**Disintegrating Business Degree Curricula by
Skipping Prerequisite Courses**

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**ABSTRACT**

Prerequisite skipping, often overlooked in business degree programs, is a lack of fidelity to the business curriculum’s structure that potentially harms students’ learning. We discuss this problem in terms of cognitive learning theory and make a case for a broader understanding of prerequisites’ function and value in exposing both disciplinary content and context. We then describe the various malpractice elements and antecedents that may combine to disintegrate the business curriculum through excessive prerequisite skipping. We discuss the negative impact of this curricular disintegration from a stakeholder perspective and conclude with recommendations for practice and future research.

**Disintegrating Business Degree Curricula by SKIPPING Prerequisite COURSEs**

 Collegiate business colleges, schools, and departments face pressures (e.g., enrollment growth and retention, research relevance, “student as customer” influences, and fundraising; Fragueiro & Thomas, 2011; Gioia & Corley, 2002; Kopp & Rosetti, 2015; Kowarski, 2017; Zell, 2005) and distractions (e.g., breakthrough initiatives, external stakeholder demands, commoditization of business education, and technology upgrades; Alakavuklar, Dickson, & Stablein, 2017; Fragueiro & Thomas, 2011) that can decrease focus on educational fundamentals. Such fundamentals include developing business students’ critical thinking skills, improving students’ functional literacy and numeracy, and imposing rigor in the classroom and in students’ graded deliverables. Curricular matters also constitute an educational fundamental that can become a problem if ignored, especially since curriculum and associated course offerings affect and are affected by so many other important aspects of business schools’ functioning, such as staffing, class scheduling (especially demand-based scheduling), student advising, program assessment, co-curricular guest lectures, and student recruitment (Kopp & Rosetti, 2015). Losing focus on educational fundamentals like curriculum management is not merely some picayune vagary of collegiate business education; it goes to educational quality and to the academic stewardship business schools owe stakeholders, especially business students.

 Our focus herein is particularly on curricular integrity, a soundness of the business degree curriculum residing in both complete content and uncorrupted structure, including sequencing (Gagné & Dick, 1983; Hanna, Perdue, & Waller, 2015), of the prescribed set of courses. Any search through business education journals for articles about business curriculum reveals relatively heavy attention paid to curriculum’s content, but relatively little attention paid to curriculum’s structure or sequencing. We suspect this reflects the same foci of attention among business deans, chairpersons, degree program directors, and faculty in typical curriculum development, maintenance, and execution. accordingly, a business curriculum’s intended structure and sequencing, as reflected in initial design, may not be the enacted structure and sequencing if unchecked malpractices weaken curricular integrity.

 A particularly problematic way in which any business degree curriculum’s structure may be compromised is when business students skip prerequisite courses and take the associated higher-level courses out of sequence, usually returning later in their degree pursuits to take the prerequisite course(s) and sometimes taking the prerequisite at the same time as the associated upper-level course. A prerequisite course typically serves to impart fundamental knowledge of, skills in, and familiarity with an academic topic or subject that enable subsequent success in higher-level, potentially more difficult courses in that subject (Terry, de La Harpe, & Kontur, 2016). Universities and colleges typically define a prerequisite course as a course that must be completed before some related (sometimes called “dependent”) higher-level course in order to ensure the student’s subsequent success in that higher-level course. Thus, prerequisite skipping is a lack of fidelity to the business curriculum’s structure that potentially harms students’ learning, which we discuss below in terms of cognitive learning theory, particularly as it relates to students’ schemata development. We then describe the various malpractice elements and antecedents that may combine to disintegrate the business curriculum through excessive prerequisite violations. We discuss the negative impact of this curricular disintegration on stakeholders in business education and conclude with recommendations for practice and future research.

**Prerequisites and Cognitive Learning Theory**

Cognitive learning theories and related instructional frameworks such as constructivism, hierarchical learning (Gagné & Briggs, 1979), elaboration theory of instruction (Reigeluth, 1979, 1992), and information-processing learning models (Gagné, & Dick, 1983), and associated concepts such as sequencing, epitome, and schema, all support the notion of requiring business students to complete certain prerequisite courses before taking dependent upper-level courses. For instance, constructivist learning theory holds that people actively construct, or form, meaning and new knowledge by building on their prior knowledge and making sense of new experiences and information, especially as they relate to any prior understanding the people have (Doolittle & Camp, 1999; Mayer, 1996). This process of selecting, coherently organizing, and combining new and old knowledge to construct an integrated and modified understanding can result in new schema formation and elaboration of existing schemata (Gagné & Dick, 1983; Fry, Ketteridge, & Marshall, 2009). A schema is a cognitive structure, preconception, or mental model that reflects the person’s knowledge about a stimulus (object, event, person, activity, situation, etc.) or concept. The schema includes details about the concept’s features and attributes, including ways in which those attributes relate to one another. Thus, schemata aid in retrieving information from long-term memory and, when encountered with problems for which schematic information is relevant, in problem solving (Donald, 1987; Fiske, 1995; Sargent, 2013).

 Terry et al. (2016) recently drew on these constructivist and schema concepts to explain why college students who performed better in prerequisite math and science courses tended to learn more and to perform better in a subsequent, higher-level science course than students who performed less well in the prerequisite courses. Terry et al. reasoned that the poorly prepared students’ math and science schemata were deficient and, lacking some fundamental knowledge, the students were unable to build new knowledge as well as they needed to in the higher-level course. Their reasoning reflects Doolittle and Camp’s (1999) assertion that a person’s prior knowledge is the starting point for all learning (cf. Fry et al., 2009).

**Developing Business Students’ Schemata**

 These notions are particularly relevant when we consider the role prerequisite courses have in establishing a business student’s basic schemata for various academic subjects such as economics, finance, business statistics, accounting, management principles, and marketing principles. Business students who skip prerequisites in these areas may or may not pass the higher-level course, but their schemata for these topics will certainly be less developed and less coherent than those of business students who do not skip the prerequisites. The students who do not skip prerequisites instead come to the higher-level course with certain knowledge structures already available for selective combination with new information and experiences encountered in the upper-level course. Prerequisite courses typically expose business students to the vocabulary and basic concepts of a discipline or topic, which Donald (1987) identified as a crucial initial element in a nascent knowledge base. Accordingly, the business student who, for example, skipped the prerequisite course in management principles and entered the higher-level course in human resource management (HRM) may be confused when “span of control” (a term and concept covered in the prerequisite course) is used in the HRM course’s discussions of job analysis and performance management.

 This idea of a nascent, basic schema is somewhat analogous to what elaboration theory calls the epitome, or a simplified view of a subject or discipline that presents key concepts, procedures, or principles in basic, general terms (Reigeluth, 1979, 1992). It is the epitome that is first established and then elaborated upon in elaboration theory, and prerequisite business courses may present disciplinary epitomes. Furthermore, elaboration theory expressly acknowledges that prerequisites are important to topic and course sequencing, even in cases of small, narrow parts of the curriculum with only a few interrelated courses (Reigeluth, 1979). Likewise, sequencing is central to hierarchical learning (essentially an information-processing take on learning) wherein prerequisites repeatedly dictate the ordering of courses and instruction since the approach requires prerequisite subordinate (less complex) intellectual skills and concepts be mastered prior to learning superordinate (more complex) intellectual skills and concepts (Maton, 2009). Sequencing ensures prerequisite knowledge is invoked prior to presenting new material so the learner can establish a point of reference in the prerequisite knowledge that aids assimilating the new information into an existing schema (Gagné & Briggs, 1979; Gagné & Dick, 1983; Posner & Strike, 1976).

**A Broader View of Prerequisites**

 The key role that schemata play in enabling subsequent knowledge construction leads us to suggest that most business school professors’ and administrators’ conceptions of prerequisite courses are too narrow. When a university’s website describes a prerequisite course only in terms of promoting success in a higher-level dependent course, it may signal that direct, technical, and close content match between the two courses is solely what justifies the prerequisite and, absent significant content match, the prerequisite is bogus and ought to be skipped. We hold, however, that prerequisite courses also have a kind of more general, contextualizing and professionalizing effect on business students, one that includes gaining functional literacy and numeracy specifically in business due to repeated practice of skills and exposure to concepts, aiding addition of new skills and complexity in advanced courses, and so on (Sargent, 2013). That is, *the schemata being developed involve more than just course content*. They also involve students’ making sense of how so much of business involves dealing with numbers, why business ethics introduced in a sophomore-level course comes up repeatedly in practically every course in the major, why businesses emphasize customer satisfaction and profitability, how employee quality can make or break a firm, why spreadsheet usage is so ubiquitous in business, why strategic planning affects every functional area of a business, why so many business classes involve student teamwork, and so forth.

 Even if a business sophomore is not majoring in accounting, the business core curriculum’s accounting requirement contributes to making that student think, talk, and act like a person formally educated in general business. Even if the junior-level corporate finance course in the business core curriculum involves only a small amount of statistics calculation and use, the typical prerequisite requirement of a business statistics course improves the student’s functional numeracy in a way that can generalize to math challenges in the higher-level finance course. This holds even within majors in the case of junior-level prerequisites to senior-level courses. For instance, few would argue that a junior-level, prerequisite course in supply chain management (SCM) principles is irrelevant to a senior-level, SCM-major course in transportation systems, materials purchasing, or operations planning, even though the content match between the prior, broad-and-shallow course and the subsequent, narrow-and-deep course may be small.

 Thus, even if capable students who lack the prerequisite learning *can* pass an upper-level course by demonstrating some first-order learning, they still *should* be required to follow the prerequisite sequence for the sake of their deeper, contextualized development as emerging business professionals, as well as their second-order meta-learning (Sterling, 2010) within their major’s discipline. Meta-learning goes beyond first-order content mastery, or mere “learning about things” (Sterling, 2010, p. 22), enabling students to examine critically their assumptions and beliefs about their chosen discipline and, in some cases, to change those assumptions and beliefs. Such second-order learning seems much less likely if students have not been sequentially immersed in courses that first lay a content foundation, followed by higher-level courses that subsume and build on the foundation in an integrated manner (Payne, Flynn, & Whitfield, 2008). As Ainsworth and Plumlee (1993) observed in the case of accounting curriculum sequencing, this goes to the difference between students who skipped the prerequisite merely memorizing their way through the upper-level course and students who did not skip the prerequisite being able to make meaningful connections among the various accounting and management concepts the course presents (cf. Sargent, 2013).

**A “PERFECT STORM” OF EDUCATIONAL MALPRACTICE**The Association of American Colleges (AAC) more than 30 years ago identified a problem with college curriculum integrity, bemoaning, as Stark and Lattuca (1997) translated it, “a collapse of structure in the curriculum caused by uncontrolled indulgence of individual faculty and student choices” (p. 87). The AAC (1985) put it more bluntly, saying, “as for what passes as a college curriculum, almost anything goes….The curriculum has given way to a marketplace philosophy….It is as if no one cared, so long as the store stays open” (pp. 2-3). The AAC especially highlighted curricular sequencing and related integrity in follow-on work, specifically noting the need for courses’ sequences and interrelations to result in students’ coherent understanding of disciplines (Stark & Lattuca, 1997). Applying the lessons of cognitive learning theory described above, we see that skipping prerequisite courses militates against this coherence and essentially disintegrates the business curriculum. Enforcing the business curriculum’s prerequisites and prescribed course sequencing, on the other hand, promotes student success and guards curricular integrity.

Most past research on prerequisite courses and course sequencing in business curricula validates this. For instance, Ainsworth and Plumlee (1993) reported how course sequencing according to increasing sophistication of content informed not only course ordering, but also content and pedagogy for each course in an accounting curriculum. Baard and Watts (2008) reported on several studies supporting prerequisites for advanced accounting, finance, and economics courses, and found in their own study that finance principles students who had taken the prerequisite statistics course fared significantly better in finance principles than did those students who skipped the prerequisite statistics course (cf. Blaylock & Lacewell, 2008). Similarly, Hanna et al. (2015) found that requiring an intermediate finance course as a prerequisite (in addition to the typical introductory finance prerequisite course) was linked to significantly better performance in an upper-level investments course. This advantage held even when students incorrectly treated the intermediate finance course as a co-requisite and took it in the same semester as the upper-level investments course. McMillan-Capehart and Adeyemi-Bello (2008) found that master of business administration (MBA) students who took a prerequisite comparative management course performed better in a higher-level organizational behavior course than did MBA students who skipped the prerequisite.

Certainly, a minority proportion of prior research does suggest that completing prerequisite business courses does not predict better performance in subsequent, dependent courses. For instance, Christensen, Nance, and White (2012) found that completing prerequisite courses in business statistics, economics, and marketing predicted higher MBA grade point average, whereas completing prerequisites in accounting, finance, and management did not. Jones, Kouliavtsev, and Ethridge (2013) found that performance in prerequisite introductory principles courses did not predict better grades in four largely quantitative (economics, statistics, and accounting), intermediate-level business courses. Such findings are the exception, not the rule, and do not invalidate our expanded view of prerequisite courses’ beneficial impact on meta-learning and schematic complexity. Also, like Jones et al. (2013), most studies of this type involved situations in which prerequisites were not skipped, whereas our focus is on prerequisite skipping.

 If the preponderance of prior research commends prerequisite courses, why do some business schools struggle to enforce curricular sequencing, allowing the malpractice of skipping prerequisites to continue? Documented and anecdotal evidence points to several factors, any of which can exist simultaneously, combining and interacting to create an unfortunate convergence of effects—a “perfect storm” of educational malpractice—that can result in surprisingly high incidence of prerequisite skipping. These factors include business students’ motivations and choices, computerized registration system deficiencies, business curriculum design and administration problems (e.g., unnecessary prerequisites and lack of clear ways to petition for waiving prerequisites), advisers’ negligence, and business faculty and administrators’ ignorance or motivations. We briefly discuss each of these factors below and label them in Figure 1, not to suggest formal proposition or model development at this point, but simply to alert the reader to featured variables.

**Students Contribute to Malpractice**

 Business students, like most college students, simply may not understand the full importance of prerequisites (Brown, 2000; Bruning, 2007). They may view prescribed course sequencing as an annoyance to be avoided for the sake of graduating as soon as possible. They also may not contemplate that failing higher-level courses for which they were unprepared due to skipping prerequisites may slow their progress as much as or more than taking prerequisites when required (Baard & Watts, 2008). Students may be especially likely to skip prerequisites when they are scheduling their classes to fit their job schedules instead of in accordance with the curriculum’s design (an increasing likelihood given the strong majority of college students who work part-time and full-time jobs; Carnevale, Smith, Melton, & Price, 2015). In such cases, the students are choosing their paid work over their education’s quality. Students’ financial and family circumstances certainly may make this seem necessary to them.
 This temptation to skip prerequisites may be especially prevalent among business students who are working adults, transfer from another institution, or change majors from a non-business major to business. Students who are working adults and who also insist on undertaking a residential degree program may

**FIGURE 1**

**FACTORS INFLUENCING PREPREQUISITE SKIPPING AND
STAKEHOLDERS AFFECTED BY THE MALPRACTICE**

**PREREQUISITE SKIPPING**

Alumni

Administrators

Faculty & administrators

Advisers

Parent institution

Curriculum administration

Employers

Curriculum design

**Factors influencing the malpractice** **Stakeholders affected by the malpractice**

Faculty

Registration system

Business students

Business students

attempt to schedule their classes solely according to scheduling convenience (e.g., pursuing class offerings only in the evenings, after they are off work) instead of according to a recommended academic plan or sequence that reflects the curriculum as designed. Such an approach may work if their residential degree program either is exclusively an evening program or is blessed with considerable resources that permit staffing a given course in multiple offerings across the clock, in the same term. Most universities and colleges lack such redundant resources and, at least at the undergraduate program level, most residential degree programs do not operate exclusively at night. Thus, the students’ approach to their coursework frequently results in their requests to take evening classes for advanced courses for which they have not yet satisfied prerequisite courses.

 Transfer students may lack certain prerequisite courses in their history at their prior institutions (Sargent, 2013), but may nonetheless request advanced courses because (a) their current institution does not offer a given prerequisite course every term (more likely in smaller schools of business), (b) the students procrastinate in pursuing transfer credit for prior courses taken, and (c) the students do not want to fall behind in their degree program progress while waiting to take the prerequisite course. Students who change their majors to a business major often face the same issues. Students who transfer or change majors often have unrealistic expectations as to what prior courses will count toward their business degree and, relatedly, unrealistic expectations of still graduating “on time.” In such cases, they may be more motivated to skip prerequisites or to try to take the prerequisite and dependent course simultaneously as if they were co-requisites.

**Computerized Registration System Deficiencies Contribute to Malpractice**

 Some colleges and universities use registration software platforms that do not automatically prevent prerequisite skipping. This increases the chances that business students will ignore prescribed course sequencing, whether through inattention or deliberate abuse of the registration system’s deficiency. We are acquainted with a situation at a Big Ten campus where an administrator’s random sampling of 20 percent of the business degree program students’ records revealed that 60 percent had course sequencing discrepancies in their class histories. Some of these business students skipped prerequisites as many as five consecutive semesters, usually beginning in their sophomore year. At this same campus, an administrative audit of fall 2018 semester registrations in nine different junior- and senior-level business courses revealed a class average of 21.6 percent of registrations involved students who had not met one or more prerequisites. This campus’s computerized registration system was not coded to block prerequisite skipping in any business course registrations. In some cases in which the campus registrar removed the students who improperly pre-registered into courses while lacking prerequisites, the students simply defied the registrar’s action and signed themselves right back into the courses because the computerized registration system permitted it. While not involving business students, McCoy and Pierce’s (2004) report involved a campus with a similarly deficient registration system. In that case, McCoy and Pierce noted chronic violation of prerequisites by some students and reported nearly one-third of biology students had skipped at least one prerequisite. In some biology courses, more than 40 percent of registered students lacked one or more prerequisites (McCoy & Pierce, 2004).

 When the computerized registration system does not automatically protect curricular integrity, registrars, advisers, and professors may be thrust into monitoring roles that can be inefficient, mistake-laden, and unpleasant (Soria & Mumpower, 2012). The latter obtains when wayward business students must be removed from classes they registered for without proper qualification via prior prerequisite course completion. This often triggers complaints, confusion, and challenges along the lines of “If the university really meant to enforce prerequisites, it would do so automatically in the registration system.” To the extent the negative reactions and complaints dissuade university officials from enforcing the prerequisites, more prerequisite skipping is likely.

**Curriculum Neglect and Poor Administration Contribute to Malpractice**

 Business curriculum design and administration problems may exacerbate the issue of prerequisite compliance. For instance, some business degree program curricula evolve from a design process of content and sequencing specification that is heavy in somewhat provincial influences along disciplinary lines (i.e., a functional silo design; Navarro, 2008). Others, however, evolve from a more integrated design approach that looks more across the whole curriculum than within a given chain of a single discipline’s courses. Especially if the curriculum is not periodically reviewed, the former approach may result in some prerequisites seeming less legitimate, less critical to student success, over time. Obviously, the more prerequisites a course has (the typical strategic management capstone course comes to mind), the more likely it is that some students will attempt to register for that course without first completing all officially required prerequisites.

 Business students may also be tempted to skip prerequisites when the business school has failed to articulate a clear method for requesting evidence-justified overrides of prerequisite requirements or has implemented a cumbersome request procedure that students find daunting or confusing. Slow, opaque processes for requesting transfer-credit reviews also may frustrate transfer students to the point of trying to skip prerequisites, often out of ignorance of procedures for requesting transfer credit and mistaken assumptions that some prior courses will count as prerequisites. Finally, students who do not pay close attention to recommended course sequences and class availability may especially run into problems in smaller business schools’ programs that may not schedule a given prerequisite every semester due to resource limitations or administrative error.

**Advisers, Instructors, and Administrators Contribute to Malpractice**

 Academic advisers, whether business faculty advisers or professionals in the university’s advising center, can fail to steer some wayward business students regarding prerequisites, whether due to negligence, being overwhelmed with too heavy an advising load (Tuttle, 2000), seeing little incentive to spend time on academic advising, inexperience or ignorance (Allen & Smith, 2008), or some students’ penchant for misinformed self-advising instead of seeking proper guidance from the adviser (Soria & Mumpower, 2012). Tenure-track faculty, already strapped for time and struggling to balance teaching (including its advising component) and research, may be especially hesitant to get involved with curriculum maintenance issues such as addressing prerequisite violations, just as they are regarding curriculum development generally (Navarro, 2008). Students typically rate academic advising they receive as relatively unsatisfactory (Allen & Smith, 2008), and students’ flawed self-advising and prerequisite skipping are more likely to the extent their advisers are disengaged, inaccessible, or uninformed.

 As mentioned above, when business instructors must monitor for prerequisite skipping because the computerized registration system does not do so automatically, they are typically expected to remove unqualified students from the class. Many instructors are loath to do this because of the student complaints it generates. Also, instructors, advisers, and even administrators may not be aware of all the reasons curricular prerequisites are important. They may come from disciplinary backgrounds that do not include education in human learning concepts, and their work and professional development backgrounds may not include experience in curriculum design and learning assessment. For instance, a professor who insists that the introductory, sophomore-level accounting course is not required as a prerequisite for success in advanced, senior-level auditing and managerial accounting courses is essentially disowning the curriculum and mistreating a vertical, hierarchical curriculum (one based on integration and subsumption, as business curricula typically are) as if it were a horizontal one wherein segmental aggregation is emphasized (e.g., the typical fine arts curriculum; Maton, 2009).

 Some advisers and administrators, especially ones more interested in student recruitment and retention than educational quality or who embrace the “student as customer” view (Alakavuklar et al., 2017; Gioia & Corley, 2002), may even see their role as that of getting students through the business degree program as quickly as possible by any means necessary, even if that includes allowing students to take business courses in nearly random sequences (and the thought that permitting prerequisite skipping may unfairly deny truly qualified students from accessing their classes apparently does not occur to them). Allen and Smith (2008) commented on how students seek out faculty known as good advisers and ignore their officially assigned advisers, such that good faculty advisers’ de facto advising loads increase. We submit that this selection effect can also happen when students bent on skipping prerequisites deem as “good” those advisers and instructors who will perversely facilitate the malpractice or at least not intervene when the student tries to skip prerequisites.

 The confluence of these factors can ensure curricular disintegration through prerequisite skipping occurs and grows over several years in a business degree program. What should be an exceptional and rare thing instead becomes normative, threatening the business program’s quality. Certainly, some of the above factors may interact to produce excessive prerequisite skipping as would be expected when, for instance, the computerized registration system does not block the malpractice on the front end of the registration process, and negligent advisers and faculty do not block the malpractice on the back end. Unfortunately, business program administrators (deans, associate deans, program directors, and chairpersons) may look the other way and let the problem fester, either due to incompetence that compromises their academic stewardship, enrollment and retention pressures as mentioned above, or university culture. A university’s culture can all but guarantee little administrative intervention in prerequisite skipping when that culture characteristically subordinates academic quality and rigor to goals for enrollment growth or otherwise tends to foster slow or no reaction to problems.

**Negative Impact Involving Stakeholders**

 The “perfect storm” of educational malpractice we just described adversely affects more than just the business students. We adopt a stakeholder view in considering harm done to parties that affect and are affected by the business degree program, as well as to the relationships between some of those parties (Freeman, 1984; Parmar et al., 2010). Borrowing a clarification from reputation research, we can say that risk may very well be the effect involved in these stakeholder dynamics, such that the business degree program’s relevant stakeholders either incur risk or impose risk in their dealings with the program (Vidaver-Cohen, 2007). Business degree program curriculum integrity affects or is affected by stakeholders that include students (both current and prospective), faculty, employers of graduates, the parent institution and its administrators, and alumni (Grimes, Williams, & Zhao, in press; Smith & DeMichiell, 1996; Vidaver-Cohen, 2007). These stakeholders’ expectations of the business degree program may vary and even clash, and a given stakeholder can also have some mixed motives regarding the business degree program (Grimes et al., in press; Parmar et al., 2010; Vidaver-Cohen, 2007). We show these stakeholders in Figure 1, again not to suggest formal proposition or model development beyond this article’s scope, but simply to alert the reader to affected stakeholders.

**Harm to Students, Faculty, and Employers**

 We have already discussed the ill effects on students’ learning that skipping prerequisites entails in the above section on cognitive learning theory. Students are arguably the most important of stakeholders relative to any business degree program and the stakeholder most harmed by fragmented, incomplete learning that attends prerequisite skipping. They are also prone to having mixed expectations. On the one hand, students want their business degrees to matter to their career prospects and to carry weight with prospective employers. On the other hand, many students want the convenience that prerequisite skipping often affords their near-term need to balance class scheduling with job scheduling. Besides risking the quality of their learning, students who skip prerequisites risk failing or dropping upper-level courses, which may lengthen their time in the degree program (McCoy & Pierce, 2004). This, in turn, poses a risk for the students and the business school if such students are more likely to drop out or to exhaust their financial aid before finishing. This particular risk may be worse for minority students, as Ramirez and Evans (1988) associated ignoring prerequisites with characteristics of minority students on academic probation.

 In any case, students lose when the knowledge-transfer process is tainted by prerequisite skipping. Aguinis, Ramani, Alabduljader, Baily, and Lee (in press) correctly noted that students are stakeholders in relation to formal academic research that makes its way into college textbooks and teaching. The associated knowledge is transferred to students, and our concern is that the knowledge being transferred can be somewhat incoherent due to the malpractice residing in prerequisite skipping. Aguinis et al. apparently assumed the knowledge transfer is done properly (they make mention of “properly conceived and executed management training” being effective for learning), but one cannot assume proper execution, specifically, in a setting rife with prerequisite skipping.

 Furthermore, not all students learn all they should in prerequisite courses or remember the content later (Kellar, Preis, & Kellar, 2007), but skipping those prerequisites guarantees still worse results. Business students wrestling with capstone courses’ knowledge integration demands report difficulty retaining and recalling information from business core courses (Payne et al., 2008), so this would be all the worse if some students are in the capstone courses prior to completing all prerequisites. o the extent students like these skip prerequisites out of genuine ignorance unaddressed by competent advising, they may vent their frustrations by attributing their lack of progress in the program primarily to the faculty advisers and the business school, tainting the stakeholder relationship. Incidentally, qualified students who cannot access full class sections because prerequisite skippers are occupying some of the seats may also feel thwarted in their progress and have justified grounds for complaining about business program administration.

 Business faculty members suffer, too, when prerequisite skipping runs rampant. Professors and instructors who find themselves having to cull prerequisite skippers from their class rolls (typically in settings in which the computerized registration system does not block prerequisite skipping) can readily identify more productive uses of their time, especially at the term’s start when their focus must be firmly on teaching and getting classes off to a good start. Also, as mentioned above, the professors doing this do not relish the student complaints that ensue and may even feel compromised, wanting on the one hand to help students in any way they can, but wanting on the other hand not to disintegrate the business curriculum or to be party to students’ own poor choices to diminish their own learning by skipping prerequisites. When unqualified students do access upper-level business courses, faculty are again compromised and forced to choose between teaching the course at its appropriate level, which would cause some unqualified students to fail, and “dumbing down” the course by a combination of teaching lower-level concepts and not teaching some upper-level material, which might enable the unqualified students to pass, but will surely cheat all students in the class of maximum learning opportunity (Kellar et al., 2007; McCoy & Pierce, 2004; Moskal, Ellis, & Keon, 2008; Sargent, 2013).

 Prerequisite skipping also poses risk for employers of business program graduates. Employers generally trust that a business student seeking employment received a proper education, especially if the student attended a well-known university. Unless prospective employers obtain and scrutinize graduates’ college transcripts, they will be unaware of the potential issues with prerequisite skippers’ knowledge and disciplinary schemata in many cases until it is too late (i.e., until the graduate has already been hired and proved himself or herself to be relatively unprepared or deficient in knowledge the employer requires).

**Harm to the Parent Institution and Alumni**

 Whether the stakeholder is the business school or the parent university, widespread prerequisite skipping in the business degree program may eventually pose a reputational risk. Unflattering signals may be sent to the local region and market for prospective students if the business degree program is known for permitting the malpractice and if students are readily passing upper-level courses before taking prerequisites. This implicates incoming student quality, impressions that employers form, and so forth. Even if the malpractice is a well-kept secret, faculty and administrators may also come to feel compromised when asked to promote the degree program, for their insider knowledge of normative prerequisite skipping and their desire not to mislead the public would make them less likely to say positive things in public about the degree program and its graduates. Insiders can be quite aware of the business degree program’s issues and weaknesses and sensitive to effects on the business school’s public image (Grimes et al., in press).

 This may be problematic when administrators, such as campus presidents, chancellors, and business deans, are torn between growing the business degree program through enhanced flexibility in the student experience and simultaneously preserving educational quality. This is not to say that flexibility is inherently antithetical to degree program quality, but it does suggest that administrators who turn a blind eye to rampant prerequisite skipping may be sacrificing fundamental educational quality for the sake of student convenience. This is somewhat analogous to Gioia and Corley’s (2002) observation that business deans’ focus and emphasis on redesigning MBA programs to look current for the sake of MBA program rankings can “de-emphasize the teaching of fundamentals” (p. 112). Likewise, business deans de-emphasize the fundamental integrity of the curriculum when prerequisite skipping becomes rampant. Certainly, an attribution of hypocrisy toward the institution is possible in situations in which the university formally espouses values of, for instance, responsibility or excellence that the malpractice can belie. This is because allowing the ongoing curricular disintegration would not show evidence of accountability for the adverse educational consequences of the malpractice (it would instead show irresponsibility and poor stewardship) and would not show evidence of a devotion to excellence (it would instead show systematic striving for suboptimal outcomes). This kind of neglect also may damage the business school’s image in stakeholders’ eyes, as the stakeholders would see discontinuity between actions and the espoused image reflected in, for instance, the school’s official, publicized mission and values statements (Grimes et al., in press).

 This issue of curricular disintegration may not be of urgent concern to administrators when prerequisite violation is merely exceptional, but the conditions we have described can make prerequisite violation the unhealthy norm in a business degree program, wherein prerequisites are more lip service than reality, more of an administrative annoyance than a key feature of proper curriculum. In such cases, the malpractice signals to students that curriculum structure and sequence are irrelevant and can lead to failure to achieve student learning objectives as reflected in assessment outcomes. At a minimum, unchecked prerequisite skipping can create advising inefficiencies as advisers encounter more and more students out of sequence, unprepared to take upper-level courses, and so forth. Another inefficiency arises when students who are legitimately qualified to be in classes are hindered because the classes are full, but some of the enrollment is comprised of prerequisite skippers who should not have those class seats. Prerequisite skipping also makes course and faculty labor scheduling more difficult to the extent such scheduling is tied to estimates of class-year cohort size, for prerequisite skipping causes under-enrollment in prerequisite courses and over-enrollment in upper-level courses.

 Alumni of the business degree program stand to suffer, too, if these effects serve to impugn the quality of their degrees (Vidaver-Cohen, 2007). Curricular changes and business curriculum management can reflect for better or for worse on the university, and alumni are sensitive to how their alma mater is perceived (Eury, Kreiner, Treviño, & Gioia, 2018; Smith & DeMichiell, 1996). Research has established that alumni perception of institutional prestige is associated with alumni donations to the institution (Stephenson & Bell, 2014), so any indication of decreased educational quality may make alumni of the business degree program hesitant to donate or to engage with the business school. A business degree program revealed to be mismanaging its curriculum cannot necessarily count on generalized positive alumni sentiment regarding the overall university to prevent alumni censure of the degree program and business school. Legacy identification research suggests that ambivalent alumni are perfectly capable of holding dear their identification with the university as a whole while simultaneously and selectively condemning malpractices of a specific university official, department, or program (Eury et al., 2018). The stakeholder relationship is tainted if embarrassed alumni withdraw their support from the institution or business school.

 Table 1 recaps the foregoing factors and ill effects. These form the basis for practice and research recommendations below.

**PRACTICE RECOMMENDATIONS AND FUTURE RESEARCH DIRECTIONS**

 Business schools can benefit from acting to reduce or to eliminate entirely prerequisite skipping, thus guarding the business curriculum’s integrity. Carlson, Cohn, and Ramsey (2002) reported how adding some prerequisites and enforcing prerequisites in an economics curriculum permitted faculty to teach at the appropriate rigor level in advanced courses because students had properly accumulated better knowledge and skills beforehand. It also made degree program progression more consistent for all students, permitted proper reinforcement in upper-level courses of concepts and skills first learned in prerequisite courses, and better enabled students to specify their project topics and processes in the capstone course. Results like these and others we reported above lead us to echo Hanna et al. (2015) in recommending that “every effort should be made by the university to make students aware of the proper course sequence and the university should enforce prerequisites when students try to take courses out of
order” (p. 144). Certainly, situations like we described above, in which over 20 percent of class registrations across the sampled courses were business students who had skipped prerequisites, do not signify good, high-quality academic practice. It is hard to imagine any setting or enterprise in which its essential production and service processes or outputs can display quality problems one in five times

**TABLE 1**

***CURRICULAR DISINTEGRATION SUMMARY:
 INFLUENCES ON AND NEGATIVE EFFECTS OF PREREQUISITE SKIPPING***

|  |  |
| --- | --- |
| **Influences on Prerequisite Skipping** | **Negative Effects of Prerequisite Skipping** |
| * Business students’ misguided motivations (e.g., working class schedules around job schedules) and choices (e.g., trying to “catch up” after changing majors or transferring)
 | * Business students’ schemata are more fragmented and incoherent, some delay their own degree progress, some can be denied class seats already awarded to unqualified students.
 |
| * Computerized registration system deficiency (no automatic controls)
 | * Faculty face mounting pressure to “dumb down” courses and must devote already limited time to culling prerequisite skippers and having related, negative confrontations.
 |
| * Poor business curriculum design (disjointed addition of unnecessary prerequisites across disciplines)
 | * Employers of graduates may unknowingly hire students with shaky knowledge.
 |
| * Poor business curriculum administration (poor exceptions handling and unclear processes for transfer-credit reviews)
 | * Parent institution incurs risk to reputation and dysfunctions such as unbalanced class sections and effects on assessment.
 |
| * Advisers’ negligence (e.g., placing low priority on advising, ignoring curriculum structure)
 | * Administrators are compromised when portraying business program to stakeholders.
 |
| * Faculty and administrators’ ignorance and motivations (e.g., ignoring curriculum structure, not knowing learning principles, prioritizing “student as customer” view and enrollment over quality)
 | * Alumni risk embarrassment and may alter or withhold their support.
 |

without that organization eventually failing, and yet somehow many business schools stumble along, ignoring the issue with impunity. We offer the following recommendations as alternatives to and solutions for the factors that promote malpractice with regard to curricular integrity.

**Practice Recommendations**

 Enacting these recommendations involves, at a minimum, students, advisers, the computerized registration system, faculty, and administrators. Some chronic prerequisite skippers may be incorrigible, but most business students can understand the concept of prerequisites and associated university policies and need only some reminding to comply. Academic advisers are in the best position to do this reminding, along with informing students on related things like how to request a formal prerequisite override and how to petition for transfer credits to be applied as prerequisite courses, where appropriate. Academic advisers can also coach business students how to “review their degree program backwards” so as to see why skipping prerequisites now can result in bottlenecks in their progress later. This is especially critical for transfer students and students who have changed majors to business, as they need to be made aware which prerequisite courses to take immediately so as not to be delayed in their degree pursuit any more than is necessary. Interaction between business students and advisers can do much to address curricular disintegration on the “front end,” where students are prone to making bad choices regarding class scheduling and sequencing (Soria & Mumpower, 2012). Faculty advisers who fear the time demands of such advising activity should try to regard the activity as preventative and proactive, considering how much more time is required to address problems when unchecked prerequisite skipping becomes widespread and chronic.

 Obviously, the university’s computerized registration system also can do a great deal to stop prerequisite skipping if its software is so designed. More than any adviser’s verbal admonishments and pleadings, the registration system’s automatically blocking prerequisite skipping can motivate students with legitimate evidence to apply formally for override consideration and can motivate transfer students to pursue all possible transfer credits. At universities where students are allowed to self-advise and not to meet with faculty advisers, the computerized registration system may offer the only sure way to prevent widespread prerequisite skipping (Soria & Mumpower, 2012). Administrators may cite cost as a reason for not upgrading the registration system’s functionality, but we suggest that the alternatives are potentially costlier when considering the impact on students’ learning, the value of faculty advisers’ time, the reputational and economic impacts of sending graduates out into the work world with suboptimal knowledge structures, the harm to faculty and student morale, the violation of public trust the malpractice represents, and so forth. In mentioning “public trust” here, we acknowledge that our reasoning assumes that the business degree program and its administrators owe a moral duty to secondary stakeholders who may have no direct or formal claim on the university (Parmar et al., 2010). Even if administrators reject this notion, the remaining costs and impacts we have listed should be suitably compelling.

 Our recommendation to business faculty is to own the curriculum. No one else besides the professors is likely to take the lead in periodically reviewing business curriculum content and structure. No one else is likely to assess whether some prerequisites no longer make sense and need to be redesignated or eliminated, or whether some prerequisites are missing. Likewise, we suggest that this ownership should extend to vigorous action on the “back end” of registration processes, especially when the computerized registration system is not equipped to block prerequisite skipping. In that case, business professors must work with registrars to verify qualifications of students registered for their courses and, as necessary, to have prerequisite skippers removed from classes for the sake of those students’ learning (Hanna et al., 2015; McCoy & Pierce, 2004). The sooner professors take resolute action before the school term starts, the more chance wayward students have of registering for courses they should have registered for in the first place. Students may see faculty inaction as de facto endorsement of prerequisite skipping, with the result eventually being widespread curricular disintegration.

 Administrators, especially chief academic officers and business deans, can do much to address malpractice residing in widespread prerequisite skipping, but they have to care about the issue and make it a priority for action. Pfeffer and Fong (2002) observed that business schools very rarely evaluate the business curriculum. Now, nearly 20 years later, one might argue that accreditation routines and governmental pressure have created some motion toward evaluation, but more regarding results than the curriculum itself, and certainly almost none with respect to curricular sequencing and structure. Regarding curricular integrity, specifically, evaluation appears still to be very rare. Administrators can influence this by ensuring faculty advisers are trained how to advise and ensuring advisers’ and students’ compliance with curriculum design and any university policies covering prerequisites.

 Administrators can also include curricular integrity and prerequisite skipping in assessment and accreditation-related processes. We acknowledge that such assessment may be somewhat less likely, however, in accreditation approaches that emphasize outcomes and de-emphasize inputs, as curriculum and its faithful execution are fundamental inputs to the educational process. Cognitive learning theory would suggest that poor curricular integrity results in more fragmented and incoherent learning outcomes, however, so the issue is quite relevant to outcomes, and curriculum structure certainly is part of the system generating learning outcomes (Payne et al., 2008). Detecting that incoherence is a difficult undertaking, though, as many assessment and standardized measurement approaches gauge little more than declarative business knowledge and only basic business skills and abilities (Fornaciari & Arbaugh, 2017).

 Finally, business schools should choose wisely and develop the administrators and professors entrusted with curricular integrity. Business school administrators and faculty must understand that curricular integrity goes to educational quality and that catering to students’ convenience at the expense of their learning is wrong. Many colleges and universities fall prey to losing their focus on educational quality, so a business school serious about curricular integrity and prerequisites may be well-advised to avoid assigning chairperson or dean duties to a professor with a work background at such a university where academic quality may rank below student enrollment and tuition billing or where academic standards are notoriously low. Those professional backgrounds, unless remediated with professional development, could be associated with disowning the curriculum and academic stewardship failure. Chief academic officers must evaluate business deans’ performance accordingly and reinforce expectations for curricular integrity with appropriate incentives and training for business administrators, professors, and faculty advisers. Faculty advisers often rate their own advising more highly than do their advisees, often fail to participate in advising training, and often think deans undervalue academic advising (Allen & Smith, 2008), so business deans should be explicit in their expectations of faculty advisers’ efforts, to include holding them accountable in performance appraisals.

**Future Research Recommendations**

 As in the case of biology students in McCoy and Pierce (2004), we suspect that the prevalence of business students’ prerequisite skipping may be disturbingly high in some business degree programs, especially in business schools characterized by the “perfect storm” of educational malpractice that we described above. At the same time, we also suspect that many business school administrators are hesitant to check into or reveal this lest they discover all kinds of random class progressions, chronic skippers, complicit advisers or professors, and so forth. Empirical research on the prevalence of prerequisite skipping and the conditions under which it most occurs would be a good starting point in addressing the issue. This research can further reveal the extent of the issue and equip decision makers with data to back improvement efforts. It would also address the circular trap one encounters when, say, an editor or a colleague questions whether the issue really is an issue given the lack of prevalence data, but the administrators and professors with access to those data do not want to delve into the issue for fear of what they may find in their own business schools’ functioning.

 Researchers could measure prevalence via anonymized transcript audits and do correlational analyses of links between prerequisite skipping incidence rates and the factors we identified above (e.g., whether or not the registration system is automated for prerequisite control, faculty attitudes toward curricular integrity, advising loads, number of hours per week that business students work in a job, and so forth). Researchers could carry this inquiry further by studying ways to reduce prerequisite skipping when budgetary constraints or institutional culture prevents upgrades to the computerized registration system. In such cases, what combinations and varieties of “front end” advising and “back end” monitoring best serve to minimize the problem? Also, some of the factors we identified above may be better conceived as moderators. Moderator analyses might include, for instance, whether business deans’ and chairpersons’ academic disciplines or career backgrounds moderate the link between failure to monitor for prerequisite skipping and prerequisite skipping’s incidence. The small size of a business school, with its typical resource limitations, may also moderate the relationship between, for instance, computerized registration system features and prerequisite skipping.

 Past research we cited above has compared grade point averages and dependent-course performance of students who took prerequisites versus students who skipped prerequisites (e.g., Baard & Watts, 2008). We suggest extending this research to measuring associations between prerequisite skipping and other dependent variables like standardized test outcomes, internship performance, early career success/failure (controlling, of course, for other things that make new graduates succeed or fail early in their careers), and accreditation review results. An offshoot of this line of inquiry could include refining measures of schematic coherence and knowledge integration so as to be able to test the cognitive learning effects of prerequisite skipping. Correlational and causal inquiries could be done at multiple levels of analysis, such that investigations across multiple degree programs at different business schools may necessitate hierarchical analyses to account for variance at both student and school levels.

 Raising awareness of business schools’ curricular integrity issues through further research could suggest expanding stakeholder analysis. Stakeholders in addition to the ones we discussed above may value curricular integrity more if made aware of how skipping prerequisites harms student learning. For instance, accreditors are well within their purview to investigate prerequisite skipping; in the typical instances in which they do not pay attention to the issue, researchers are justified in asking why. Taxpayers, legislators, and regulators expecting good stewardship of federal and state financial aid to students could be relevant stakeholders, too. When the business curriculum is disintegrated by excessive prerequisite skipping, the malpractice disserves taxpayers’ interests. This represents a public policy issue when a state-funded and federally-funded institution can malpractice with impunity regarding curricular integrity, effectively being a poor steward of public funds and populating the labor force with graduates who are not as prepared as they could be to lend a hand in making businesses and the nation’s economy as robust as possible. Regulators may reasonably expect business schools simply to enforce their own curricular structures, including prerequisite sequences, for the sake of educational quality that delivers a return on public investment and benefits the nation’s economy. To the extent regulators pay no attention to the issue, researchers are again justified in asking why.

 Curricular integrity that resides in course sequencing and prerequisites is a fundamental of business education that is all too readily forgotten. Cognitive learning theory clearly suggests that when business students skip prerequisites, their learning suffers. We have made a case for a broader understanding of prerequisites’ function and value, described some of the factors that contribute to excessive prerequisite skipping in business degree programs, and recounted how the problem adversely affects stakeholders. The research recommendations we have offered would generate data for supporting and refining the various practice recommendations we detailed. In all this, we think the objective to keep in sight is maintaining curricular integrity in the service of business students’ optimal learning.

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