited article of this decade, researchers attempted to provide a catchall definition for the flipped classroom, while at the same time retrofitting it with a pedagogical rationale. Researchers found that despite the enthusiasm of the approach, well-designed, rigorous research on flipped classrooms was lacking, causing the researchers to construct a theoretical argument that flipped approaches might improve student motivation and help manage cognitive load. But, they also encouraged more specific types of research on the effectiveness of the flipped classroom approach (Abeysekera & Dawson, 2015).

Another technology-focused study explored the potential use of various digital technologies to enhance student learning. Henderson et al. (2017) attempted to show that digital technologies were central to the ways in which students experience their studies but also found that those technologies were not transforming the nature of university teaching and learning. They issued a call for university educators to temper enthusiasm for what might be achieved through technology-enabled learning and encouraged a better understanding of the realities of students' encounters with digital technology.

Cheating

In 2015, a series of reports by the Australian media suggested there was a potentially large and unaddressed problem of Australian university students outsourcing their assessments to third parties—a behavior termed "contract cheating" (Bretag et al., 2018). Researchers sought to explore students' experiences with, and attitudes towards, contract cheating and the contextual factors that may influence this behavior. Their findings suggested that to minimize

contract cheating, universities needed to support the development of teaching and learning environments that nurture strong student-teacher relationships, reduce opportunities to cheat through curriculum and assessment design, and address language and learning needs of students speaking a Language Other than English (LOTE) at home (Bretag et al., 2018).

Gender Equality

For the first time, research in the 2010s addressed topics within feminist research. One study attempted to determine how the gender of an instructor influenced student ratings. The researchers did not disclose the gender of the instructors in the study, so the instructors were able to teach an online course while operating under a different gender identity. The researchers discovered that students rated the male instructor significantly higher than the female instructor, regardless of the instructor's actual gender (MacNell et al., 2015). Researchers believed this information about gender biases could have a significant effect on academic career trajectories. Other research considered how gender influenced the amount of academic service performed by faculty. Using data from a large U.S. national survey and an online performance reporting system, researchers discovered evidence that on average female faculty performed significantly more academic service than male faculty (Guarino & Borden, 2017).

Our synthesis of this decade shows the prominence of teaching and learning research topics that were centered around improving the student experience. Of special note in this decade is the introduction of research showing how technology was changing the educational landscape in higher education. We were also surprised feminist scholarship in higher education research didn't emerge within the article database until this decade.

2020 and Beyond: Academic Research, Partnerships and the Economy of Education, Employability, Teaching and Learning Practices, and Online Learning

Beginning the decade, research in 2020 was directed at improving higher education practices. Some research focused on improving academic research itself, while other research focused on relational and pedagogical practices. Researchers examined how students and staff interact and what impact that has on students' education. Some articles discussed employability of graduated students, while other articles discussed the impact of online learning in college education. These themes from the research in the beginning of the 2020s provide insight into what the future of higher education research may look like throughout the rest of the decade.

Academic Research

A top cited journal article of 2020 was a review of academic research by Daenekindt and Huisman (2020), who mapped and synthesized research in the field of higher education from 1991 to 2018. By creating topic models, they identified themes taken from the abstracts of thousands of journal articles. Additionally, they studied how research topics have evolved over time, which research topics occur together, and they identified gaps in the literature. They expressed concern over the disintegration of the field due to the "isolated islands" of research topics found in their work.

Other top cited authors in 2020 also focused on the topic of academic research and similarly concluded with concerns about research in the higher education field. Horta and Santos (2020) claimed that certain policies and guidelines have robbed the field of collegiality and autonomy, which are both deemed necessary for quality research.

Additional studies on academic research noted and encouraged the need for greater rigor in using statistical methods like partial least squares and structural equation modeling to help avoid inaccuracies in future publications (Ghasemy et al., 2020). These articles show a reevaluation of current practices and a call for improvement in academic research.

Partnerships and the Economy of Education

Student–staff partnerships appeared as a new theme in the top cited articles of 2020. Researchers investigated various angles of this arrangement. Mercer-Mapstone (2020) proposed that student–staff relationships could help support institutional equity and diversity and foster unique experiences for both students and staff. On the contrary, Bovill (2020) argued that partnerships of small groups are generally only composed of super-engaged or privileged students and proposed instead a whole-class approach to partnership, adding that all could be co-creators in learning.

Other researchers studied the connection between partnerships and the economy of education. Gravett et al. (2020) were supportive of the concept of students as partners and went a step further to claim that these partnerships could help students become more than customers. Their research supported the theory, continued from previous decades, that education can be an economy. In a parallel way, even student evaluations can affect the economy of education, given the unintended economic consequences of their results. Esarey and Valdez (2020) acknowledged the scholarly quest for valid student evaluations and the need for accuracy. They concluded that the relationship between student evaluations and instructor quality is imprecise and that multiple, even imperfect, measures will produce more fair results.

Tight (2020b) also alluded to this knowledge-based economy as he presented research on an entirely different topic: student retention

and engagement in higher education. Tight concluded that the concept of student engagement has now taken over student retention in importance. He argued that this is because of the shift of financial responsibility of higher education from the state to the student. Therefore, the concern and responsibility of student retention and engagement have shifted from the student to the educational institution. Barbera et al. (2020) also acknowledged that decades of effort have sought to identify predictors of student retention and graduation, but historically important indicators should also include newer considerations of nontraditional students and online programs. The success of those students greatly influences the educational economy.

Employability

Employability, connected to the concept of a knowledge-based economy, is a theme that continued from previous decades into 2020. Universities can have altruistic or economic interests in producing students who possess the needed skills for success in the workplace. Top cited authors Succi and Canovi (2020) found that companies value soft skills more than students and graduates do, and the researchers urged companies and educational institutions to work together to build awareness and student responsibility in acquiring and developing more soft skills. Römgens et al. (2020) researched the need to integrate approaches to employability, conceptual frameworks, and definitions. Another top cited article evaluated employability of international students returning to their own countries, specifically, Vietnamese students who had studied in Australia (Pham & Saito, 2020). Buckner and Stein (2020) also addressed aspects of education and internationalization with research efforts that identified elements of global inequality, certain ethical responsibilities, and possibilities to help.

Teaching and Learning Practices

The top cited articles of 2020 also added to the long-studied theme of teaching and learning. These topics included feedback, collaborative learning, and assessment. Molloy et al. (2020) addressed the notion of students being active participants and using feedback for their own learning. Molloy et al. encouraged a concept of feedback literacy and put more emphasis on the learners' perspective and role when receiving feedback. Their work connected with Li et al.'s (2020) work, which found that peer assessment promoted student learning and had a positive effect on student performance. Similarly, Meijer et al. (2020) researched the assessment of collaborative learning, including intra-group assessment.

Online Learning

Much of the top cited literature of 2020 reflected the adoption of online learning and its accompanying challenges. Sharma et al. (2020) addressed the level of student engagement for online learning success, showing that frequency and duration of engagement have a significant impact on grades. Thongsri et al. (2020) researched computer self-efficacy for e-learning adoption and found greater scores of self-efficacy, perceived ease of use, and intention for e-learning in STEM as opposed to non-STEM students. Other issues embedded in online learning included concerns of cheating (Chirumamilla et al., 2020) and oral examinations as an acceptable online assessment tool (Akimov & Malin, 2020).

In summary, the research of 2020 continued themes from previous decades such as the economy of education, the employability of students, internationalization, teaching and learning practices, and the influence of technology in online learning trends. However, with the educational impacts from the COVID-19 pandemic, research trends may make an abrupt shift. We anticipate both continued research on the themes discussed above and research on new themes

in response to the events of 2020 as the decade progresses.

Synthesis of 50 Years: Findings, Trends, and Implications

Researchers as early as 1972 (Trow) attempted to survey the higher education field holistically and to define common topics or themes found in the research literature. Trow focused on access to the university and traced the shift from only elite access, to mass education, and on to universal access, while other researchers since that time have attempted to categorize more general themes of higher education. Altbach (1985), Teichler (1996), and Hayden and Parry (1997) all grouped research topics based on trends. The two most comprehensive bibliographic studies of higher education literature were published recently (Daenekindt & Huisman, 2020; Tight, 2020c). Daenekindt and Huisman's top cited review mapped the field of higher education research from 1991 to 2018, categorizing themes into four broad categories, while Tight settled on eight major themes in the literature.

Findings

While many researchers have documented the trends of higher education research by focusing on output (the number of publications), our purpose was to measure the impact of publications by outcome (number of citations). We find this research significant because, as Diem and Wolter (2013) have concluded, "citations actually denote a research outcome, namely the impact of the published research papers on other people's research" (p. 88). Because our review has only focused on the trends which emerged in the highest impact articles (outcome), we find it insightful to compare these trends with those found in output reviews, specifically Tight's research, since we have found it to be the most comprehensive in terms of time and scope (2020c). Table 1 provides a topical

comparison between the 120 articles we reviewed and the eight themes identified by Tight. Course design on assessment and course design on outcomes appeared consistently in the top 20 articles of each decade, suggesting a broad and ongoing interest in assessments and learning outcomes across the decades we reviewed.

Table 1

Number of Top Cited Articles Categorized Using Tight's (2020c) Research

Category	Number of articles
Course Design	**61**
Assessment	23
Outcomes	25
Quality	17
Teaching & Learning	14

In addition to highlighting the most represented themes, our comparison also illuminated the underrepresented trends in highly cited articles. Tight's themes of academic work, defined as "research on the roles of those who work in the academe" and knowledge, defined as "research on academic disciplines and the research process," were rarely represented in the high impact journal articles we reviewed (2018, p. 2). Only four articles focused on academic work, and only seven articles focused on knowledge.

Evolution of Trends

By studying 50 years of the most influential articles, we are able to document not only which trends existed in higher education research but also the evolution and emergence of those trends. The highly cited articles we reviewed provide evidence for a change in thinking about the broader trends over time.

Student engagement is a trend in higher education research that evolved significantly over the past 50 years. In the early decades we reviewed, the literature focused primarily on solving the problem of attrition. Early on, researchers looked for empirical evidence about how to improve retention, but by the 1990s, they were publishing extensively about increasing student retention through academic and social involvement. Findings in these studies solidified ideas of involvement—increasingly referred to as engagement—as having a significant impact on more than just retention. Learning outcomes and an improved student experience were some of the byproducts that researchers connected with engagement. In a further expansion of this trend, Tight (2020b) recently stated that future research on the topic of student engagement needed to seek an understanding of the complete student experience instead of narrowly focusing on engagement.

A second example of an evolving trend was the shifting role of instructors within higher education. In the early decades we reviewed, the research focused on moving instructors away from a behaviorist teaching model where information transmission and student regurgitation were the goals (Biggs, 1979; Biggs, 1989; Dahlgren & Marton, 1978; Fry & Kolb, 1979; Laurillard, 1979; Marton & Svensson, 1979). Researchers produced evidence of more effective teaching strategies based on constructivist models, including students as active participants in discovering and creating knowledge (Biggs, 1996; Boud & Walker, 1998; Trigwell et al., 1999; Vermunt, 1996). Studies showed how peer tutoring and collaborative learning experiences produced more student-centered classrooms (Tinto, 1997; Topping, 1996). And in more recent decades, the research has shown a need for professors to reexamine the way they conduct assessments and provide feedback (Boud & Falchikov, 2006; Boud & Molloy, 2013; Carless, 2006; Carless & Boud, 2018; Dawson et al., 2019; Nicol & Macfarlene-Dick, 2006; Nicol, 2010; Nicol et al., 2014; Sadler, 2010; Tai et al., 2018). Finally, the most current research has reconceptualized the role of instructors and emphasized the

teacher–student partnership in teaching and learning (Bovill, 2020; Mercer-Mapstone, 2020).

A keyword analysis of the 50 years of articles we reviewed confirms this increasing attention on the student-centered approach. In the 1970s and 1980s, "education" was the top keyword in the literature we reviewed, and "student" was second on the list (see Figure 3). By the 1990s, "education" and "student" had equal representation. From there, "student" continued to climb, widening the gap in each succeeding decade. Interestingly, as "student" increased, the word "faculty" steadily declined.

Figure 3

Patterns of Top Keywords in Article Titles by Decade
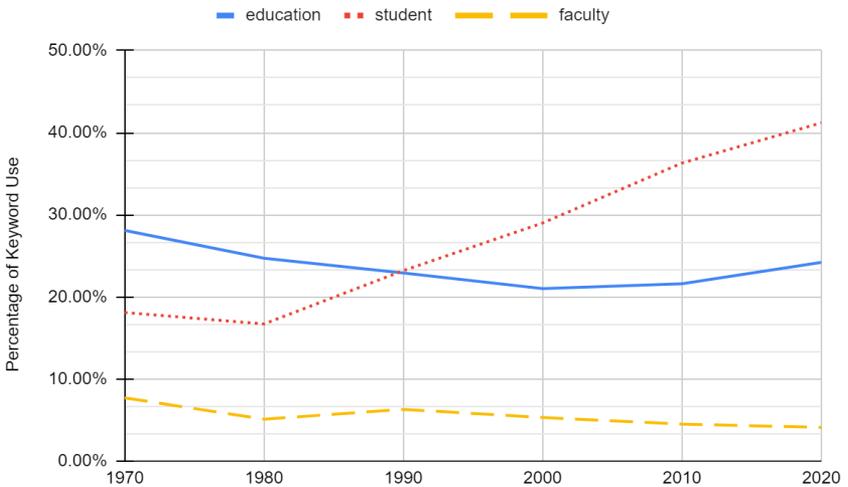
A very similar pattern occurred when we examined the words "teach" and "learn" in connection with their usage over the decades (see Figure 4). Articles in the 1970s and 1980s used the word "teach" with

greater frequency than the term "learn." By the 1990s, the two terms were used with equal frequency but from there, "learn" overtook "teach" in frequency, with the spread increasing in each subsequent decade.

Figure 4

Patterns of Top Keywords in Articles by Decade
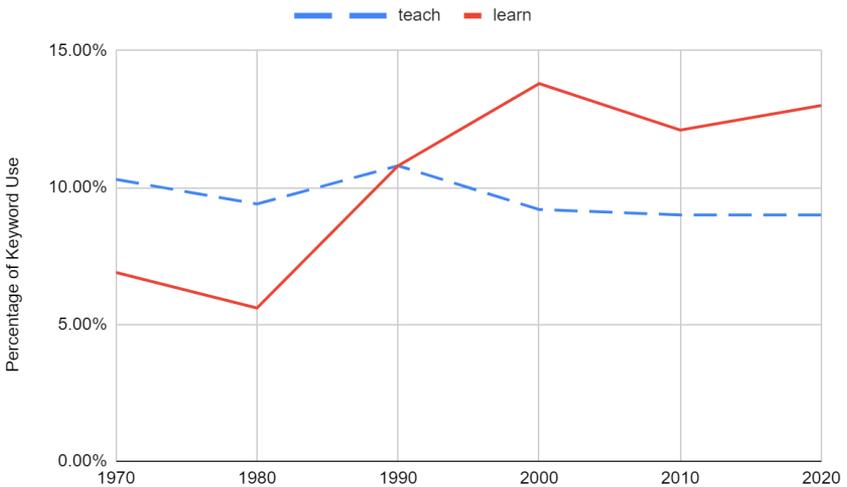
Emergence of Trends

In addition to providing insights into how trends have evolved, this study also demonstrates how some newer trends have emerged over the past 50 years. One clear example of an emerging trend has been the internationalization of education. In a bibliometric analysis of 20 years of international comparative studies, Kosmützky and Krücken (2014) documented the growth of international research from the 1990s through the present. One driving force behind the growth was "the establishment of new journals explicitly devoted to international

higher education from the mid-1990s onwards" (p. 469). The new journals, coupled with a growing interest in globalization and international education, provided fertile ground for new research. While we rarely saw the theme of internationalization in the early decades we reviewed, the theme emerged prominently in the 2000s with five articles addressing the internationalization of education (Altbach & Knight, 2007; Deardorff, 2006; Knight, 2004; Lee & Rice, 2007; Marginson, 2006). Jing et al. (2020) confirmed this trend with their comprehensive study of over 100 years of research on international students in higher education; they found that the research has expanded significantly from 2006 to the present.

A second emergent trend we found in our analysis was the growth of research from different paradigmatic perspectives, particularly critical theory, postmodernism, and feminism. Despite a growing awareness of the need for critical theory to be applied to education in the 1970s, there was a lapse in time before researchers began to publish from this paradigm's perspective. The Association for Educational Communications and Technology (AECT) Handbook noted this trend in higher education research concluding that "[t]hough relatively few educators . . . appear to concern themselves directly with critical theory (McLaren, 1994a), a number of influential educators are pursuing the theory" (AECT, 2001, para. 1).

We identified this lapse by comparing the most cited articles of the 1970s and 1980s with articles of the 1990s. It was not until the 1990s that critical theory research appeared in the most cited articles. While this is not an indication of an absence of earlier critical theory research, the high number of citations speaks to the paradigm's growing interest and impact among researchers and practitioners in the 1990s and forward. Similarly, in the 1990s we found the first postmodern research study within our data set (Lea & Street, 1998). The impact of critical theory and postmodern research continued to increase as evidenced by highly cited articles in the 2000s and 2010s (Carini et al., 2006; Kuh, 2009; Lee & Rice, 2007; Marginson, 2006;

Buckner & Stein, 2020; Marginson, 2016). Surprisingly, even though women were well represented as authors of the most cited articles, and feminist research and perspectives were developing, research with a feminist perspective did not appear in the top 20 articles until the 2010s (Guarino & Borden, 2017; MacNell et al., 2015; Nowinski et al., 2019).

Implications

Across the 50 years of higher education research, we noted a shift away from the assumption that teaching equates to learning. The articles that had the biggest impact on the field of higher education came from researchers who were responding to the need to make learning student-centered and were attempting to measure how the best learning happens. These types of research may have been reactions to the ideals of behaviorism that were prevalent in education prior to the 1970s. Behaviorism assumed a reflexive response to learning; as long as something went in, it would also come out. It was in the 1960s that Lev Vygotsky's work on the sociocultural, constructive nature of knowledge was introduced to the English-speaking world. The increasing realization of the complexity of learning underscores the research of these 50 years. Most of the highly impactful research responded to questions about how to help students learn deeply, how to make sure that learning is engaging so students persist in finishing their degrees, and ultimately how to ensure that earning a degree equates to marketability in a global economy. Specifically, we noticed researchers in the 1980s attempted to align teaching practices with the best student learning methods (Biggs, 1989; Biggs, 1996; Cohen, 1980; Feldman, 1988). Many studies in the 1990s showed the need to replace teaching practices that encouraged surface-level learning with deep-learning experiences (Boud & Walker, 1998; Boud et al., 1999; Dochy et al., 1999; Scouller, 1998; Topping, 1996; Trigwell et al., 1999; Vermunt, 1996). Research across several decades showed the importance of student engagement in creating student-centered learning environments (Astin, 1999;

Astin & Sax, 1998; Carini et al., 2006; Kahu, 2013; Kahu & Nelson, 2018; Krause & Coates, 2008; Kuh, 2009; Kuh et al., 2008; Nagda et al., 1998; Tinto, 1998; Trowler & Trowler, 2020). Most recently, studies also viewed student-centered learning from a broad perspective regarding the relevance of education in terms of employability and usefulness in the global market (Barro & Lee, 2013; Clark, 2018; Holmes, 2013; Jackson, 2015; Marginson, 2016; Nowinski et al., 2019; Pickering & Byrne, 2014).

These research trends illuminate the way student-centered learning has become the central focus of higher education. Over the decades, keyword counts showed a shift from the terms "teach" and "education" in early decades to the terms "learn" and "student" in later decades, as evidence of the increasingly student-centered approaches to learning we saw throughout the most cited articles. As students have had to shoulder the growing financial responsibility of acquiring higher education degrees, they have sought more power to ensure the quality of their education. Themes focused on student ratings, assessments, and feedback may be related to students' growing demands to have formal education produce economic benefits worthy of the cost. Similarly, we do not find it surprising that 50% of the most cited articles focused on assessment and learning outcomes (both immediate and long-term outcomes) because these categories provide a means of measuring learning improvement efforts.

Limitations and Suggestions for Further Research

As we reviewed the highly cited articles from each decade, we noticed several authors whose work consistently received high citation counts. When we referenced additional articles published by these authors, we found some of their other highly cited work was published in journals that are not specific to higher education research. The bibliometric analysis in our study guided the selection of journals that would be included in each subdiscipline's dataset (see the Appendix

for a complete list of journals). It was evident as we analyzed the articles from each decade that one limitation of our study is that there may be other highly cited works that were not included because the journal was not a part of our dataset.

One potential area of further research would be to study how citation counts have changed over the decades and to determine what those changes mean in terms of the impact. As we compared decades and articles, we noticed the total number of citations for the most cited articles was higher in the earlier decades than the total number of citations in more recent decades. We feel it would be helpful to understand why citation counts were lower in recent years despite the overall exponential growth within higher education publications. Are journal articles receiving fewer citations because of the increasing number of publications each year? Are other sources of knowledge, such as whitepapers, conferences, internet articles, or listservs, replacing journal articles as primary influences for research ideas? Do these recent journal articles with a smaller number of citations also have a smaller impact on the broader field? Answers to these questions would be helpful in building on the findings of this study.

Conclusion

While there is still disagreement about whether higher education research qualifies as a discipline or as a multidisciplinary research field (Tight 2020a), interest in higher education as an area worthy of research and study has grown significantly in the last 50 years. In reviewing the most highly cited articles of each decade, we were able to identify the themes and trends that made the biggest impact in higher education research over the past 50 years. Themes that centered on students and learning—such as effective teaching, retention, engagement, assessment, feedback, and employability—were the most common among the high-impact articles we analyzed. Our findings suggest that the field of higher education has moved away from a teacher-centered approach to a student-

centered focus where deep, applied learning is the goal.

References

Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: Definition, rationale and a call for research. Higher Education Research & Development, 34(1), 1–14. https://edtechbooks.org/-ghd

AECT. (2001, August 3). Critical theory and education. The Handbook of Research for Educational Communications and Technology. https://edtechbooks.org/-cKt

Akimov, A., & Malin, M. (2020). When old becomes new: A case study of oral examination as an online assessment tool. Assessment & Evaluation in Higher Education, 45(8), 1205–1221. https://doi.org/10.1080/02602938.2020.1730301

Altbach, P. G. (1985). Perspectives on Comparative Higher Education: A Survey of Research and Literature. ICED Occasional Paper Number 16. https://www.semanticscholar.org/paper/Perspectives-on-Comparative-Higher-Education%3A-A-of-Altbach/5bfdcdd606e18b911c04b0d61eaf9eee32141c6a

Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. Journal of Studies in International Education, 11(3-4), 290–305. https://edtechbooks.org/-yds

Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialization to the academic career. The Journal of Higher Education, 73(1), 94–122. https://edtechbooks.org/-AmIY

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. Journal of College Student Development, 40(5), 518–529. https://psycnet.apa.org/record/1999-01418-006

Astin, A. W., & Sax, L. J. (1998). How undergraduates are affected by service participation. Journal of College Student Development, 39(3), 251–263. https://psycnet.apa.org/record/1998-02675-002

Barbera, S. A., Berkshire, S. D., Boronat, C. B., & Kennedy, M. H. (2020). Review of undergraduate student retention and graduation since 2010: Patterns, predictions, and recommendations for 2020. Journal of College Student Retention: Research, Theory & Practice, 22(2), 227–250. https://edtechbooks.org/-VCD

Barro, R. J., & Lee, J. W. (2013). A new data set of educational attainment in the world, 1950–2010. Journal of Development Economics, 104, 184–198. https://doi.org/10.1016/j.jdeveco.2012.10.001

Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. Research in Higher Education, 12(2), 155–187. https://doi.org/10.1007/BF00976194

Bean, J. P. (1982). Student attrition, intentions, and confidence: Interaction effects in a path model. Research in Higher Education, 17(4), 291–320. https://doi.org/10.1007/BF00977899

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. Review of Educational Research, 55(4), 485–540. https://doi.org/10.3102/00346543055004485

Berg, B., & Östergren, B. (1979). Innovation processes in higher education. Studies in Higher Education, 4(2), 261–268. https://edtechbooks.org/-HgKe

Biggs, J. (1979). Individual differences in study processes and the quality of learning outcomes. Higher Education, 8(4), 381–394. https://edtechbooks.org/-INA

Biggs, J. (1989). Approaches to the enhancement of tertiary teaching. Higher Education Research And Development, 8(1), 7–25. https://doi.org/10.1080/0729436890080102

Biggs, J. (1996). Enhancing teaching through constructive alignment. Higher Education, 32(3), 347–364. https://doi.org/10.1007/BF00138871

Biggs, J. (2014). Constructive alignment in university teaching. HERDSA Review of Higher Education, 1, 5–22. www.herdsa.org.au/herdsa-review-higher-education-vol-1/5-22

Boud, D. (1989). The role of self-assessment in student grading. Assessment in Higher Education, 14(1), 20–30. https://doi.org/10.1080/0260293890140103

Boud, D., Cohen, R., & Sampson, J. (1999). Peer learning and assessment. Assessment & Evaluation in Higher Education, 24(4), 413–426. https://edtechbooks.org/-Moz

Boud, D., & Falchikov, N. (1989). Quantitative studies of student self-assessment in higher education: A critical analysis of findings. Higher education, 18(5), 529–549. https://doi.org/10.1007/BF00138746

Boud, D., & Falchikov, N. (2006). Aligning assessment with long-term learning. Assessment & Evaluation in Higher Education, 31(4), 399–413. https://edtechbooks.org/-ACs

Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: The challenge of design. Assessment and Evaluation in Higher Education, 38(6), 698–712.

https://doi.org/10.1080/02602938.2012.691462

Boud, D., & Walker, D. (1998). Promoting reflection in professional courses: The challenge of context. Studies in Higher Education, 23(2), 191–206. https://doi.org/10.1080/03075079812331380384

Bovill, C. (2020). Co-creation in learning and teaching: The case for a whole-class approach in higher education. Higher Education, 79(6), 1023–1037. https://edtechbooks.org/-CqEf

Bretag, T., Harper, R., Burton, M., Ellis, C., Newton, P., Rozenberg, P., Saddiqui, S., van Haeringen, K. (2018). Contract cheating: A survey of Australian university students. Studies in Higher Education, 44(11), 1837–1856. https://doi.org/10.1080/03075079.2018.1462788

Bridgstock, R. (2009). The graduate attributes we've overlooked: Enhancing graduate employability through career management skills. Higher Education Research & Development, 28(1), 31–44. https://edtechbooks.org/-DDxQ

Bringle, R., & Hatcher, J. (1996). Implementing service learning in higher education. The Journal of Higher Education, 67(2), 221–239. https://doi.org/10.1080/00221546.1996.11780257

Buckner, E., & Stein, S. (2020). What counts as internationalization? Deconstructing the internationalization imperative. Journal of Studies in International Education, 24(2), 151–166. https://edtechbooks.org/-UTac

Budd, J. M. (1988). A bibliometric analysis of higher education literature. Research in Higher Education, 28(2), 180–190. https://doi.org/10.1007/BF00992890

Bunce, L., Baird, A. & Jones, S. (2017). The student-as-consumer approach in higher education and its effects on academic

performance. Studies in Higher Education, 42 (11), 1958–1978. https://edtechbooks.org/-DKxJ

Card, D. & Lemieux, T. (2001). Going to college to avoid the draft: The unintended legacy of the Vietnam war. The American Economic Review, 91(2), 97–102. https://edtechbooks.org/-ggk

Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. Research in Higher Education, 47(1), 1–32. https://edtechbooks.org/-VEki

Carless, D. (2006). Differing perceptions in the feedback process. Studies in Higher Education, 31(2), 219–233. https://edtechbooks.org/-HUVN

Carless, D., & Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. Assessment and Evaluation in Higher Education, 43(8), 1315–1325. https://doi.org/10.1080/02602938.2018.1463354

Chirumamilla, A., Sindre, G., & Nguyen-Duc, A. (2020). Cheating in e-exams and paper exams: the perceptions of engineering students and teachers in Norway. Assessment & Evaluation in Higher Education, 45(7), 940–957. https://edtechbooks.org/-qzsz

Clarke, M. (2018). Rethinking graduate employability: The role of capital, individual attributes and context. Studies in Higher Education, 43(11), 1923–1937. https://doi.org/10.1080/03075079.2017.1294152

Cohen, P. A. (1980). A meta-analysis of the relationship between student ratings of instruction and student achievement. [Unpublished doctoral dissertation]. University of Michigan.

Cohen, P. A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multisection validity studies.

Review of Educational Research, 51(3): 281–309.
https://doi.org/10.2307/1170209

Cohen, P. A. (1987). A critical analysis and reanalysis of the
multisection validity meta-analysis. [Paper presentation].
American Educational Research Association Annual Meeting.
Washington, DC, United States.

Crisp, G., & Cruz, I. (2009). Mentoring college students: A critical
review of the literature between 1990 and 2007. Research in
Higher Education, 50(6), 525–545. https://edtechbooks.org/-NQL

Daenekindt, S., & Huisman, J. (2020). Mapping the scattered field of
research on higher education. A correlated topic model of 17,000
articles, 1991–2018. Higher Education, 80, 571–587.
https://edtechbooks.org/-fiLg

Dahlgren, L. O., & Marton, F. (1978). Students' conceptions of subject
matter: An aspect of learning and teaching in higher education.
Studies in Higher Education, 3(1), 25–35.
https://doi.org/10.1080/03075077812331376316

Dawson, P., Henderson, M., Mahoney, P., Phillips, M., Ryan, T., Boud,
D., & Molloy, E. (2019). What makes for effective feedback: Staff
and student perspectives. Assessment & Evaluation in Higher
Education, 44(1), 25–36. https://edtechbooks.org/-UmT10.1080/02602938.2018.1467877

Deardorff, D. K. (2006). Identification and assessment of intercultural
competence as a student outcome of internationalization. Journal
of Studies in International Education, 10(3), 241–266.
https://edtechbooks.org/-Lzx

Demetriou, C. & Schmitz-Sciborski, A. (2011). Integration, motivation,
strengths and optimism: Retention theories past, present and
future. In R. Hayes (Ed.), Proceedings of the 7th National

Symposium on Student Retention, 2011, Charleston. Norman, OK, United States. https://edtechbooks.org/-zDKa

Diem, A., & Wolter, S. C. (2013). The use of bibliometrics to measure research performance in education sciences. Research in Higher Education, 54(1), 86–114. https://doi.org/10.1007/s11162-012-9264-5

Dochy, F., Segers, M., & Sluijsmans, D. (1999). The use of self-, peer and co-assessment in higher education: A review. Studies in Higher Education, 24(3), 331–350. https://edtechbooks.org/-KUCc

Elton, L. R. B., & Laurillard, D. M. (1979). Trends in research on student learning. Studies in Higher Education, 4(1), 87–102. https://edtechbooks.org/-rzTR

Entwistle, N., Hanley, M., & Hounsell, D. (1979). Identifying distinctive approaches to studying. Higher Education, 8(4), 365–380. https://edtechbooks.org/-gcp

Eraut, M. (1985). Knowledge creation and knowledge use in professional contexts. Studies in Higher Education, 10(2), 117–133. https://edtechbooks.org/-pPth

Esarey, J., & Valdes, N. (2020). Unbiased, reliable, and valid student evaluations can still be unfair. Assessment & Evaluation in Higher Education, 45(8), 1106–1120. https://doi.org/10.1080/02602938.2020.1724875

Falchikov, N. (1986). Product comparisons and process benefits of collaborative peer group and self assessments. Assessment and Evaluation in Higher Education, 11(2), 146–166. https://doi.org/10.1080/0260293860110206

Falchikov, N., & Boud, D. (1989). Student self-assessment in higher education: A meta-analysis. Review of Educational Research,

59(4), 395–430. https://doi.org/10.3102%2F00346543059004395

Feldman, K. A. (1976a). Grades and college students' evaluations of their courses and teachers. Research in Higher Education, 4(1), 69–111. https://doi.org/10.1007/BF00991462

Feldman, K. A. (1976b). The superior college teacher from the students' view. Research in Higher Education, 5(3), 243–288. https://doi.org/10.1007/BF00991967

Feldman, K. A. (1977). Consistency and variability among college students in rating their teachers and courses: A review and analysis. Research in Higher Education, 6(3), 223–274. https://doi.org/10.1007/BF00991288

Feldman, K. A. (1978). Course characteristics and college students' ratings of their teachers: What we know and what we don't. Research in Higher Education, 9(3), 199–242. https://doi.org/10.1007/BF00976997

Feldman, K. A. (1979). The significance of circumstances for college students' ratings of their teachers and courses. Research in Higher Education, 10(2), 149–172. https://doi.org/10.1007/BF00976227

Feldman, K. A. (1987). Research productivity and scholarly accomplishment of college teachers as related to their instructional effectiveness: A review and exploration. Research In Higher Education, 26(3), 227–298. https://doi.org/10.1007/BF00992241

Feldman, K. A. (1988). Effective college teaching from the students' and faculty's view: Matched or mismatched priorities? Research in Higher Education, 28(4), 291–329. https://doi.org/10.1007/BF01006402

Feldman, K. A. (1989). The association between student ratings of specific instructional dimensions and student achievement: Refining and extending the synthesis of data from multi-section validity studies. Research in Higher Education, 30(6), 583–645. https://doi.org/10.1007/BF00992392

Fox, D. (1983). Personal theories of teaching. Studies in Higher Education, 8(2), 151–163. https://doi.org/10.1080/03075078312331379014

Frackman, E. (1997). Research on higher education in Western Europe: From policy advice to self-reflection, in J. Sadlak and P. Altbach (Eds.). Higher Education Research at the Turn of the New Century: Structures, Issues and Trends. UNESCO.

Frey, P. W. (1978). A two-dimensional analysis of student ratings of instruction. Research in Higher Education, 9(1), 69–91. https://edtechbooks.org/-ICp

Fry, R., & Kolb, D. (1979). Experiential learning theory and learning experiences in liberal arts education. New Directions for Experiential Learning, 6, 79–92. https://edtechbooks.org/-yGK

Gaff, J. G. (1999). General education: The changing agenda. (The Academy in Transition). Association of American Colleges and Universities. https://files.eric.ed.gov/fulltext/ED430438.pdf

Ghasemy, M., Teeroovengadum, V., Becker, J. M., & Ringle, C. M. (2020). This fast car can move faster: A review of PLS-SEM application in higher education research. Higher Education, 80(6), 1121–1152. https://edtechbooks.org/-dzTv

Goldschmid, B., & Goldschmid, M. L. (1976). Peer teaching in higher education: A review. Higher Education, 5(1), 9–33. https://doi.org/10.1007/BF01677204

Gravett, K., Kinchin, I. M., & Winstone, N. E. (2020). 'More than customers': Conceptions of students as partners held by students, staff, and institutional leaders. Studies in Higher Education, 45(12), 2574–2587. https://doi.org/10.1080/03075079.2019.1623769

Guarino, C. M., & Borden, V. M. (2017). Faculty service loads and gender: Are women taking care of the academic family? Research in Higher Education, 58(6), 672–694. https://doi.org/10.1007/s11162-017-9454-2

Haines, V. J., Diekhoff, G. M., LaBeff, E. E., & Clark, R. E. (1986). College cheating: Immaturity, lack of commitment, and the neutralizing attitude. Research in Higher Education, 25(4), 342–354. https://doi.org/10.1007/BF00992130

Harvey, L., & Green, D. (1993). Defining quality. Assessment & Evaluation in Higher Education, 18(1), 9–34. https://edtechbooks.org/-nCm

Hayden, M., & Parry, S. (1997). Research on higher education in Australia and New Zealand, in J. Sadlak and P. Altbach (Eds.). Higher Education Research at the Turn of the New Century: Structures, Issues and Trends. UNESCO.

Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of 'useful' digital technology in university teaching and learning. Studies in Higher Education, 42(8), 1567–1579. https://doi.org/10.1080/03075079.2015.1007946

Heron, J. (1988) Assessment revisited, in D. J. Boud (Ed.) Developing Student Autonomy in Learning, (2nd ed., pp. 77–90). Kogan Page.

Holmes, L. (2013). Competing perspectives on graduate employability: Possession, position or process? Studies in Higher Education, 38(4), 538–554. https://doi.org/10.1080/03075079.2011.587140

Horta, H., & Santos, J. M. (2020). Organisational factors and academic research agendas: An analysis of academics in the social sciences. Studies in Higher Education, 45(12), 2382–2397. https://doi.org/10.1080/03075079.2019.1612351

Hurtado, S., Clayton-Pedersen, A. R., Allen, W. R., & Milem, J. F. (1998). Enhancing campus climates for racial/ethnic diversity: Educational policy and practice. The Review of Higher Education, 21(3), 279–302. https://edtechbooks.org/-VDp

Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. Studies in Higher Education, 40(2), 350–367. https://doi.org/10.1080/03075079.2013.842221

Jing, X., Ghosh, R., Sun, Z., & Liu, O. (2020). Mapping global research related to international students: A scientometric review. Higher Education, 80. 415–433. https://edtechbooks.org/-EHE10.1007/s10734-019-00489-y

Kahu, E. R. (2013). Framing student engagement in higher education. Studies in Higher Education, 38(5), 758–773. https://edtechbooks.org/-RzW

Kahu, E. R., & Nelson, K. (2018). Student engagement in the educational interface: Understanding the mechanisms of student success. Higher Education Research & Development, 37(1), 58–71. https://edtechbooks.org/-jtmu

Knight, J. (2004). Internationalization remodeled: Definition, approaches, and rationales. Journal of Studies In International Education, 8(1), 5–31. https://edtechbooks.org/-FDcQ

Kosmützky, A. & Krücken, G. (2014). Growth or steady state? A bibliometric focus on international comparative higher education research. Higher Education, 67(4). 457–472. https://edtechbooks.org/-fzZv

Krause, K. L., & Coates, H. (2008). Students' engagement in first-year university. Assessment & Evaluation in Higher Education, 33(5), 493–505. https://edtechbooks.org/-mvP

Kuh, G. D. (2009). What student affairs professionals need to know about student engagement. Journal of College Student Development, 50(6), 683–706. https://edtechbooks.org/-ZRE

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. The Journal of Higher Education, 79(5), 540–563. https://doi.org/10.1353/jhe.0.0019

Laurillard, D. (1979). The processes of student learning. Higher Education, 8(4), 395–409. https://doi.org/10.1007/BF01680527

Lea, M., & Street, B. (1998). Student writing in higher education: An academic literacies approach. Studies in Higher Education, 23(2), 157–172. https://doi.org/10.1080/03075079812331380364

Lee, J. J., & Rice, C. (2007). Welcome to America? International student perceptions of discrimination. Higher Education, 53(3), 381–409. https://edtechbooks.org/-cvVH

Lewis, K. G. (1996) Faculty development in the United States: A brief history. International Journal for Academic Development, 1(2), 26–33. https://edtechbooks.org/-ntWT

Li, H., Xiong, Y., Hunter, C. V., Guo, X., & Tywoniw, R. (2020). Does peer assessment promote student learning? A meta-analysis. Assessment & Evaluation in Higher Education, 45(2), 193–211. https://doi.org/10.1080/02602938.2019.1620679

Lizzio, A., Wilson, K., & Simons, R. (2002). University students' perceptions of the learning environment and academic outcomes: Implications for theory and practice. Studies in Higher Education,

27(1), 27–52. https://edtechbooks.org/-wBq

MacNell, L., Driscoll, A., & Hunt, A. N. (2015). What's in a name: Exposing gender bias in student ratings of teaching. Innovative Higher Education, 40(4), 291–303. https://doi.org/10.1007/s10755-014-9313-4

Marginson, S. (2006). Dynamics of national and global competition in higher education. Higher Education, 52(1), 1–39. https://edtechbooks.org/-Kffu

Marginson, S. (2016). High Participation Systems of Higher Education. The Journal of Higher Education, 87(2), 243–271. https://doi.org/10.1353/jhe.2016.0007

Marton, F., & Svensson, L. (1979). Conceptions of research in student learning. Higher Education, 8(4), 471–486. https://doi.org/10.1007/BF01680537

McCabe, D., & Trevino, L. (1997). Individual and contextual influences on academic dishonesty: A multicampus investigation. Research in Higher Education, 38(3), 379–396. https://doi.org/10.1023/A:1024954224675

McLaren, P., (1994). Life in schools: An introduction to critical pedagogy in the foundations of education. Longman.

McMillan, J. H. (1987). Enhancing college students' critical thinking: A review of studies. Research in Higher Education, 26(1), 3–29. https://doi.org/10.1007/BF00991931

Meijer, H., Hoekstra, R., Brouwer, J., & Strijbos, J. W. (2020). Unfolding collaborative learning assessment literacy: A reflection on current assessment methods in higher education. Assessment & Evaluation in Higher Education, 45(8), 1222–1240. https://doi.org/10.1080/02602938.2020.1729696

Mercer-Mapstone, L., & Bovill, C. (2020). Equity and diversity in institutional approaches to student–staff partnership schemes in higher education. Studies in Higher Education, 45(12), 2541–2557. https://doi.org/10.1080/03075079.2019.1620721

Metzner, B. S., & Bean, J. P. (1987). The estimation of a conceptual model of nontraditional undergraduate student attrition. Research in Higher Education, 27(1), 15–38. https://doi.org/10.1007/BF00992303

Meyer, J. H. F., & Land, R. (2005). Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. Higher Education, 49(3), 373–388. https://doi.org/10.1007/s10734-004-6779-5

Molloy, E., Boud, D., & Henderson, M. (2020). Developing a learning-centred framework for feedback literacy. Assessment & Evaluation in Higher Education, 45(4), 527–540. https://doi.org/10.1080/02602938.2019.1667955

Nagda, B. A., Gregerman, S. R., Jonides, J., von Hippel, W., & Lerner, J. S. (1998). Undergraduate student-faculty research partnerships affect student retention. The Review of Higher Education, 22(1), 55–72. https://doi.org/10.1353/rhe.1998.0016

Neave, G. (1979). Academic drift: Some views from Europe. Studies in Higher Education, 4(2), 143–159. https://doi.org/10.1080/03075077912331376927

Nicol, D. (2010). From monologue to dialogue: Improving written feedback processes in mass higher education. Assessment & Evaluation in Higher Education, 35(5), 501–517. https://edtechbooks.org/-NHVo10.1080/02602931003786559

Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and

self-regulated learning: A model and seven principles of good feedback practice. Studies in Higher Education, 31(2), 199–218. https://edtechbooks.org/-xBbg

Nicol, D., Thomson, A., & Breslin, C. (2014). Rethinking feedback practices in higher education: A peer review perspective. Assessment & Evaluation in Higher Education, 39(1), 102–122. https://edtechbooks.org/-iBEH10.1080/02602938.2013.795518

Nowiński, W., Haddoud, M. Y., Lančarič, D., Egerová, D., & Czeglédi, C. (2019). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries. Studies in Higher Education, 44(2), 361–379, https://doi.org/10.1080/03075079.2017.1365359

Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? Assessment & Evaluation in Higher Education, 33(3), 301–314. https://edtechbooks.org/-FwJR

Pham, T., & Saito, E. (2020). Career development of returnees: Experienced constraints and navigating strategies of returnees in Vietnam. Journal of Further and Higher Education, 44(8), 1052–1064. https://doi.org/10.1080/0309877X.2019.1647333

Pickering, C., & Byrne, J. (2014). The benefits of publishing systematic quantitative literature reviews for PhD candidates and other early-career researchers. Higher Education Research & Development, 33(3), 534–548. https://edtechbooks.org/-WABg

Powell, R. W. (1977). Grades, learning, and student evaluation of instruction. Research in Higher Education, 7(3), 193–205. https://doi.org/10.1007/BF00991986

Ramsden, P. (1979). Student learning and perceptions of the academic environment. Higher Education, 8(4), 411–427.

https://doi.org/10.1007/BF01680529

Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The course experience questionnaire. Studies in Higher Education, 16(2), 129–150. https://edtechbooks.org/-pver

Rogers, C. R. (1983). Freedom to learn for the '80s. Charles E. Merrill Publishing Company.

Römgens, I., Scoupe, R., & Beausaert, S. (2020). Unraveling the concept of employability, bringing together research on employability in higher education and the workplace. Studies in Higher Education, 45(12), 2588–2603. https://doi.org/10.1080/03075079.2019.1623770

Sadler, D. R. (2010) Beyond feedback: Developing student capability in complex appraisal, Assessment & Evaluation in Higher Education, 35(5) 535–550, https://doi.org/10.1080/02602930903541015

Säljö, R. (1979). Learning about learning. Higher Education, 8(4), 443–451. https://doi.org/10.1007/BF01680533

Samuelowicz, K. (1987). Learning problems of overseas students: Two sides of a story. Higher Education Research and Development, 6(2), 121–133. https://doi.org/10.1080/0729436870060204

Sass, E. (2021). American educational history: A hypertext timeline. https://edtechbooks.org/-uCDf

Sax, L. J., Gilmartin, S. K., & Bryant, A. N. (2003). Assessing response rates and nonresponse bias in web and paper surveys. Research in Higher Education, 44(4), 409–432. https://edtechbooks.org/-BMss

Scouller, K. (1998). The influence of assessment method on students' learning approaches: Multiple choice question examination versus assignment essay. Higher Education, 35, 453–472. https://doi.org/10.1023/A:1003196224280

Sharma, B., Nand, R., Naseem, M., & Reddy, E. V. (2020). Effectiveness of online presence in a blended higher learning environment in the Pacific. Studies in Higher Education, 45(8), 1547–1565. https://doi.org/10.1080/03075079.2019.1602756

Succi, C., & Canovi, M. (2020). Soft skills to enhance graduate employability: Comparing students and employers' perceptions. Studies in Higher Education, 45(9), 1834–1847. https://doi.org/10.1080/03075079.2019.1585420

Sumner, F. C. (1932) Marks as estimated by students, Education, 32, 429.

Tai, J., Ajjawi, R., Boud, D., Dawson, P., & Panadero, E. (2018).Developing evaluative judgment: Enabling students to make decisions about the quality of work. Higher Education 76(3), 467–81. https://doi.org/10.1007/s10734-017-0220-3

Teichler, U. (1996) Comparative higher education: Potentials and limits. Higher Education, 32, 431–465. https://doi.org/10.1007/BF00133257

Terenzini, P. T., & Pascarella, E. T. (1977). Voluntary freshman attrition and patterns of social and academic integration in a university: A test of a conceptual model. Research in Higher Education, 6(1), 25–43. https://doi.org/10.1007/BF00992014

Terenzini, P. T., & Pascarella, E. T. (1978). The relation of students' precollege characteristics and freshman year experience to voluntary attrition. Research in Higher Education, 9(4), 347–366. https://doi.org/10.1007/BF00991406

Thongsri, N., Shen, L., & Bao, Y. (2020). Investigating academic major differences in perception of computer self-efficacy and intention toward e-learning adoption in China. Innovations in Education and Teaching International, 57(5), 577–589. https://doi.org/10.1080/14703297.2019.1585904

Tight, M. (2018). Higher education research: The developing field. Bloomsbury Publishing.

Tight, M. (2020a). Higher education: Discipline or field of study? Tertiary Education and Management, 26, 415–428. https://doi.org/10.1007/s11233-020-09060-2

Tight, M. (2020b). Student retention and engagement in higher education. Journal of Further and Higher Education, 44(5), 689–704. https://edtechbooks.org/-GWtM

Tight, M. (2020c). Syntheses of higher education research: What we know. Bloomsbury Publishing.

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. The Journal of Higher Education, 68(6), 599–623. https://doi.org/10.2307/2959965

Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. The Review of Higher Education, 21(2), 167–177. https://edtechbooks.org/-rTSV.

Tinto, V. (2006). Research and practice of student retention: What next? Journal of College Student Retention: Research, Theory & Practice, 8(1), 1–19. https://edtechbooks.org/-tsb

To, W. M., & Yu, B. T. (2020). Rise in higher education researchers and academic publications. Emerald Open Research, 2, 3. https://edtechbooks.org/-izSU

Tomlinson, M. (2014). Exploring the impact of policy changes on students' attitudes and approaches to learning in higher education. Higher Education Academy. https://edtechbooks.org/-XYeK

Topping, K. (1996). The effectiveness of peer tutoring in further and higher education: A typology and review of the literature. Higher Education, 32(3), 321–345. http://doi.org/10.1007/BF00138870

Trigwell, K., Prosser, M., & Waterhouse, F. (1999). Relations between teachers' approaches to teaching and students' approaches to learning. Higher Education, 37, 57–70. https://doi.org/10.1023/A:1003548313194

Trow, M. (1972). The expansion and transformation of higher education. International Review of Education, 18(1), 61–84. https://doi.org/10.1007/BF01450272

Trowler, V. and Trowler, P. (2010) Student engagement evidence summary. Higher Education Academy. https://edtechbooks.org/-tMX

National Center for Education Statistics. (2021). Undergraduate enrollment. The Condition of Education 2020. https://nces.ed.gov/programs/coe/pdf/coe_cha.pdf

Vermunt, J. (1996). Metacognitive, cognitive and affective aspects of learning styles and strategies: A phenomenographic analysis. Higher Education, 31(1), 25–50. http://doi.org/10.1007/BF00129106

Vermunt, J. D., & Van Rijswijk, F. A. (1988). Analysis and development of students' skill in self regulated learning. Higher Education, 17(6), 647–682. https://doi.org/10.1007/BF00143780

Watson, C.E. (2019) Faculty development's evolution: It's time for

investment in higher education's greatest resource. Peer Review, 21(4). https://www.aacu.org/peerreview/2019/fall/Watson

Whitley, B. (1998). Factors associated with cheating among college students: A review. Research in Higher Education, 39(3), 235–274. http://doi.org/10.1023/A:1018724900565

Williams, J. (2013). Consuming higher education: Why learning can't be bought. Bloomsbury. https://doi.org/10.5040/9781472552839

Williams, M. (2010). Uncontrolled risk: Lessons of Lehman Brothers and how systemic risk can still bring down the world financial system. McGraw-Hill Education.

Franklin, M., Chan, J., Gardner, K., Measom, E., Sandberg, B., Irvine, J., & Kimmons, R. (2021). Higher Education: A History of Research Trends from 1970 to 2020. In R. Kimmons & J. Irvine (Eds.), *50 Years of Education Research Trends*. EdTech Books. https://edtechbooks.org/50_years/higher_education