THE ACCOUNTING EDUCATORS' JOURNAL
Volume XXXIII
2023
pp. 237 - 265

A Descriptive Study of the Characteristics of Introductory Accounting Courses Offered by Community Colleges

Allen Hartt
Boise State University

Jonathan Nash
University of New Hampshire

Catherine Plante
University of New Hampshire

Abstract

Community colleges play a crucial role in higher education. Recognizing the important role these institutions play in educating future accountants, the American Accounting Association has called for research that contributes to a better understanding of these members of the academic community. Although previous literature has shown that community colleges and four-year institutions differ on many levels, the extant literature provides no data on the characteristics of introductory accounting courses offered by community colleges. We fill a void in the literature by providing data on the characteristics of introductory accounting courses offered by community colleges in the United States. Given that a growing number of states include introductory accounting in a transferrable set of core courses, the resulting data should be of interest to instructors, regulators and administrators, researchers, and the accounting profession.

Introduction

Introductory accounting courses are foundational courses in undergraduate business curricula (Chiang, Nouri, and Samanta 2014; Duchac and Amoruso 2012; Palm and Bisman 2010). These courses affect students' perceptions of the accounting profession and, by extension, "whether the supply of talent will be sufficient for the profession to survive" (Accounting Education Change Commission 1992, 1). For decades, introductory accounting courses have been scrutinized by committees charged with enhancing and improving accounting education. In the 1990's, the Accounting Education Change Commission (AECC) prescribed objectives for these courses and, in 2012, a report by the Pathways Commission on Accounting Education included several action items related to the delivery of introductory accounting courses. Academics recognize the critical importance of these courses and provide benchmarking data on the characteristics of introductory accounting courses offered by four-year institutions (Duchac and Amoruso 2012; Palm and Bisman 2010; Leslie 2010). However, no existing study provides comparable data on the characteristics of introductory accounting courses offered by two-year institutions.[1] This

[1] Within the context of this paper, we use the terms 'two-year institutions' and 'community colleges' interchangeably. Community colleges are called 'technical colleges' in some countries. The defining characteristic of these institutions is they primarily offer Associate's degrees. Additionally, we use the terms 'four-year

gap in the extant literature is surprising given: (1) community colleges in the United States and other nations educate a major subset of the student population, (2) the number of students taking courses at two-year institutions is likely to increase over the next decade, and (3) prior studies document differences between two- and four-year institutions.

Our study provides data on the introductory accounting courses included in the curricula of community colleges that offer Associate's degrees in business or accounting. While community colleges are historically vocational in nature, our data suggests many offer introductory accounting courses that are transferrable across educational sectors.[2] Fifteen states have adopted policies that guarantee the introductory accounting courses offered by the state's public community colleges can be transferred to public universities in that state for equivalent credit.[3] In states where these policies have not been adopted, we find introductory accounting courses can be transferred between subsets of two- and four-year public institutions for equivalent credit. We present data on the characteristics of introductory accounting courses, including size and staffing, pedagogical orientation, standardization of course elements, textbook selection, and use of technology-based course management tools. To complement prior literature, we focus on characteristics not examined in prior research on community colleges (Leslie 2010) and include data that is comparable to what has been presented in studies of the introductory accounting courses offered by four-year institutions (Duchac and Amoruso 2012). Consequently, we provide important information on the courses offered by a key member of the academic community.

Our study is motivated by the American Accounting Association (AAA), which has stated "Given their (community colleges') growing prominence in educating future accounting students it is important to better understand these members of our academic community" (Leslie 2010, 3). The data included in this study should be of interest to instructors, regulators and administrators, researchers, and the accounting profession. For instructors, the data provide information on the introductory accounting courses completed by the average community college student. This data can help instructors identify areas where transfer students' experiences might differ from their contemporaries at four-year colleges. Such differences have been shown to affect student's subsequent performance (Schmidt and Wartick 2014). Regulators and administrators considering the implementation of standardized transfer programs may be interested in the differences between accounting courses offered by two- and four-year institutions. Researchers can use the data to investigate whether differences between two- and four-year institutions affect outcomes, e.g., the probability of students choosing to major in accounting and their performance within the major. Accounting professionals may use our findings as a springboard for facilitating discussions related to the accounting labor supply. Previous literature demonstrates the effect introductory accounting courses have on the accounting profession (Pathways Commission 2012) which, theoretically, should include introductory courses taught at community colleges.

---

institutions' and 'colleges' interchangeably. The defining characteristic of these institutions is they primarily offer Bachelor's or advanced degrees.

[2] Within the context of this paper, we define vocational courses as courses for students who will enter the workforce after completing their Associate's degree. Our study focuses on the subset of courses offered that are most likely to be transferred to a four-year university for equivalent credit. Based on the data in our survey, we argue two-year institutions are no longer strictly vocational in nature but note the presence of transferrable courses does not preclude schools from also offering courses designed for students who will not transfer.

[3] While these agreements are increasingly common, two-year institutions still differ from four-year institutions in many ways. Three of the most important are: (1) they face greater funding constraints, (2) they are primarily teaching institutions, and (3) they have multiple missions (Mayfield, White, Downs, and Erlandson 2022; Leslie 2010). With respect to (3), it is important to note these institutions are charged with both preparing students for immediate entry into the workforce and preparing students for a transition to a four-year institution (Leslie 2010). To fulfill these dual missions, many two-year institutions offer both introductory accounting courses designed for transfer and introductory courses designed for students entering the workforce. Our paper focuses on the subset of introductory courses intended for transfer. To ensure we obtained the correct information from survey participants, we manually reviewed the program of study and course descriptions for individual institutions and sent survey invitations that directly referenced the appropriate courses. Our methodology is discussed in greater detail in the sample section.

The remainder of the paper proceeds as follows. The next section discusses the background and is followed by a discussion of the research methods. The fourth section presents results and the final section contains a discussion of our findings and suggestions for future research.

Background

Introductory accounting courses are a standard part of undergraduate business curricula and of critical importance to both students and the accounting profession (Chiang et al. 2014; Pathways Commission 2012; Duchac and Amoruso 2012; Palm and Bisman 2010; AECC 1992). These courses shape students' perceptions of the profession and affect the supply of accounting graduates. Recognizing the importance of these courses, the Accounting Education Change Commission and the Pathways Commission on Accounting Education issued recommendations related to the teaching methods and resources that should be utilized in these courses (AECC 1992; Pathways Commission 2012). The extant literature provides descriptive data on introductory accounting courses offered by four-year institutions which are useful for developing curricula, designing academic studies, and addressing challenges facing the profession (Duchac and Amoruso 2012; Palm and Bisman 2010). However, existing studies focus exclusively on introductory courses offered by four-year institutions. Our study responds to a call for additional research on two-year institutions (Leslie 2010); it is, to the best of our knowledge, the first study to investigate the characteristics of introductory accounting courses offered by community colleges in the United States.

Over the past fifteen years, college enrollments have risen and the number of Associate's and Bachelor's degrees granted have increased. Table 1 provides information on the number of Associate's and Bachelor's degrees conferred in the U.S. by year.[4] The number of Associate's and Bachelor's degrees conferred across all disciplines has increased consistently over the past fifteen years. Associate's (Bachelor's) degrees increased by 69 (18) percent from 2004-2005 to 2019-202. The same upward trend exists for business degrees. The steadily growing demand for undergraduate business education underscores the importance of introductory accounting courses, which are a standard part of the business curricula. Figures presented in Table 1 also underscore the important role two-year institutions play in higher education. The raw number of Associate's degrees has increased over the past decade and these degrees represent approximately 34 percent of all degrees granted in 2016. Furthermore, approximately 26 percent of all business degrees conferred are Associate's degrees. While the figures in Table 1 do not account for students who enroll in courses at two-year institutions and transfer credit to a four-year college, taken as a whole, these figures indicate a large portion of students enroll in community colleges.

In the U.S., two-year institutions have educated a large portion of students for decades because open enrollment and low tuition often make these institutions the only option for those without access to sufficient funds and/or the academic record necessary to attend a four-year institution (Porter 2015; Acai and Newton 2015). In recent years, community colleges have become the subject of increased attention as politicians debate and enact initiatives meant to reduce the cost of college attendance. Political initiatives typically are 1) initiatives that ensure access for all state residents to high-quality higher education programs either through increasing affordability or availability and/or 2) initiatives that enable students to transition across educational sectors (e.g. high school to college) and institutions (e.g. two-year institutions to four-year institutions) by increasing the transferability of academic credit (Perna and Finney 2014). The first type of initiative typically promotes enrollment in two-year institutions, either explicitly or implicitly. Examples of the first type of initiative include programs in Tennessee and Oregon that promise free tuition to eligible students who attend in-state community colleges. The second type of initiative can vary in scope and complexity but is typically specified at the institution or state-level. These initiatives, often referred to as articulation agreements, promote credit transfer between educational sectors; for example, between a two-year and a

[4] Information is publicly available through the U.S. Department of Education. Available at: https://nces.ed.gov/programs/digest/.

four-year institution.[5] State-level initiatives are also becoming increasingly common; these agreements often outline a core set of courses that are transferrable, for equivalent credit, between two- and four-year public institutions. For example, Ohio has adopted Transfer Assurance Guidelines (TAGs) that outline standardized course content and learning outcomes across all public higher education institutions in the state, whether two-year or four-year, thus ensuring course equivalency.[6]

To provide information on the extent to which states have adopted policies that facilitate the transfer of credits across education sectors, we collect data from a variety of sources, including: the websites of individual universities, state sponsored websites, the Education Commission of the States (ECS), and Transferology.[7] The data, summarized in Table 2, shows almost all states have adopted policies that promote the transfer of credit. For example, Column (1) shows a majority of states, 80 percent, have at least partially adopted a transferrable core of lower-division courses.[8,9] Column (2) shows the uniform numbering of lower division courses across two- and four-year institutions has also been adopted by a majority of states, but is less prevalent.[10] Data in the third column indicate almost all states partially guarantee the transfer of an Associate's degree from two- to four-year institutions, a policy that allows transfer students to enter four-year colleges as juniors. Column (4) shows 26 states guarantee the reverse transfer of credit, a policy that allows students to be retroactively granted an Associate's degree from a community college even if they meet the requirements only after transferring to a four-year institution.

Columns (5) and (6) of Table 2 provide information specifically related to the transferability of the introductory accounting courses. Column (5) identifies states where introductory accounting courses are included in a standardized set of courses that are transferable across public institutions. Fifteen states have introductory accounting courses that are standardized at the state-level. For example, California identifies standardized sets of major-specific courses, referred to as "pathways", which can be taken at community colleges and transferred to four-year institutions for equivalent credit. The business administration pathway includes the two introductory accounting courses taken by students in California universities (financial and managerial accounting). Similarly, the Board of Regents in Kansas and Louisiana define a set of courses that are transferrable across community colleges and universities; financial and managerial accounting are included on this list. In Arizona, universities and community colleges participate in a statewide articulation and transfer system; in this system financial and

[5] Articulation agreements can also exist among institutions of the same type (i.e. between two four-year institutions) and between high schools and two- and four-year institutions. Additionally, articulation agreements also exist between countries. For example, there are institution-level articulation agreements between Canadian colleges and U.S. colleges. See https://www.ontransfer.ca/index_en.php?page=outside_ontario for more details regarding Canadian articulation agreements. Irrespective of level, these agreements often define criteria used to evaluate the equivalency of courses (e.g., comparable content and outcomes), and guarantee courses meeting these criteria can be transferred across institutions. Even if a two-year institution is not explicitly referenced in an agreement, demand for transferrable courses may pressure these institutions to design courses that meet the defined criteria.

[6] Information on Ohio's Transfer Assurance Guides is available at https://www.ohiohighered.org/transfer/tag/.

[7] ECS is an organization that compiles information on education policies and advises policymakers. Transferology is a nationwide network that helps students explore their college transfer options and is promoted on the websites of several states and universities.

[8] States are coded as having fully adopted a policy if it is applicable to all public postsecondary institutions. States are coded as having partially adopted a policy if it is applicable to a subset of postsecondary institutions. An example of partial adoption in Column (1) is New York. The state of New York and New York City have distinct university systems, each with its own transfer policies. An example of partial adoption in Column (3) is Connecticut, which guarantees the transfer of credits earned in an Associate's degree program to state colleges, but not to the University of Connecticut.

[9] Some states that have not adopted a transferrable core have one public community college (e.g. Delaware, Vermont, Rhode Island). To some extent this structure precludes the need for a common core; any articulation agreements where the community college is a party, by definition, affect all two-year institutions in the state.

[10] In many of the states where common numbering has not been adopted, the state, or individual institutions, maintain course equivalency databases that show students how credits transfer across institutions.

managerial courses have been approved for equivalent credit. In sum, while the details vary, in fifteen states introductory accounting courses offered by public two-year community colleges transfer to public four-year colleges.

Column (6) of Table 2 examines, irrespective of state policy, whether students within a state have the ability to transfer introductory accounting courses from two- to four-year public institutions for equivalent course credit. States are considered to have transferrable introductory accounting courses if public four-year colleges have accepted, for equivalent credit, introductory accounting courses from multiple community colleges in the same state.[11] Data was collected from the course equivalency databases maintained by states and individual institutions. Column (6) shows that in all states students have transferred courses from a subset of community colleges to four-year colleges. Even where state-level policies have not been implemented for introductory accounting courses, courses have been transferred. While the data in Table 2 does not imply community colleges have decreased their focus on vocational training, it does suggest that across all states these institutions play an important role in providing students a pathway to four-year degrees, including business degrees.

Understanding the similarities and differences between introductory accounting courses at two- and four-year institutions is important because of the links between the institutions. In theory, the increased prevalence of articulation agreements and legislation outlining transfer requirements might diminish differences between courses offered by two- and four-year institutions. However, while transfer agreements are intended to increase homogeneity, they also allow individual institutions the freedom to dictate specific elements of course delivery. For example, Ohio's Transfer Assurance Guidelines discuss only learning objectives associated with each course. Thus, while two- and four-year institutions might both offer "Introduction to Financial Accounting" and the objectives associated with the courses might be very similar, it is possible the courses will differ on many other dimensions. The extant literature already provides evidence two- and four-year colleges differ with regards to faculty demographics. A 2010 report sponsored by the AAA 'looks at the status and trends for community college faculty in accounting' (Leslie 2010, page 3). The report finds that relative to their colleagues at four-year institutions, faculty at two-year institutions are more likely to be part-time, more likely to be employed elsewhere, and less likely to have a terminal accounting degree (Leslie 2010). Further, the average full-time faculty at a two-year institution has a heavier course load, teaching roughly twice as many classes per semester as their counterparts at four-year institutions (Leslie 2010). The documented institutional differences suggest the flexibility afforded to instructors may lead to differences between the introductory accounting courses offered by community colleges and four-year universities.

While prior research has not examined the characteristics of introductory accounting courses offered by community colleges, prior studies have examined the performance of students who transferred introductory accounting courses from two-year institutions (Schmidt and Wartick 2014; Tickell and Smyrnios 2005; Laband, Rosenberg, and Smith 1997). These studies show after controlling for demographic differences, transfer students perform worse in the upper-level courses offered at four-year institutions and suggest grades are inflated at two-year institutions (Schmidt and Wartick 2014). While accounting academics and practitioners have for decades acknowledged a need to better

[11] We believe Column (6) of Table 2 provides strong evidence that in most states, accounting courses can be transferred between two- and four-year institutions. However, due to data limitations, this interpretation is subject to a few caveats. First, because not every university maintains a publicly available database showing approved transfers and transfers have not been made between every combination of two- and four-year universities, the table is not providing evidence on whether introductory accounting courses at most or all community colleges can be transferred to public four-year institutions. The table is only providing evidence on whether such pathways exist within a state. Due to the same data limitations, we cannot determine whether universities grant equivalent credit conditional on the student's grades, performance on a standardized test, or other requirements. Anecdotal evidence from administrators we contacted suggests grade requirements are common and other requirements exist.

understand community colleges (Pathways Commission 2012; Leslie 2010; Glass and Oakley 2003; AECC 1993), the increase in transfers across educational sectors and documented subsequent performance issues provide salient motivation for a study on the structure and characteristics of introductory accounting courses offered at two-year institutions.

To fill a gap in the extant literature we provide descriptive statistics on the introductory accounting courses offered by two-year institutions that are comparable to those reported for four-year institutions by Duchac and Amoruso (2012), Palm and Bisman (2010), and Madison and Schmidt (2006). We also provide data intended to benchmark the extent to which introductory accounting courses at community colleges have adopted best practices recommended by the Pathways Commission (2012). We recognize the data reported in this paper do not detail every aspect of introductory accounting courses offered by community colleges. However, given the absence of information in the extant literature, we believe this paper can serve as a springboard for future discussion and research.

Method

To collect data on the characteristics of introductory accounting courses offered by community colleges, a survey was developed. Most questions were designed to capture data that can be compared to prior research on introductory accounting courses offered by four-year institutions (Duchac and Amoruso 2012; Palm and Bisman 2010; Madison and Schmidt 2006) or are related to the recommendations of the Pathways Commission regarding introductory accounting courses (Pathways Commission 2012). The survey was pre-tested with the help of several community college instructors and revised in response to feedback. The final instrument is available upon request.

We stratify the sample according to the academic institution's introductory accounting course requirements. This procedure produced seven subsamples, namely institutions with: (1) more than two semester courses required, (2) more than two quarter courses required, (3) two semester courses required, (4) two quarter courses required, (5) one semester course required, (6) one quarter course required, and (7) no introductory accounting course required. For institutions with two or more required courses, data were collected on the first two (required) introductory accounting courses. For institutions with one required accounting course, data were collected for the single (required) course. For institutions with no required accounting courses, data were collected for the first offered course.

Sample and Data Collection

Community colleges were identified using a public database available through U.S. News and World Report.[12] We reviewed the website of each community college to determine whether the college granted Associate's degrees in either business or accounting, and by extension, offered introductory accounting courses. For the 752 institutions that met this criteria, we identified either an accounting coordinator, if available, or an instructor assigned to teach multiple sections of the first two introductory accounting courses.[13] Contact information for these individuals was hand-collected from the institution's website. A survey invitation was sent to these individuals. Because many colleges offer different courses for transfer students and students entering the workforce, the survey invitation was personalized for every potential participant. The invitation contained references to the introductory accounting courses of interest, those designed to be transferrable to a four-year institution. This information was obtained through a review of each two-year institution's program of study and course descriptions. The final sample is

[12] U.S. News and World Report makes its list of community colleges available to the public. Available at: https://www.usnews.com/education/community-colleges.

[13] Duchac and Amoruso (2012) and Madison and Schmidt (2006) contacted department chairs for their surveys. Initial discussions with community college instructors indicated department chairs at two-year institutions were often responsible for overseeing a variety of disciplines and unlikely to have complete knowledge of introductory accounting course characteristics; therefore, we contacted the accounting coordinators or instructors directly.

presented in Table 3. Of the original 752 survey invitations sent, 184 responses were received.[14] One hundred and sixty-five of these responses were fully completed, resulting in a response rate of 22 percent[15].

Results

Our final sample includes 165 community colleges from 41 states, all of which are public two-year institutions. As discussed in the method section, for our main analyses the sample is stratified based on the number of required accounting courses. The number of observations associated with each subsample is presented in Table 4. The majority of two-year institutions included in our sample (approximately 67 percent) require two semesters of introductory accounting.[16] The percentage of four-year institutions requiring two semesters of introductory accounting is approximately 85 percent (Duchac and Amoruso 2012). Interestingly, eight percent of our sample requires more than two semesters of accounting; in contrast, Duchac and Amoruso (2012) find no four-year institution requires more than two semesters of introductory accounting. Fifteen of the institutions included in our sample are on the quarter system, and ten of these schools require at least two quarters of accounting. These findings are similar to the findings for four-year institutions (Duchac and Amoruso 2012).

Respondents were asked to provide data on the number of students currently enrolled in their institution's business and accounting program (if applicable). Table 4 provides self-reported enrollment data. Median (mean) business program enrollment in the sample is 213 (613) students. Out of 165 respondents, 123 indicate their institution offers either an Associate's degree in accounting or an Associate's degree in business with an accounting concentration. The mean (median) enrollment for these programs is 200 (50) students. Among the 123 institutions with an accounting program, the median (mean) percentage of accounting majors is 20 percent (32 percent) of business majors, a value similar to four-year institutions which indicates that approximately 20 percent of all business majors are accounting majors regardless of institution type (Duchac and Amoruso 2012).

Respondents from schools requiring two or more introductory accounting courses were asked two series of questions: one series related to the first required accounting course and a second series related to the second required accounting course. Schools requiring only one introductory accounting course were asked the first series of questions. Due to the relatively small sample sizes in the one-quarter, two quarter, more than two quarter, and not-required groups, data for these subsamples are not separately presented going forward; however, data for these groups are included in the "total across all groups."

[14] Most responses were received prior to the Covid-19 pandemic. During the initial weeks of the pandemic, data collection was paused, and when resumed, survey invitations explicitly stated that we were interested in information from the semester prior to the pandemic. We admit responses related to a subset of course characteristics (e.g., course modality) may differ if the same survey were conducted post-pandemic. Future researchers might use our study as a benchmark for examining the effects of the pandemic.

[15] To assess nonresponse bias we follow prior research and compare data from later respondents to data from earlier respondents (Blankley, Kerr, and Wiggins 2018; Nelson, Elliott, and Tarpley 2002; Oppenheim 1992; Wallace and Mellor 1988). Additionally, we examine differences in enrollment between community colleges included and excluded from our sample. Neither test found significant differences, suggesting our sample is representative of the population.

[16] Untabulated analyses show the majority of two course programs include a financial and managerial accounting courses, with the financial accounting course taken first. This sequencing is the same recognizable, and fairly traditional, ordering used at most universities (Kaminski, Goleman, and McEacharn 2020; Zekany 2020).

Respondents were asked to estimate the percentage of students in their school's business program who transferred to a four-year college. The results are presented in Table 5[17]. For the 114 respondents that provided an estimate, the median (mean) was 50 percent (50 percent), with a range from zero to 100 percent. Importantly, only four of 114 respondents indicated that none of their students transferred to a four-year institution. This supports our supposition that community colleges play a prominent role in educating future accounting and business students.

General Characteristics

Prior to receiving specific questions on the first or second introductory accounting course, respondents were asked two preliminary questions about the institution's approach to the teaching of introductory accounting. The first question asked respondents to identify the percentage of content across all introductory accounting courses devoted to financial and managerial topics. The responses are summarized in Table 6 Panel A. Approximately 59 percent of all respondents report their content is split evenly between financial and managerial accounting. The second most common approach is a 70/30 split between financial and managerial accounting, adopted by approximately 30 percent of respondents.[18] Our results are similar to those reported for four-year colleges with two exceptions. Four-year institutions are more likely than two-year institutions to have a 70/30 split between financial and managerial if only one semester is required. And, while five percent of four-year institutions focus exclusively on financial accounting, we find this approach has been adopted by approximately 12 percent of two-year institutions (Duchac and Amoruso 2012).

The second preliminary question in the survey asked respondents whether their institution's approach to introductory accounting is best described as a "preparer" approach, a "user" approach, a "balanced" approach (i.e., a combination of user and preparer), or "other".[19] Table 6 Panel B shows the majority of respondents (72 percent) report utilizing a "balanced" approach. The second most common response is a "preparer" approach utilized by 20 percent of respondents. For four-year institutions in the United States, Duchac and Amoruso (2012) report a smaller portion (60 percent) utilize a "balanced" approach, while a greater portion, (20 percent), adopt a "user" approach. The "preparer" approach is used by a similar proportion across two- and four-year colleges. For both community colleges and universities in the U.S., the prevalence of the "balanced" approach is consistent with the recommendations of the AECC and Pathways Commission.

The Pathways Commission's final report stressed the importance of incorporating ethics into undergraduate curricula (Pathways Commission 2012). Madison and Schmidt (2006) find accounting chairs at four-year institutions in the U.S. and Canada consider ethics education to be of great importance. For two-year colleges, our survey asked whether ethical content is included in their institution's introductory accounting courses. Table 7 summarizes the responses. Eighty-four percent of respondents indicate the first accounting course at their institution includes ethical content while 70 percent of respondents indicate the second course contains ethical content. Although these statistics do not provide information on the quality of the content, they indicate a majority of introductory accounting courses offered by two-year institutions devote class time to ethics. This is similar to the figure reported for four-year colleges (Haas 2005).

In an effort to attract high potential students to the accounting profession, the Pathways Commission recommends that the first course in accounting include discussion of the numerous career opportunities available to accounting professionals (Pathways Commission 2012). The Pathways Commission further recommends accounting

[17] The number of responses tabulated in Table 5 is smaller than the sample size because respondents were provided the opportunity to skip the question if they had no basis for estimation.
[18] We acknowledge these splits are likely influenced by articulation agreements at either the state or institutional level. The prevalence of different splits suggests that courses granted equivalent credit by four-year universities in one state may not be granted equivalent credit by four-year universities in other states.
[19] Duchac and Amoruso (2012) note the definitions of user approach and preparer approach are subject to debate but are consistent with the descriptions used to define most accounting textbooks. The "other" option is included for respondents not comfortable defining their institution's approach using the terms provided.

professionals make efforts to engage with students and act as role models to combat negative perceptions of the profession (Pathways Commission 2012). Interaction between accounting professionals and students enrolled in introductory accounting classes has a positive effect on student's perceptions of the accounting profession (Freeman and Burkette 2019; Law, Shaffer, and Stout 2009). To provide benchmarking data on the extent to which the Pathway Commission's recommendations have been adopted by two-year institutions, survey respondents were asked whether introductory courses include a discussion of accounting careers and whether students are provided the opportunity to engage with professionals. Results in Panel A of Table 8 indicate an overwhelming majority of institutions in our sample make efforts to ensure students understand the careers available in accounting. Ninety-five percent of respondents indicate the first two accounting courses offered by their institution include a discussion of accounting careers. However, data in Panel B of Table 8 suggests the opportunity to engage with accounting professionals is not as ubiquitous. Across all groups, only 33 percent of respondents indicate their courses provide students the opportunity to engage with an accounting professional other than the instructor.

Course Size and Staffing

The extant literature provides evidence that student performance is a function of class size (Murdoch and Guy 2002; Hill 1998). As previously discussed, recent legislation and initiatives aim to increase community college enrollment (Spencer 2018). To benchmark data on community college course size, respondents were asked: (1) the average number of sections of introductory accounting courses offered each semester, and (2) the average number of students enrolled in each section.

The median number of sections offered for the first course is 3.5, and the median number of sections offered for the second course is three. The maximum number of sections of the first (second) course offered by a two-year institution is 50 (50). Consistent with community colleges having a smaller student population, these numbers are lower than those reported for four-year institutions (Duchac and Amoruso 2012).

Respondents were asked about the enrollment for the first and second introductory accounting course. Table 9 summarizes this data. Panel A shows that class size for the first accounting course ranged from 5 to 450 students. The median (mean) enrollment was 25 (39). Panel B shows median (mean) enrollment in the second accounting course of 25 (31). These class sizes are approximately half those reported for four-year institutions (Duchac and Amoruso 2012), a reasonable difference given community colleges generally have fewer students, as documented in Table 1 and in prior research (Leslie 2010).

To provide information on the background of the average incumbent introductory accounting instructor, we requested respondents provide information on the percentage of introductory accounting students taught by instructors with accounting degrees and instructors with CPA licenses.[20] While intuition suggests a majority of accounting instructors would have an accounting degree, enrollment pressure and budgetary constraints may affect the ability of two-year institutions to hire specialized instructors.[21] In 2004, half of the instructors at two-year

[20] Due to the different missions of two and four-year institutions, the organizations that accredit two-year institutions and the organization that accredit four-year institutions do not have the same criteria for evaluating instructors. Consequently, differences noted in this manuscript should not be used to infer whether instructors at an institution are qualified, and we are not implying these criteria are used by accreditation agencies. Because both undergraduate and graduate accounting degrees can be used to fulfil the requirements necessary to obtain a license as a certified public accountant, we did not differentiate between the two degree types.

21 The funding gap between two-year and four-year public institutions is illustrated by the following statistics: in 2009, average per pupil (full-time equivalent) spending on educational and related expenses (i.e., excluding research expenses) in 2009 was $15,919 for public research institutions, $12,363 for public master's institutions, and $9,558 for public community colleges (Desrochers and Wellman 2011).

institutions reported their highest degree was in accounting (Leslie 2010). While not necessary to be a high-quality instructor, a CPA license indicates the instructor possess the practical experience that, when shared, can help increase both a student's motivation and interest in accounting (Freeman and Burkette 2019; Palatnik and Abbott 2018).

We find that across all groups, a majority of students in the first (85 percent) and second (86 percent) introductory accounting course are taught by instructors with an accounting degree. Only eight (seven) percent of respondents indicated none of the first (second) introductory accounting courses were taught by instructors without an accounting degree. Additional data indicates that over one-third of students in introductory accounting courses are taught by an instructor with a CPA license. However, there is a large difference across institutions. We find over twenty percent of respondents indicate all sections are taught by CPAs while over thirty percent indicate no sections are taught by CPAs[22]. Our results indicate that, since 2004, the characteristics of community college instructors have changed.

Textbook Selection Process

Benchmarking data related to the textbook selection process is reported in Table 10. Respondents were asked which of the following best describes the textbook selection process for their institution's introductory accounting courses: coordinating instructor, committee, individual instructor, or other.[23] For the first-semester course, 38 percent of respondents indicate using a coordinating instructor to select textbooks, 30 percent report using a committee, and 28 percent report that their institution allows the individual instructor to make the selection. For the second accounting course, 38 percent of respondents report that textbooks are chosen by a coordinating instructor, 30 percent report that textbooks are chosen by a committee, and 30 percent reported that textbooks are chosen by the individual instructor. For a substantial portion of community college accounting courses, textbook use is not standardized within or across institutions; textbook selection is left to individual instructors. At four-year institutions, only 15 percent of textbook decisions are made by the individual instructor (Duchac and Amoruso 2012).

Use of Technology

The Pathways Commission (2012) and public accounting firms (PWC 2015) recommend the integration of technology into introductory accounting courses to promote engagement and demonstrate the vibrancy of the profession. To benchmark the use of technology in the introductory courses offered by community colleges, respondents were asked two questions about the extent to which interactive learning resources are utilized in their courses. The first question asked whether online technology products from publishers are utilized. These products often include video content and are more engaging than a textbook alone. Results presented in Table 11 show that all institutions in the sample utilize this type of technology for both the first and second accounting course. Seventy-nine (79) percent of respondents described their use of technology as moderate or higher in the first (second) course. Alternatively stated, one-fifth of introductory accounting courses might benefit from increased use of technology.

---

[22] To examine if the characteristics of instructors in our sample are similar to the characteristics desired by institutions currently hiring, we obtain data from five career websites. We examine 144 advertisements for positions at community colleges with no institution represented twice. We find that 56 percent of institutions require a relevant master's degree, meaning a master's degree with a minimum number of accounting credits. Twenty-eight percent require, at a minimum, that applicants for accounting instructor positions hold a Bachelor's degree with a minimum number of accounting credits and a relevant accounting certification, typically a CPA license. Irrespective of degree, 93 percent of positions require applicants to have a minimum number of credits in accounting.

[23] While not an exact proxy for equivalency, intuition suggests that the use of a standardized textbook is positively associated with the likelihood two courses cover the same content. The data we provide can be used to make inferences both within two-year institutions (e.g., a two-year institution that has a textbook selected by a coordinating instructor is likely to have greater homogeneity across courses), and between two and four-year institutions (e.g., a two-year institution that allows individual instructors to select textbooks is unlikely to be coordinating course content with a four-year institution).

Respondents were also asked a second, open ended, question about the extent to which other software and technologies are used in the course. Untabulated results show 111 of 165 respondents indicate their courses utilize Excel, a proportion similar to that at the university level (Blankley et al. 2018), and a relevant inclusion given public accounting firms emphasize the importance of accounting graduates being proficient in Excel (Ramachandran, Rackliffe, and Ragland 2016). However, Excel is typically the only technology incorporated into these courses. Only six respondents indicated their course sequences utilized technologies outside the Microsoft Office Suite, a concern given both academics and practitioners have advocated for the integration of newer software programs able to handle big data into the accounting curriculum (Sledgianowski, Gomma, and Tan 2017; PWC 2015).

Online Course Delivery

To benchmark the use of online course delivery, respondents were asked: (1) whether introductory courses offered at their institution could be taken online, and (2) the approximate percentage of students who elect to take the courses online. Table 12 shows that a majority of institutions, 88 percent across all subsamples, offer introductory accounting courses online.

For schools that offer online courses, Table 13 reports the median and mean percentage of students taking courses online each semester. The median (mean) across all groups is 30 percent (34 percent) for the first accounting course, and 30 percent (36 percent) for the second accounting course. A considerable portion of introductory accounting students take the course online, but the majority choose to take their classes face-to-face. Face-to-face courses are offered at almost all community colleges in the sample; we find only two schools with 100 percent of the students taking introductory accounting online.

It is possible that introductory accounting courses differ depending on the degree of standardization that exists within a state. In our final analysis, we divide the sample between the 15 states that have standardized transfer rules for introductory accounting courses to those that do not (see Table 2). Of the 165 observations in the full sample, 95 observations are from states with no standardized transfer rules for introductory accounting courses and 70 observations are from institutions in a state with standardized transfer rules. The results are presented in Table 14. Rows (1) through (4) provide statistics related to enrollment and the percentage of students who transfer to a 4-year institution. Row (4) shows the percentage of students who transfer to a four-year institution is significantly greater in states where accounting courses are subject to standardized transfer criteria ($p < 0.01$). Row (5) indicates in states with standardized transfer criteria, the percentage of courses that focus equally on the financial and managerial perspective is significantly greater ($p < 0.01$).

For brevity, in Rows (7) through (16) we report only statistics related to the first course in an institution's introductory accounting sequence. Untabulated results show means and medians are similar for the second course. The results show that, except for class size, there is no significant difference between community colleges in states with and without transfer agreements. Taken as a whole, the results presented in Table 14 suggest that while courses are generally similar irrespective of whether standardized transfer rules are present, in states with standardization students are more likely to be in larger classes and to transfer to a four-year university. One inference that could be made from these differences is, consistent with their stated purpose, standardized rules facilitate the movement of students across educational sectors.

Discussion

This study provides benchmark data on the structure and characteristics of introductory accounting courses included in the curriculum of community colleges that offer Associate's degrees in business or accounting. The study is motivated by 1) statistics indicating a large portion of accounting students begin their education at two-year

institutions, 2) recently adopted legislation intended to increase enrollment at these institutions, and 3) previous research suggesting there are differences between two-year and four-year institutions. These factors are the basis for the AAA's acknowledgement that community colleges play a critical role in the accounting labor supply chain (Spencer 2018; Leslie 2010). The data presented in this study relate to many of the recommendations of the Pathways Commission, complement prior research on community colleges (Leslie 2010), and, to the extent possible, are similar to data on four-year institutions in the extant literature (Duchac and Amoruso 2012; Palm and Bisman 2010; Madison and Schmidt 2006).

The results presented in this paper show that U.S. community college enrollment is increasing and more than 25 percent of all degrees in business (i.e. both Bachelor's and Associate's degrees) are awarded by these institutions. Further, of the students receiving a business degree from a community college, approximately one quarter receive an accounting degree or business degree with an accounting concentration. Underscoring the importance of community colleges in the labor supply chain, we show fifteen states have adopted policies that guarantee the introductory accounting courses offered by community colleges can be transferred to four-year institutions for equivalent credit and in all states courses can be transferred between subsets of two- and four- year public intuitions for equivalent credit. Our data suggest more than half of the students enrolled in introductory accounting at a community college transfer to a four-year institution and a greater portion of students transfer in states that guarantee the courses are granted equivalent credit at a four-year institution.

For our sample of 165 institutions, the data show almost all business students at community colleges are required to take an introductory accounting course. Only 1 percent of respondents reported no accounting requirement and almost 80 percent require at least two semesters of introductory accounting. Community colleges tend to have fewer and smaller sections of introductory accounting courses than their four-year counterparts. While most introductory accounting courses at these institutions are taught by instructors who majored in accounting, only one third of courses are taught by CPAs and there is wide variation in this characteristic across institutions. In our sample, a majority of introductory accounting courses cover financial and managerial accounting equally though the percentage of institutions is greater in states with transfer guarantees. We find a majority of our respondents use a "balanced" approach between the "preparer" focus and the "user" focus. Our results differ from studies of four-year colleges that find a greater percentage of institutions take a user approach (Duchac and Amoruso 2012; Palm and Bisman 2010). Regarding the selection of the textbook used in the introductory accounting courses, a majority of the institutions in our sample have the coordinating instructor select the textbook but a portion leave the decision to the individual instructor. Consistent with guidance from the Pathways Commission, we find that almost all courses in our sample cover ethics and accounting careers. However, very few courses provide students the opportunity to interact with accounting professionals as recommended by the Commission (Pathways Commission 2012).

The AECC and Pathways Commission both issued recommendations related to the content and delivery of introductory accounting courses, recognizing the critical role these courses play in the labor supply chain (AECC 1992; Pathways Commission 2012). The AAA concludes that a substantial portion of students enroll in two-year institutions and acknowledges a need to 'better understand these members of our academic community' (Leslie 2010, 3) since most previous studies have focused on four-year colleges. Overall, the data presented in this paper provide evidence that two-year institutions structure introductory accounting courses in a manner similar to four-year institutions (e.g., similar number of required courses, pedagogy, and topic coverage). This finding provides indirect evidence two-year institutions offer courses that are not strictly vocationally oriented, a result that is unsurprising given 15 states guarantee the courses can be transferred to four-year institutions. However, our data implies many characteristics are constant across educational sectors, variation in the textbook selection process and instructor characteristics suggest differences exist in how these courses are delivered. It is unclear how these characteristics will change in the coming years as people's views of community colleges evolve and institutions respond to new initiatives regarding higher education and changes in technology.

The data included in this study should be of interest to multiple parties. Instructors at four-year institutions, where a considerable number of students transfer from community college, might consider the data in this study when planning curriculum and content since it can be used to identify areas where the average community college students' experiences differ from the experiences of their contemporaries at four-year institutions. Researchers

might use the data in this study as motivation for future research into how the delivery of introductory accounting courses affects student outcomes, including the pursuit of a Bachelor's degree. In addition, given the AICPA's emphasis on data analytics in accounting, future researchers might further examine how technology is integrated into the courses offered by two- and four-year institutions. The data included in this study should be of use to regulators and administrators. These parties should carefully consider differences between community colleges and the institutions they represent before implementing standardized transfer programs. Finally, the data suggests accounting professionals may want to consider increasing outreach to community colleges since many students in these institutions do not have the opportunity to interact with an accounting professional other than their instructor.

References

Acai, A., and G. Newton. 2015. A comparison of factors related to university students' learning: college transfer and direct-entry from high school students. *Canadian Journal of Higher Education* 45(2): 168-192.

Accounting Education Change Commission (AECC). 1992. *The First Course in Accounting*. Position Statement No. 2. Torrance, CA: AECC.

Accounting Education Change Commission (AECC). 1993. The importance of two-year colleges for accounting education: Issues statement no. three. *Issues in Accounting Education* 8: 191.

Blankley, A. I., Kerr, D. S., and C. E. Wiggins. 2018. An examination and analysis of technologies employed by accounting educators. *The Accounting Educators' Journal 28*: 75-98.

Chiang, B., Nouri, H., and S. Samanta. 2014. The effects of different teaching approaches in introductory financial accounting. *Accounting Education: An International Journal* 23 (1): 42-53.

Desrochers, D. M., and J. V. Wellman. 2011. *Trends in College Spending 1999-2009.* Washington, DC: Delta Project on Postsecondary Education Costs, Productivity, and Accountability.

Duchac, J. E., and A. J. Amoruso. 2012. A descriptive study of institutional characteristics of the introductory accounting course. *Issues in Accounting Education* 27 (1): 1-16.

Freeman, M. S., and G. Burkette. 2019. Storytelling in the accounting classroom. *The Accounting Educators' Journal 29*: 29-39.

Glass, J. C., and B. Oakley. 2003. Attrition and retention among accounting majors in community colleges: Problems and possible remediation. *Community College Journal of Research & Practice* 27 (8): 679-698.

Haas, A. 2005. Now is the time for ethics in education. *The CPA Journal* (June): 66-68.

Hill, M. C. 1998. Class size and student performance in introductory accounting courses: Further evidence. *Issues in Accounting Education* 13 (February): 47-64.

Kaminski, K. A., Golemon, D. L., and E. M. McEacharn. 2020. The switch: a study of promoting introductory managerial accounting as the first accounting course for business and non-business majors. *The Accounting Educators' Journal 30*: 173-200.

Laband, D. N., D. L. Rosenberg, and K. J. Smith. 1997. An examination of the performance of transfer versus 'native' students in upper-level accounting courses. *Journal of Accounting Education* 15 (4): 515-529.

Law, D., R. Shaffer, and D. E. Stout. 2009. Bridging the education-profession gap: The Accounting Student-Practitioner Day (ASPD) program. *Journal of Accounting Education* 27 (3): 133-146.

Leslie, D. 2010. Accounting in community colleges: who teaches, who studies? *A Report of the American Accounting Association.* Sarasota, FL: AAA.

Madison, R. L., and J. J. Schmidt. 2006. Survey of time devoted to ethics in accountancy programs in North American colleges and universities. *Issues in Accounting Education* 21(2): 99-109.

Mayfield, A., White, C. C., Downs, T., and D. Erlandson. 2022. Expanding advocacy for community college success. *New Directions for Community Colleges* 2022(197): 13-28.

Murdoch, B., and P. W. Guy. 2002. Active learning in small and large classes. *Accounting Education*, 11(3): 271-282.

Nelson, M. W., Elliott, J. A., and R. L. Tarpley. 2002. Evidence from auditors about managers' and auditors' earnings management decisions. *The Accounting Review* 77: 175-202.

Oppenheim, A. M. 1992. *Questionnaire design, interviewing, and attitude measurement*. New York, NY: Pinter Publishers.

Palatnik, B. R., and J. I. Abbott. 2018. Credentials for accounting professors: faculty's opinions. *The Accounting Educators' Journal 28*: 53-73.

Palm, C., and J. Bisman. 2010. Benchmarking introductory accounting curricula: Experience from Australia. *Accounting Education: An International Journal* 19 (1-2): 179-201.

Pathways Commission. 2012. The Pathways Commission: *Charting a national strategy for the next generation of accountants.* American Accounting Association and American Institute of Certified Public Accountants. (July).

Perna, L. W., and J.E. Finney. 2014. *The Attainment Agenda: State Policy Leadership in Higher Education*. Baltimore, MD: Johns Hopkins University Press.

Porter, E. 2015. The promise and failure of community colleges. *New York Times* (February 17). Available at: https://www.nytimes.com/2015/02/18/business/economy/the-promise-and-failure-of-community-colleges.html

PWC. 2015. Data driven. Available at: https://www.pwc.com/us/en/careers/university-relations/data-driven.html

Ramachandran Rackliffe, U., and L. Ragland. 2016. Excel in the accounting curriculum: perceptions from accounting professors. *Accounting Education* 25 (2): 139-166.

Schmidt, D., and M. Wartick. 2014. Performance in upper-level accounting courses: The case of transfer students. *Advances in Accounting Education: Teaching and Curriculum Innovations* 14: 171-192.

Sledgianowski, D., M. Gomma, and C. Tan. 2017. Toward integration of Big Data, technology, and information systems competencies into the accounting curriculum. *Journal of Accounting Education* 38: 81-93.

Spencer, K. 2018. Middle-class families increasingly look to community colleges. *New York Times* (April 5). Available at: https://www.nytimes.com/2018/04/05/education/learning/community-colleges-middle-class-families.html

Tickell, G. A., and K. X. Smyrnios. 2005. Predictors of tertiary accounting students' academic performance: A comparison of Year 12-to-university students with TAFE-to-university students. *Journal of Higher Education Policy and Management* 27 (2): 239-259.

Wallace, R., and C. Mellor. 1988. Nonresponse bias in mail accounting surveys: A pedagogical note. *British Accounting Review* 20: 131-139.

Zekany, K. E. 2020. Curricular study of AACSB accounting programs: what core accounting courses are required to earn an accounting generalist degree? *The Accounting Educators' Journal 30*: 137-156.

TABLE 1
Historical Data on Bachelor's and Associate's Degrees Conferred

	Associate's Degrees (AD)			Bachelor's Degrees (BD)			AD / (AD+BD)	
	All Majors (n)	Business (n)	Bus. Pct	All Majors (n)	Business (n)	Bus. Pct	All Majors	Business
2019 - 2020	2,038,431	387,851	19.03%	1,018,233	112,120	11.01%	0.50	0.29
2018 - 2019	2,013,086	390,490	19.40%	1,036,640	116,799	11.27%	0.51	0.30
2017 - 2018	1,980,665	386,240	19.50%	1,011,696	117,821	11.65%	0.51	0.31
2016 - 2017	1,956,114	381,109	19.48%	1,005,687	122,252	12.16%	0.51	0.32
2015 - 2016	1,920,750	371,690	19.35%	1,008,228	128,259	12.72%	0.52	0.35
2014 - 2015	1,894,969	363,741	19.20%	1,014,341	132,374	13.05%	0.54	0.36
2013 - 2014	1,870,150	358,132	19.15%	1,005,155	129,957	12.93%	0.54	0.36
2012 - 2013	1,840,381	360,887	19.61%	1,007,427	134,114	13.31%	0.55	0.37
2011 - 2012	1,792,163	367,235	20.49%	1,021,718	143,390	14.03%	0.57	0.39
2010 - 2011	1,716,053	365,133	21.28%	943,506	139,994	14.84%	0.55	0.38
2009 - 2010	1,649,919	358,119	21.71%	848,856	133,265	15.70%	0.51	0.37
2008 - 2009	1,601,399	348,056	21.73%	787,243	127,882	16.24%	0.49	0.37
2007 - 2008	1,563,069	335,254	21.45%	750,166	121,221	16.16%	0.48	0.36
2006 - 2007	1,524,729	327,850	21.50%	727,616	116,113	15.96%	0.48	0.35
2005 - 2006	1,485,104	318,043	21.42%	713,066	96,933	13.59%	0.48	0.30
2004 - 2005	1,439,264	311,574	21.65%	696,660	96,067	13.79%	0.48	0.31

Source: U.S. Department of Education, Digest of Education Statistics (2004-2020)

TABLE 2
State Transfer and Articulation Profiles

State	(1) Trans. Core	(2) Com. Num.	(3) Gtd. Trans.	(4) Rev. Trans.	(5) Acct. Core	(6) Acct. Trans.
Alabama	●			●		●
Alaska	●		○			●
Arizona	●		○		●	●
Arkansas	●	●	●			●
California	●	○	○		●	●
Colorado	●	●	●	●		●
Connecticut	○		○		○	●
Delaware			○			●
Florida	●	●	●	●		●
Georgia	●	○	●			●
Hawaii	●	○	●	●	●	●
Idaho	●	●	●			●
Illinois	●		●			●
Indiana	●	●	●			●
Iowa		○	●	●		●
Kansas	●	●	●	●	●	●
Kentucky	●	○	●		●	●
Louisiana	●	●	●	●	●	●
Maine			●	●		●
Maryland	●		●	●		●
Massachusetts	●		●			●
Michigan			○	●		●
Minnesota		●	○	○		●
Mississippi	●	○	●	●		●
Missouri	●	●	●	●		●
Montana	●	○	○			●
Nebraska			○			●
Nevada	●	●	●	●	●	●
New Hampshire						●
New Jersey	●		●	●	●	●
New Mexico	●	●	●			●
New York	○		○	○	○	●
North Carolina	●		●	○	●	●
North Dakota	●	●	○			●
Ohio	●		●	●	●	●
Oklahoma	●		●		●	●
Oregon	●		●	●		●
Pennsylvania	○		●	○		●

(continued on the next page)

TABLE 2 (continued)

State	(1) Trans. Core	(2) Com. Num.	(3) Gtd. Trans.	(4) Rev. Trans.	(5) Acct. Path	(6) Acct. Trans.
Rhode Island			●	●		●
South Carolina	●		●		●	●
South Dakota	●	●	●			●
Tennessee	●	●	●	●	●	●
Texas	●	●	○	●		●
Utah	●	●	●			●
Vermont		○	○			●
Virginia	●	○	●			●
Washington	●	○	●	●		●
West Virginia	●		●	●		●
Wisconsin	●		●	●		●
Wyoming		●	●			●

Table 2 shows the extent to which policies promoting the transfer of credit between two- and four- year institutions have been adopted by individual states. The symbol ● indicates a policy has been adopted by all public institutions within a state. The symbol ○ indicates a policy has been adopted by a subset of public institutions within a state. Column (1) indicates whether states have adopted a set of general education courses which are transferrable across all public institutions. Column (2) indicates whether states have adopted a uniform numbering convention for lower-division courses. Column (3) indicates whether states guarantee those who complete an Associate's degree can transfer all credits to a four-year institution and enter at junior-level standing. Column (4) indicates whether states have implemented a process that retroactively grants an Associate's degree to students who have not completed the requirements prior to transferring to a four-year institution. Column (5) indicates whether introductory accounting course transferability is standardized at the state-level. Column (6) indicates whether the transfer equivalency databases show introductory courses as a subset of the state's two-year institutions have been granted equivalent credit at an in-state public four-year institution.

TABLE 3
Sample Selection

Total survey invitations sent	752
Less:	
Surveys not completed	568
Partially completed surveys	19
Number of fully completed surveys	165
Response Rate	22%

TABLE 4
Program Enrollment by Number of Introductory Accounting Courses Required

	Business Program			Accounting Program		
	n	**Median**	**Mean**	**n**	**Median**	**Mean**
>2 Semesters Required	13	250	382	12	45	88
>2 Quarters Required	4	150	153	4	45	50
2 Semesters Required	110	220	734	79	50	267
2 Quarters Required	6	488	617	5	60	90
1 Semester Required	23	180	362	14	50	66
1 Quarter Required	5	350	343	5	80	98
None	4	520	491	4	25	88
Total Across All Groups	165	213	613	123	50	200

TABLE 5
Percentage of Business Students Who Transfer to a 4-Year University

	n	Mean	Min	Quartile 1	Median	Quartile 3	Maximum
> 2 Semesters Required	10	43%	10%	14%	35%	73%	90%
2 Semesters Required	73	52%	0%	24%	50%	80%	100%
1 Semester Required	14	51%	0%	20%	50%	88%	100%
Total across all groups	114	50%	0%	21%	50%	80%	100%

TABLE 6
Topic Coverage and Pedagogical Approach

Panel A: Coursework Devoted to Financial and Managerial Accounting Topics

	50% Financial / 50% Managerial		70% Financial / 30% Managerial		100% Financial		Total
	n	Percent	n	Percent	n	Percent	n
> 2 Semesters Required	5	38.5%	4	30.8%	4	30.8%	13
2 Semesters Required	71	64.5%	30	27.3%	9	8.2%	110
1 Semester Required	15	65.2%	5	21.7%	3	13.0%	23
Total across all groups	97	58.8%	49	29.7%	19	11.5%	165

Panel B: Pedagogical Approach

	Balanced		Preparer		User		Other		Total
	n	Percent	n	Percent	n	Percent	n	Percent	n
> 2 Semesters Required	11	84.6%	1	7.7%	1	7.7%	0	0.0%	13
2 Semesters Required	83	75.5%	18	16.4%	8	7.3%	1	0.9%	110
1 Semester Required	15	65.2%	7	30.4%	0	0.0%	1	4.3%	23
Total across all groups	119	72.1%	32	19.4%	12	7.3%	2	1.2%	165

TABLE 7
Number of Introductory Accounting Courses that Include Ethics Content

Panel A: First Course

	No		Yes	
	n	**Percent**	**n**	**Percent**
> 2 Semesters Required	4	31%	9	69%
2 Semesters Required	15	14%	95	86%
1 Semester Required	5	22%	18	78%
Total across all groups	27	16%	138	84%

Panel B: Second Course

	No		Yes	
	n	**Percent**	**n**	**Percent**
> 2 Semesters Required	4	31%	9	69%
2 Semesters Required	33	30%	77	70%
Total across all groups	48	30%	114	70%

TABLE 8
Number of Introductory Accounting Courses that Cover Career Opportunities

Panel A: Career Discussion

	No		Yes	
	n	**Percent**	**n**	**Percent**
> 2 Semesters Required	1	8%	12	92%
2 Semesters Required	5	5%	105	95%
1 Semester Required	1	4%	22	96%
Total across all groups	8	5%	157	95%

Panel B: Opportunity to Interact with an Accounting Professional

	No		Yes	
	n	**Percent**	**n**	**Percent**
> 2 Semesters Required	9	69%	4	31%
2 Semesters Required	73	66%	37	34%
Total across all groups	109	67%	53	33%

In Panel B the opportunity to interact with an accounting professional refers to an interaction with a practitioner other than the instructor.

TABLE 9
Mean Number of Students Enrolled in a Section of Introductory Accounting

Panel A: First Course

	Mean	Minimum	Quartile 1	Median	Quartile 3	Maximum
> 2 Semesters Required	28	7	25	25	30	60
2 Semesters Required	46	5	21	28	41	450
1 Semester Required	24	5	20	25	30	40
Total across all groups	39	5	20	25	39	450

Panel B: Second Course

	Mean	Minimum	Quartile 1	Median	Quartile 3	Maximum
> 2 Semesters Required	25	7	20	25	28	50
2 Semesters Required	35	5	19	25	40	315
Total across all groups	31	4	18	25	30	315

TABLE 10
Textbook Selection Process for Introductory Accounting Courses

Panel A: First Course

	Coordinating Instructor		Committee		Individual Instructor		Other	
	n	Percent	n	Percent	n	Percent	n	Percent
> 2 Semesters Required	8	62%	2	15%	3	23%	0	0%
2 Semesters Required	39	35%	36	33%	29	26%	6	5%
1 Semester Required	8	35%	6	26%	9	39%	0	0%
Total across all groups	62	38%	50	30%	47	28%	6	4%

Panel B: Second Course

	Coordinating Instructor		Committee		Individual Instructor		Other	
	n	Percent	n	Percent	n	Percent	n	Percent
> 2 Semesters Required	8	62%	2	15%	3	23%	0	0%
2 Semesters Required	38	35%	35	32%	32	29%	5	5%
Total across all groups	61	38%	48	30%	48	30%	5	3%

TABLE 11
Use of Online/Interactive Learning Solutions in Introductory Accounting

Panel A: First Course

	Never		Rarely		Somewhat		Moderately		Heavily		Extensively	
	n	**Percent**	**n**	**Percent**	**n**	**Percent**	**n**	**Percent**	**n**	**Percent**	**n**	**Percent**
> 2 Semesters Required	0	0%	1	8%	3	23%	1	8%	3	23%	5	38%
2 Semesters Required	0	0%	12	11%	13	12%	15	14%	37	34%	33	30%
1 Semester Required	0	0%	1	4%	2	9%	2	9%	7	30%	11	48%
Total across all groups	0	0%	14	8%	21	13%	23	14%	52	32%	55	33%

Panel B: Second Course

	Never		Rarely		Somewhat		Moderately		Heavily		Extensively	
	n	**Percent**	**n**	**Percent**	**n**	**Percent**	**n**	**Percent**	**n**	**Percent**	**n**	**Percent**
> 2 Semesters Required	0	0%	2	15%	2	15%	1	8%	3	23%	5	38%
2 Semesters Required	0	0%	11	10%	12	11%	16	15%	39	35%	32	29%
Total across all groups	0	0%	15	9%	19	12%	24	15%	52	32%	52	32%

TABLE 12
Number of Institutions Teaching Introductory Accounting via Distance Learning

Panel A: First Course

	No		Yes	
	n	**Percent**	**n**	**Percent**
> 2 Semesters Required	1	8%	12	92%
2 Semesters Required	12	11%	98	89%
1 Semester Required	6	26%	17	74%
Total across all groups	20	12%	145	88%

Panel B: Second Course

	No		Yes	
	n	**Percent**	**n**	**Percent**
> 2 Semesters Required	2	15%	11	85%
2 Semesters Required	14	13%	96	87%
Total across all groups	20	12%	142	88%

TABLE 13
Percentage of Students Taking Introductory Accounting via Distance Learning

Panel A: First Course

	Mean	Minimum	Quartile 1	Median	Quartile 3	Maximum
> 2 Semesters Required	36%	10%	24%	28%	52%	70%
2 Semesters Required	33%	2%	20%	30%	49%	85%
1 Semester Required	40%	10%	25%	30%	46%	100%
Total across all groups	34%	2%	20%	30%	50%	100%

Panel B: Second Course

	Mean	Minimum	Quartile 1	Median	Quartile 3	Maximum
> 2 Semesters Required	37%	15%	25%	26%	55%	75%
2 Semesters Required	35%	2%	20%	30%	50%	90%
Total across all groups	36%	2%	20%	30%	50%	100%

TABLE 14
Inter-State Comparison

		No Standardization (n = 95)		Standardization (n = 70)		
		Mean	**Median**	**Mean**	**Median**	***T*-Test**
(1)	Business Prgm. Enrollment	445	200	821	267	$p = 0.14$
(2)	Acct. Prgm. Enrollment	135	42	285	60	$p = 0.24$
(3)	Pct. Majoring in Acct.	28%	20%	35%	25%	$p = 0.15$
(4)	Pct. Transfers	45%	50%	60%	72%	$p < 0.01$
(5)	Pct. 50% Fin. / 50% Mgr.	43%	0%	80%	100%	$p < 0.01$
(6)	Pct. Balanced	71%	100%	73%	100%	$p = 0.79$
(7)	Pct. Ethics	84%	100%	89%	100%	$p = 0.43$
(8)	Pct. Careers	96%	100%	94%	100%	$p = 0.66$
(9)	Pct. Acct. Professional	35%	0%	29%	0%	$p = 0.41$
(10)	Sections	5	3	4	4	$p = 0.92$
(11)	Students Per Section	30	25	52	30	$p < 0.01$
(12)	Instructor Acct. Deg.	86%	100%	84%	100%	$p = 0.77$
(13)	Instructor CPA	49%	50%	40%	25%	$p = 0.18$
(14)	≥Mod. Interactive Solutions	74%	100%	83%	100%	$p = 0.13$
(15)	Offer Dist. Learning	87%	100%	89%	100%	$p = 0.82$
(16)	Pct. Students Dist. Learn.	33%	30%	36%	30%	$p = 0.43$

P-values are from a two-tailed test of differences in means between groups.