

A COMPARISON OF ACCOUNTING PROGRAMS AT  
SELECTED VIRGINIA COMMUNITY COLLEGES AND  
PROPRIETARY SCHOOLS WITH JOB REQUIREMENTS

by

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## Chapter 1

### INTRODUCTION

#### The Problem Setting

Horn (1975) described past educational patterns of accountants, citing two basic paths: (1) on-the-job training after completion of secondary school, and (2) acquisition of the four-year college or university baccalaureate and, perhaps, graduate degree prior to employment. The trend is toward the second path of postsecondary education as a prerequisite for admission to the profession.

The first path described by Horn is almost a thing of the past (Donnel, 1976; Horn, 1975; Moon, 1970; Sapre & Perritt, 1976; Spanswick, 1967). Nevertheless, some job opportunities for bookkeepers with no accounting education or with only high school bookkeeping or accounting courses still exist (Reap, 1976; Stelter, 1968). Spanswick (1967) surveyed manual bookkeeping jobs in Chicago and New York and reported that a majority of the firms were not willing to hire persons with one year of high school bookkeeping. In 1976 Reap conducted a study of job tasks of accounting and bookkeeping workers compared to high school accounting or bookkeeping curricula. She concluded that present accounting and bookkeeping curricula in high schools do not adequately prepare students for employment as

bookkeepers or accountants. Two other studies presented somewhat different evidence. Smiley (1972) found an agreement between high school teachers and text authors as to concepts that should be and are emphasized in the high school accounting or bookkeeping courses. Peal (1981) found a general agreement between records maintained in small accounting offices and those records stressed in high school accounting or bookkeeping courses.

Historically, the second path described by Horn, i.e., acquisition of the baccalaureate degree prior to employment in accounting, dates to Joseph Wharton of the University of Pennsylvania in 1881 (Sapre & Perritt, 1976). (Prior to then, bookkeeping and accounting were taught either in secondary schools or in private business schools dating to the early nineteenth century.) Williams (1974, p. 4) writes, "Since the beginning of the twentieth century, the accounting profession has turned over to the colleges and universities almost full responsibility for the basic education and much of the training of entrants into its ranks."

In recent years a third path not described by Horn has emerged. That path includes some postsecondary education but less than a baccalaureate degree prior to employment. Although this accounting education may be obtained as well at proprietary business colleges (for example, see Harris & Grede, 1977; Sapre & Perritt, 1976; Weaver & Brower, 1982),

the public community college has emerged as the primary source of such education (Harris & Grede, 1977; Schwersenz, 1969).

According to Tyra (1972, p. 31), "The graduate of the two-year program is qualified for almost any accounting position below the baccalureate level. His<sup>1</sup> broad educational background will assist him in performing **nonroutine** assignments which require reasoning and application of judgment and advancing to mid-management positions."

Several studies, e.g., Ozzello (1967), Kelly (1970), Yandoh (1971), Clary (1977), Weston (1980) and Smith (1981), have shown that some accounting tasks can be performed adequately by graduates of two-year colleges. Gordon et al., (1973, p. 42) explained: "These positions require more knowledge than that of the typical bookkeeper but less than that of a professional accountant. Persons who fill these positions are typically known as semi-professional accountants or para-professional accountants."

Despite increasing attention to proprietary schools in recent years (Maeroff, 1977), there remains a dearth of objective data about these schools and their students (Jung, Campbell & Wolman, 1976). In a study of postsecondary education in accredited private vocational schools, Bond (1975) reported that graduates of these schools were satisfied with their training and employers stated a preference for graduates of these schools over graduates with other educational experiences. Tally, (1982), in a report prepared for the Association

of Independent Colleges and Schools, claimed independent schools were serving career students and workplaces better than traditional schools. Aided by high unemployment rates, these schools were more attuned to the job market, according to the report ("Report Concluded that AICS Institutions are Serving the Needs of the Workplace," 1982). One of the major recruiting tactics used by proprietary schools is their emphasis on job placement services.

There are employment opportunities for graduates of accounting programs in community colleges and proprietary schools. Kelly (1970) compiled a list of tasks performed by semiprofessional accountants in New York State and found a diversity of activities. King (1976) compiled a similar list of tasks performed by Virginia community college graduates employed in accounting. She found the graduates performing a wide variety of accounting tasks which represented a wide range of difficulty. Ozzello (1967) found two-year degree holders performing accounting activities somewhere between those of a bookkeeper and those of a four-year graduate. Bond (1974) investigated the relationship between manpower needs in Indiana and courses offered by accredited private vocational schools. Although the study was not specifically related to accounting, Bond found these schools training people adequately for jobs that met that state's manpower needs.

A study by Horowitz (1974), however, found few jobs available to two-year college graduates in New York City. Those that were offered were essentially bookkeeping or clerical in nature. Yandoh (1971), in a study of upstate New York community college graduates, concluded that community college instruction should be based on the expectation that graduates who secure accounting-related positions will perform primarily bookkeeping type accounting duties. In a study comparing public and proprietary vocational training, Wilms (1974, p. 67) commented, "Although proprietary graduates got accounting or related jobs significantly more often, only two out of ten proprietary and one out of ten public graduates got accounting or related jobs." (It should be noted Wilms eliminated clerical positions from his definition of accounting or related jobs.)

#### Statement of the Problem

A major function of community colleges and proprietary schools is to provide skilled workers for immediate employment in the area served by these schools. Specific manpower needs vary by location and change over time. Conflicting data from previous studies and the difficulty of generalizing data over time and location present problems to curriculum designers in assessing how well their programs are preparing students for employment. This study attempted to present more evidence

of the relevance of these programs in an ongoing process of evaluation.

The purpose of this study was to determine how relevant the accounting programs offered in community colleges and proprietary schools in Virginia were in terms of preparing students for accounting activities performed on the job by graduates of these programs.

Specifically, the study sought to answer the following question and sub-questions:

What is the relationship between the accounting tasks taught in Virginia community colleges and proprietary schools and the accounting tasks performed by graduates of accounting programs at these schools?

A. What accounting tasks are being taught in the accounting programs in Virginia community colleges and proprietary schools?

B. What accounting tasks are accounting graduates of these schools performing in accounting or related jobs?

C. Are there any differences between accounting graduates of community colleges and accounting graduates of proprietary schools in job placements as indicated by the kind of jobs secured and tasks performed?

D. What accounting tasks do employers or supervisors of community college and proprietary school graduates expect these graduates to be able to perform?

E. What is the relationship between accounting tasks taught in Virginia community colleges and proprietary schools and accounting tasks employers or supervisors expect graduates of these schools to be able to perform?

F. What is the relationship between accounting tasks performed by graduates of Virginia community colleges and proprietary schools and accounting tasks employers or supervisors expect these graduates to be able to perform?

#### Need for the Study

There is an ongoing need for studies to determine the role sub-baccalaureate graduates assume in the accounting profession and to evaluate the adequacy of community college and proprietary school instruction in meeting employment needs (King, 1976; Ozzello, 1967). Such studies probably are more appropriate in evaluating accounting programs in community colleges and proprietary schools than in evaluating such programs at four-year educational institutions. Accounting programs in Virginia community colleges and proprietary schools are occupational programs which attempt to provide skills necessary to obtain and maintain employment in the area in which a student is trained and also to provide education to meet community needs (King, 1976).

Dowding (1973, p. 554) wrote: "Before establishing any system of training, it is imperative to study each occupation to determine precisely what skills and knowledge are required

by tasks it involves." Such studies are needed on a continual basis to help assure that relevance is maintained. Follow-up studies of graduates are one method of judging outcomes of community college and proprietary school programs. Such studies are helpful in determining job availabilities and skills needed on the job.

There have been several studies conducted similar to this one relative to community colleges. The most recent ones in Virginia were conducted by King in 1976 and a study relating to cost accounting skills done by Clary in 1977. Ozzello (1967) and King (1976) called for more studies in a continuous evaluative process. The researcher could not find any studies relating to accounting programs of proprietary schools in Virginia.

Since this study identified skills needed on the job by one-or-two-year graduates, implications for curriculum development and revisions ensue. Determination of employment demand for sub-baccalaureate graduates and employer expectations of these graduates should be helpful in designing programs and advising students regarding accounting programs at community colleges and proprietary schools.

#### Definitions

The following terms are defined for use in this study:

Accounting clerk: A person who performs routine book-keeping tasks either manually or using some form of automated accounting system.



**Accounting tasks:** Specific job activity elements which require the use of accounting concepts and skills (King, 1976).

**Associate degree:** "The designation granted upon completion of at least two but less than four years of college work, generally for the completion of the curriculum of a two-year institution" (Phillips, 1980).

**Bookkeeping:** The record-making phase of accounting. "It is only a small part of the field of accounting and probably the simplest part" (Meigs et al., 1977, p. 3). It includes compiling, recording and summarizing of data and is usually not concerned with the planning, systems design, controlling or interpretation aspects of accounting.

**Cost accounting:** A specialized field of accounting concerned with determining and controlling the cost of particular products or processes.

**Paraprofessional accountant (also called semiprofessional accountant or accounting assistant):** An individual "used in place of a professional to perform tasks for which the full range of professional expertise is not required" (Freeman, 1971, p. 678), but whose activities often require more professional judgment than those of an accounting clerk. The paraprofessional is also noted for less than a baccalaureate degree (Weaver & Brower, 1982) and a lack of professional licensing, e.g., certified public accountant (Freeman, 1971).

Proprietary school: A postsecondary school operated for profit. The term may be used interchangeably with business college or business school in this paper.

Task inventory: A list of tasks performed by incumbent workers employed in the area of interest (King, 1976).

Task survey: The process of determining which tasks are performed by incumbent workers (King, 1976).

### Limitations of the Study

The study was limited in the following ways:

1. The survey of graduates was limited to graduates of two-year accounting programs at four Virginia community colleges in four areas and graduates of three proprietary schools in the Tidewater area of Virginia. The survey of employers was also limited to the same areas.

2. The survey of employers was limited to those who employ or supervise community college and proprietary school accounting graduates and may not represent the opinions of all professional accountants.

3. The sample of graduates was limited to individuals who graduated from accounting programs in 1980, 1981 and 1982 at the institutions used.

## Chapter II

### LITERATURE REVIEW

The purpose of this study was to determine how relevant the accounting programs offered in community colleges and proprietary schools in Virginia were in terms of preparing students for accounting activities performed on the job by graduates of these programs. Task analysis was used as a method to determine which accounting tasks were emphasized in these one-to-two-year programs of study and what accounting tasks were performed by graduates of these programs.

The review of literature was divided into several distinct parts. First the need for accountants with less than a baccalaureate degree was established along with the roles they played in the accounting profession and their position in the job markets. Second the use of task analysis as the research technique necessitated a review of the history of its development as an evaluation tool and its use in several previous studies. Finally, a separate review of related studies of community colleges and proprietary schools was made since, apparently, very few previous studies addressed accounting programs at both community colleges and proprietary schools.

### The Need for Paraprofessional Accountants

The demand for accountants in the work force has remained relatively high for many years and is expected to continue in the future. Weaver and Brower (1982, p. 20) reported the following information on past and future employment trends taken mostly from the Occupational Outlook Handbook (1980-81 edition):

There were 1,800,000 accounting clerks and 980,000 paraprofessionals and professional accountants in 1978 [in the United States]. Of the 980,000 accountants, approximately 60 percent (588,000) were engaged in industrial accounting, 25 percent (245,000) in public accounting, and the remaining 15 percent (147,000) in either government or education.

In 1978, 15.3 percent of all accountants, or 150,000, were CPA's.

Employment growth for accounting clerks performing bookkeeping functions is expected to be slower than the average for all occupations during the 1980's. This slower growth rate is expected as a result of increasing use of computer and data processing systems for routine activities.

Employment growth for accountants is projected to grow faster than the average for all occupations during the 1980's. Both paraprofessional and

professional accountants will be in high demand because of the increasing reliance of business and industry on financial information to efficiently run their operations; new tax, lending, and investment legislation that requires accounting procedures and guidelines; and increased pressure on businesses and government agencies to improve budgeting and accounting procedures.

As noted by Weaver and Brower above, accounting employment can be, and often is, divided into three categories: accounting clerks, paraprofessional accountants, and professional accountants. It is the middle group, paraprofessionals, that has emerged in recent years (Cheatham, 1978) paralleling the growth of community colleges. Weaver and Brower (1982, p. 18) noted, "When one thinks of accounting careers, the focus is on accounting clerks and professional accountants." They described a "middle" career level, explaining:

Paraprofessional accountants generally begin their careers in upper-level accounting clerk positions, such as accounting trainees, junior accountants, cost clerks, and full-charge positions where employers are seeking the minimum of experience. Perhaps the major difference between the career opportunities for paraprofessional

accountants and accounting clerks is in the rate and level of advancement.

The use of paraprofessionals by public accounting firms has been advocated for many years. As early as 1965, Carey noted (p. 306) that "as the shortage of topflight professional accountants becomes more acute, much of the staff work involving routine, detailed, repetitive chores might be handled by nonprofessional personnel." Noting the critical shortage of professional accountants in CPA firms, Schwersenz (1969, p. 193) commented:

While accounting firms must continue to seek qualified college graduates, they must get away from the "college graduate syndrome." They should also seek, aggressively, to fill bottom-rung positions with young (sic) men and women from the vast and as yet untapped other sources.

These sources are the graduates of community and junior colleges (accounting schools) and of high-level privately operated business schools.

In particular, the community college graduate . . . may well qualify as our potential new labor source in a new staff post--"accounting assistant."

Despite the many suggestions for greater use of paraprofessionals in public accounting (see also Barton, 1975; Compton, 1980; Freeman, 1971; and Loeb & Rymer, 1973), apparently relatively few sub-baccalaureate degree holders

are employed by CPA firms. Gordon et al. (1973), in a study for the American Accounting Association, found less than ten percent of the community college graduates of 1971-1972 who were employed in accounting jobs were with public accounting firms (see Table 1). Clary (1977, p. 119) found industry to be receptive to these two-year graduates. In a survey of 245 manufacturing plants in Virginia, she reported that, "for non-supervisory accounting employees, two-year community/junior college accounting programs are the single most preferred source by Virginia manufacturing plants, with high schools and four-year colleges being the second and third sources respectively."

### Task Analysis

Task analysis (task inventory, job analysis) as a means of analyzing jobs for the purpose of evaluating training can be traced, in large part, to research conducted for the military by the Human Resources Research Organization (Ammerman, 1970). According to Ammerman (p. 1), "the initial and most critical step in the development of any technical training program is to specify and describe what a person must know and be able to do in the job situation for which he is being trained."

Several studies have been conducted using task analysis to determine job content of workers for the purpose of evaluating curriculum (Burnett, 1980; Coler, 1975; Mann,

Table 1

Number and Percentage of Community College  
Graduate Employees by Type of Employment <sup>a</sup>

Type of Employment	Number Employed	Percentage of Total Employed
Industrial Firms	849	68.7
Government Agencies	178	14.4
Public Accounting	116	9.4
Non-Profit Institutions	51	4.1
Educational Institutions	42	3.4
Total	<u>1,236</u>	<u>100.0</u>

<sup>a</sup>Source: Gordon et al. (1973, p. 44)



1978). Specifically tasks performed by sub-baccalaureate career accounting graduates have been the subject of other studies using task analysis (Clary, 1977; Kelly, 1970; King, 1976; Ozzello, 1967; and Yandoh, 1971).

There are several dimensions of tasks that may be analyzed. The first step is to ascertain what tasks are performed by job incumbents. One common means to create a list of tasks performed on a job is to ask experienced job incumbents what they do on their jobs (Ammerman, 1970). Ammerman explained (p. 6): These tasks, thus obtained, are used as the basis for instruction permitting students to apply their new knowledge and skills soon after they are acquired.

Since it is virtually impossible to identify every task performed, analyses often differentiate between tasks on one or several bases. Some of the more common bases of differentiation identified by King (1976) were:

1. Frequency of performance
2. Time spent performing each task
3. The importance of each task for an effective operation
4. Task difficulty

#### Related Studies of Community Colleges

Several studies have been conducted using job analysis to evaluate the relevance of two-year accounting programs at

community/junior colleges. Five of them especially pertinent to this study are briefly described here.

Ozzello (1967) conducted a study of accounting-type activities performed by technical accountants in firms manufacturing durable goods in a tri-county area in Michigan. His expressed purposes for the study were (1) to determine current and projected need for technical accountants, (2) to establish a list of accounting-type activities performed by technical accountants, and (3) to establish a selected criteria that could be used to assist in the evaluation of accounting content in a terminal accounting program.

Data were obtained through a mail questionnaire from administrative officers of 122 firms and through personal interviews with 99 randomly selected technical accountants. A list of 250 accounting-type activities was developed from textbooks and literature. From the list, the technical accountants indicated which activities they performed and how frequently they performed each task.

Ozzello concluded from the data there was a position for technical accountants between the bookkeeper and the accountant. Technical accountants performed some activities which were normally assigned to bookkeepers and some activities usually performed by accountants with baccalaureate degrees. He also commented: "There appears to be an ever present need to evaluate continually the content and scope

of the accounting courses in a terminal accounting program" (p. 147).

Kelly (1970) conducted a job analysis in Rochester and Syracuse to determine (1) the tasks performed by and personal characteristics of semiprofessional accountants, (2) whether there are clusters of tasks performed by semiprofessional accountants, and (3) the areas of training for the semiprofessional accountants that are necessary to maintain their jobs and to be eligible for promotion.

Kelly gathered his data through personal interviews of 108 semiprofessional accountants. A rank order list of identifiable accounting-related tasks performed by semiprofessional accountants in finance, manufacturing, retail trade, and service classifications was compiled. Kelly found there was a position for semiprofessional accountants. A business-oriented post-secondary education was a prerequisite for a majority (81%) of them. He also found no "clustering effect" for the accounting-related tasks performed by these semiprofessional accountants.

Yandoh (1971) conducted a study of 207 graduates of two-year accounting programs in upstate New York. His purposes were to determine (1) the occupational and educational activities of these community college graduates since their graduation; (2) specific on-the-job activities, both accounting related and other, of the graduates; and (3) the attitudes

of employees and employers toward the effectiveness of community college accounting programs.

Yandoh gathered his data through mailed questionnaires and personal interviews. Major implications of the study were: (1) the occupational objective of career accounting programs should be reconsidered in light of the evidence indicating that they have become both occupational and college transfer programs; (2) community college accounting instruction should concentrate on providing a broad theoretical accounting background and refrain from the development of highly specialized accounting courses and topics; and (3) community college accounting instruction should be based on the expectation that graduates who secure accounting-related positions perform primarily bookkeeping-type accounting duties.

King (1976) conducted a study to determine if the two-year accounting programs offered at Virginia community colleges were relevant in terms of the accounting duties actually performed by graduates of these programs. She sought to identify the accounting skills taught in two-year programs and to assess their relationship to task performed by the graduates of these programs.

King developed a list of accounting tasks representative of skills taught in Virginia community colleges. She sent the list to 57 certified public accountants asking them to rank them in order of difficulty of each task. She then sent the list to 196 community college accounting graduates

and asked them to identify those tasks they performed and the amount of time they spent on each task. From the graduates' responses, frequencies and time spent indices were calculated.

King found that two-year accounting graduates performed a variety of accounting tasks. She concluded that course offerings at Virginia community colleges were relevant and that there were employment opportunities for graduates with a variety of types of employers with no predominant group.

Clary (1977) focused her attention on cost accounting skills. The purpose of her research was to determine the utility of cost accounting skills to associate degree accounting graduates in selected Virginia manufacturing plants.

A questionnaire containing 45 cost accounting skills was mailed to first-line accounting supervisors in 480 plants. From the 245 (51%) usable responses, absolute frequencies, percentage frequencies and chi square test of significance were used.

Clary concluded from her study that cost accounting skills were needed in Virginia manufacturing plants. Generally intermediate or advanced levels of proficiency were needed. For non-supervisory accounting employees, two-year community/junior college accounting programs were the single most preferred source by these plants, with high schools and four-year colleges being the second and third sources respectively.

### Related Studies: Proprietary Schools

In recent years there has been increasing interest in the development of private schools in the career education field, both nonprofit and proprietary schools. The United States Congress in 1972 made them eligible to participate in federal financial aid programs provided they are accredited or approved by a federally recognized accrediting agency (Harris and Grede, 1977; Maeroff, 1977). According to Wilms (1974, p. 2-3), in recent years "many proprietary schools have made a bid for 'respectability' to attract more students and federal student aid funds. In doing so, they have become concerned about accreditation, transfer of credit and degree-granting status--issues that lay outside the pale of profitmaking schools 10 years ago."

Nevertheless proprietary schools are not new. They date to the Plymouth Colony in 1635 (Wilms, 1974). Sapre and Perritt (1976, p. 2) tied early accounting training to these schools: "The development of accounting courses is closely identified with the history of the private business school." By the time accounting instruction was first offered in collegiate schools of business in 1881 at Wharton School in Philadelphia, private business schools had been training bookkeepers and accountants for some two hundred years.

Despite their longevity, educators know very little about proprietary schools or their effectiveness (Jung,

et al., 1976; Wilms, 1974). Compared to community colleges, there is a dearth of objective data. Very few studies have been conducted regarding proprietary schools and even less that concentrate on accounting.

One question that has been given a fair amount of attention in recent years regards the reason students choose to enroll in more expensive proprietary schools rather than in community colleges. (Talley, 1982, reported that in 1979-1980 tuition and fees for proprietary schools averaged \$2,321 compared to \$389 at tax-supported community colleges.) Two reasons students chose proprietary schools seem clear:

1. Job Placement Services (Eisenhour, 1982; Harris & Grede, 1977; Jung, et al., 1976; Maeroff, 1977; Matt, 1977; Talley, 1982; Wilms, 1974). This is undoubtedly the strongest selling point for proprietary schools. Wilms (p. 8) quotes a study by Belitsky conducted in 1969: "Ninety-nine percent of the schools surveyed by Belitsky provided placement services for their graduates, and 80 percent provided the service for life." There is some question, however, about how effective these placement services are. Talley (p. 8) reported that, "in order to have [Veterans Administration] approval for student support, a school must prove that at least 50% of the graduates get the jobs they were trained for." However, Jung, et al., in a comparative study of proprietary and non-proprietary vocational training graduates conducted in 1976, wrote (p. 216):

It is worth noting that although virtually all proprietary schools (98%) provided and emphasized placement assistance, less than 20% of the proprietary graduates surveyed reported actually finding jobs as a result of school placement assistance. Only 13% of the nonproprietary graduates found jobs through placement service, but only 64% of the nonproprietary schools offered placement assistance in the first place.

2. More intensified training (Eisenhour, 1982; Harris & Grede, 1977; Maeroff, 1977). This is perhaps the second most often cited reason students chose to go to proprietary schools rather than to less expensive community colleges. They want what Harris and Grede (p. 86) referred to as "no-nonsense" occupational training leaving out a core of general education required at community colleges. Maeroff (p. 1) wrote: "What students seem to find attractive about the schools is the chance to concentrate on the subject that interests them and to bypass courses in English, mathematics or other subjects that they consider irrelevant to their career goals." Through more intensified training and satisfactory placement results, students "anticipate the higher tuition costs to be offset by entering the job market more quickly." (Eisenhour, 1982, p. 1)

Three studies were found by the researcher that deal with effectiveness of proprietary schools. Bond (1975) conducted a study of postsecondary education in accredited



private vocational schools in Indiana. Through data collected from graduates of 35 schools and employers of these graduates, she concluded that (1) accredited private vocational schools in Indiana were training people for jobs which met state manpower needs; (2) graduates of these schools were satisfied with their training; and (3) the schools were meeting the needs of employers who stated they prefer to hire graduates of these schools rather than graduates with other educational experiences.

In a comparative study of proprietary and nonproprietary vocational training graduates, Jung, et al. (1976) sent questionnaires to 13,549 graduates in a three-year period from 1969 to 1971, of schools in four occupational areas (office occupations, health occupations, computer occupations and technical occupations) in four geographical areas: Atlanta; Chicago; Rochester, New York; and San Francisco. From the responses of 5,215 graduates (a 38.5% response rate), two principal analyses were performed: cross tabulations of questionnaire item responses and a cost-benefit analysis. The researchers found both proprietary and nonproprietary schools were effective in producing graduates with marketable skills. Placement percentages for both groups were similar. About three-quarters of those who actively sought related jobs did in fact obtain them after completing the training. Nonproprietary school graduates had realized greater economic

gains from training than proprietary school graduates partly because proprietary trainees were earning more before training. Mean salaries after training were \$30 per month higher for nonproprietary graduates overall. The researchers, however, believed the advantage for nonproprietary schools would have been higher if a larger proportion of proprietary schools had participated in the study. Twenty-five percent of the proprietaries went out of business within six months of the start of the study; another 30% refused to participate compared to only 13% refusal rate for nonproprietary schools. The researchers hypothesized that the proprietary schools which did not participate had poorer achievement records than those which participated.

Wilms (1974) designed a study to see if there were systematic differences in characteristics in occupational success of public and proprietary school students. His study included six occupations of varying status including accounting, which had the highest prestige rating of the six using the Hodge, Siegel and Ross prestige scores. Wilms interviewed 2,270 graduates of public and proprietary programs in four geographically varied metropolitan areas including 295 accounting graduates. Questions related mainly to careers, earnings, progression on the first job after graduation, to personal growth and to attitudes. Wilms explained (p. 62): "a major indicator of effectiveness was how well the graduates of these occupational programs did once they graduated

successfully." He indicated that "both teachers and students seemed to expect about the same occupational success for graduates whether they were in public or proprietary schools."

Relative to the accounting graduates, the data showed:

-Proprietary graduates got jobs as accountants significantly more often than public graduates, but in the long run, the public graduates earned a little more (in spite of having more women and ethnic minorities who depressed earnings of the sample). However, the difference was not significant.

- Public graduates got their first jobs faster than did proprietary graduates.

-Public graduates were significantly more satisfied with their jobs. They rated their training as significantly more adequate than did the proprietary graduates. Almost a third of the proprietary graduates would not go back to the same school compared to 12 percent of the public graduates who would not.

### Summary

The review of literature revealed there is a place in the accounting profession for paraprofessional accountants. Studies by Ozzello, Kelly, Yandoh, King and Clary conducted between 1967 and 1977 found community college accounting graduates performing a variety of tasks generally positioned between those of a bookkeeper and those of a professional

accountant. Each of these studies employed the technique of task analysis to determine what accounting tasks were performed by two-year graduates.

Although there was a dearth of objective evidence related to the effectiveness of proprietary schools, several studies were cited which indicated that, on the whole, proprietary schools appeared to perform the functions students wanted from them most: job placement and concentration on one subject.

The literature showed that task analysis is one method of obtaining reliable information for curriculum design and revisions. Based on its success in previous studies, it was selected as the method of investigation in this study. Although several specific aspects about each task could be emphasized, this study concentrated on determining which accounting tasks incumbent workers performed and the relative importance of each of the tasks to an effective operation. The evaluation of accounting instruction was expanded to include the opinions of employers or supervisors of accounting graduates as Yandoh did in 1971.

## Chapter III

### METHODOLOGY

The purpose of this study was to determine how relevant the accounting programs offered in community colleges and proprietary schools in Virginia were in terms of preparing students for accounting activities performed on the job by graduates of these programs.

#### Sampling Procedures

Data were collected from three groups: (1) accounting faculty at selected Virginia community colleges and proprietary schools, (2) accounting graduates from those schools, and (3) employers or supervisors of those graduates.

A survey was taken of all full-time accounting faculty (28 total) at four community colleges: J. Sargeant Reynolds, Southwest Virginia, Tidewater, and Virginia Western. Also surveyed were all full-time and part-time accounting faculty (13 total) at three proprietary schools: Commonwealth College (Norfolk), Kee Business College (Newport News), and Kee Business College (Norfolk). Part-time faculty were included because these proprietary schools tended to employ a larger percentage of part-time instructors to total faculty than did the community colleges in the survey. The faculty by school and the number included are found in Table 2. Faculty names were provided by each school; however, the original sample was reduced

Table 2  
Sample of Accounting Faculty

School	Sample
Community Colleges:	
J. Sargeant Reynolds	5
Southwest Virginia	4
Tidewater	14
Virginia Western	<u>5</u>
Total	28
Proprietary Schools:	
Commonwealth College	4
Kee Business College (Newport News)	5
Kee Business College (Norfolk)	<u>4</u>
Total	<u>13</u>
TOTAL	<u><u>41</u></u>

by three faculty members who indicated they do not teach accounting.

The population of graduates consisted of those in accounting programs from community colleges and proprietary schools in Virginia during the years 1980, 1981 and 1982. The total number of graduates for this period was 847 from 16 community colleges and approximately 330 from 14 proprietary schools licensed to operate in Virginia. The sample of this population chosen included 258 students who graduated from the four Virginia community colleges listed above and 126 graduates of the three proprietary schools listed.

No attempt was made to stratify the sample by geographical location, i.e., rural or urban. King (1976) found no significant differences between a rural area, a moderate-sized city and a major metropolitan area. She recommended this variable be eliminated from future studies. Other studies suggested the same: accounting practices do not tend to vary by geographical location (Prugh, 1980; Stelter, 1968). The total number of accounting graduates by schools and the number contacted are shown in Table 3.

An assumption was made that the sample of 258 community college graduates and 126 proprietary school graduates would produce sufficient numbers of persons employed in accounting positions to provide meaningful results. Preliminary information supplied by the colleges and schools used in the sample supported this assumption.

Table 3  
Sample of Accounting Graduates

	Total Graduates	Total Graduates Contacted
<b>Community Colleges</b>		
J. Sargeant Reynolds	44	39
Southwest Virginia	50	48
Tidewater	112	97
Virginia Western	<u>52</u>	<u>41</u>
Total	258	225
<b>Proprietary Schools</b>		
Commonwealth College	34	24
Kee Business College (Newport News)	46	38
Kee Business College (Norfolk)	<u>46</u>	<u>16</u>
Total	<u>126</u>	<u>78</u>
TOTAL	<u>384</u>	<u>303</u>



Returned surveys by the accounting graduates produced the names and addresses of 89 employers of community college and proprietary school accounting graduates employed in accounting or related jobs. All 89 employers or supervisors were included in the third survey. The total number employing accounting graduates by schools is shown in Table 4.

#### Design of the Study

This research was classified as a descriptive and comparative study. Data were gathered from three sources. From data collected from accounting faculty, the variable measured was the degree of emphasis placed on each accounting task. From data collected from accounting graduates, the variables analyzed were accounting tasks currently performed on the job, the relative importance of each task to the overall job, and the graduates' perceptions of the adequacy of the accounting programs at Virginia community colleges and proprietary schools. From data collected from employers or supervisors of the accounting graduates in the sample, the variables measured included to what extent graduates of Virginia community colleges and proprietary schools are expected to know how to perform each task, the relative importance of each task, and how satisfied employers were with the job performance of the accounting graduates.

#### Data and Instrumentation

Three questionnaires, contained in Appendix B, were used to gather data. The task list used in the questionnaires was

Table 4

## Sample of Employers or Supervisors

Graduates From	Total Employers	Total Employers Contacted
<b>Community Colleges</b>		
J. Sargeant Reynolds	14	14
Southwest Virginia	19	19
Tidewater	22	22
Virginia Western	<u>16</u>	<u>16</u>
Total	71	71
<b>Proprietary Schools</b>		
Commonwealth College	1	1
Kee Business College (Newport News)	13	13
Kee Business College (Norfolk)	<u>4</u>	<u>4</u>
Total	<u>18</u>	<u>18</u>
TOTAL	<u>89</u>	<u>89</u>

developed in the following manner: The list developed by King (1976) was used as a base. It was reviewed, modified and updated by the researcher and a panel of experts from John Tyler Community College (Chester) and Rutledge College (Richmond), a proprietary school. These schools were not included in the study, but their accounting curricula were similar to those of the schools used in the study.

The tasks were divided into four major categories: general accounting, cost accounting, auditing, and tax accounting. These areas represented most of the required courses in the accounting curricula at Virginia community colleges and proprietary schools as set forth in Tables 5 and 6.

The list was submitted to accounting instructors at each of the schools included in the study. (See Appendix B). For each task the instructors were asked to indicate to what extent they teach their students how to perform it using the following scale:

Four-Point Scale

1. Not taught
2. Touched upon
3. Covered
4. Emphasized

Provision was made for adding to the list. Guidelines established in advance called for the inclusion of a task on the other surveys if 10 percent of the instructors added the same item. No items were added.

Table 5

Accounting Course Requirements  
at 17 Virginia Community Colleges

Course Title	Number of Colleges Requiring		
	Three Quarters	Two Quarters	One Quarter
Principles of Accounting	17	--	--
Intermediate Accounting	13	4	--
Tax Accounting <sup>1</sup>	1	13	3
Cost Accounting	3	6	7
Auditing	--	--	8
Seminar or Internship	--	1	5

Source: Survey of Community College Catalogs by Joe Colmie, Thomas Nelson Community College, April 11, 1981.

- (1) The data from Joe Colmie was revised by other evidence. Colmie showed no colleges requiring three quarters of tax and 14 colleges requiring two quarters.

Table 6  
Accounting Course Requirements at  
14 Virginia Proprietary Schools

Clock Hours <sup>a</sup>	Number of Schools Requiring			
	Principles	Payroll	Tax	Cost
Less than 50		9	6	6
50 - 99		2	2	
100 - 149	4			1
150 - 199	2			
200 - 249	3			
250 - 299	4			
300 or more	<u>1</u>	<u>—</u>	<u>—</u>	<u>—</u>
TOTAL	<u>14</u>	<u>11</u>	<u>8</u>	<u>7</u>

<sup>a</sup>Proprietary schools expressed credits in several ways, but all could be converted to clock hours. Generally one clock hour equaled 50 minutes.

Source: Survey of catalogs provided by the Director of Proprietary Schools, State of Virginia.

The questionnaire sent to graduates (Appendix B) solicited (1) background information such as employment status and acquisition of additional schooling and, (2) judgmental data relative to the adequacy of their academic preparation at the community colleges and proprietary schools. For those individuals employed in accounting positions, further information was requested regarding the type of employer, the names and addresses of their immediate supervisors, tasks performed, and the relative importance of each task to the overall job content. Provision was made again to add tasks not listed. The importance of the tasks was determined by the following scale:

Four-Point Scale

1. Slightly important
2. Moderately important
3. Very important
4. Essential

A third questionnaire (Appendix B) comprised basically of the task list was sent to employers or supervisors of graduates in the sample. The names and addresses of the employers were furnished by those graduates employed in accounting or related jobs. Two questions were asked about each task: (1) whether the employer or supervisor expected community college or proprietary school graduates to be able to perform the task, and (2) how important it was that graduates were able to perform the task. The same four-point scale used in the survey of graduates was employed to measure the importance of

tasks. Provision was made again to add tasks not listed. The employers or supervisors were asked several additional questions intended to measure their satisfaction with the job performance of community college and proprietary school accounting graduates.

### Data Collection

Permission to survey faculty and graduates was granted by the presidents of the four community colleges and the directors of the three proprietary schools used in the survey. Permission was also granted by the Director of Planning and Evaluation, Virginia Community College System. Names of all full-time accounting faculty at the community colleges and all the full-time and part-time accounting faculty at the proprietary schools were obtained from each school. Also requested of the schools were the names and addresses of all accounting graduates for the years 1980-1982. These were furnished with one exception. Kee Business College (Newport News) sent a list of graduates for the years 1981-1983. The error was not detected until after the surveys were returned by the graduates. A decision was made to keep the responses in the study since there was no reason to believe the results would be biased by their inclusion.

A list of the accounting tasks was sent to the accounting faculty with a cover letter requesting their participation in the study. A follow-up letter was sent if a response was not received within three weeks as recommended by Dillman (1978).

Copies of the letters and the task list are included in Appendix A. Faculty members were asked to indicate to what intensity they teach students how to perform each task using a range of 1 for those tasks not taught to 4 for tasks emphasized.

The questionnaires in Appendix B were sent to all graduates who had received any degree, diploma or certificate in accounting for a three-year period from the seven schools included in the study, accompanied by a cover letter. A first follow-up letter was sent to nonrespondents after three weeks. If the graduate still had not responded after two additional weeks, a second follow-up letter was mailed. Copies of the letters are included in Appendix A. Each graduate was asked to complete the first section of the questionnaire. Those graduates employed in accounting or related jobs were asked to complete the remainder of the instrument including the names and addresses of their employers and supervisors.

A third questionnaire (Appendix B) was sent to the supervisors of the graduates employed in accounting or related jobs. A cover letter was included. If a response was not received within three weeks, a follow-up letter was sent. A second follow-up letter was sent to nonrespondents after two additional weeks. Copies of the letters are included in Appendix A.

In all three surveys self-addressed stamped envelopes were enclosed. Dillman (1978, pp. 13-14) emphasized the importance of rewarding respondents in order to obtain higher return



rates. Thus, faculty and graduates were sent tea bags and all groups were given an offer to receive a summary of results for those requesting results. All follow-up letters included replacement questionnaires.

### Analysis of Data

Data received from accounting faculty were coded and input into a computer. A mean was calculated for each task to determine the degree of emphasis given it by faculty. The tasks were divided into four groups (general, cost, auditing and tax accounting) and listed in rank order with the highest mean first. A separate computation of means was made by school type, i.e., community college and proprietary school. The Spearman rank correlation was used to test for significant relationships between school types.

Data received from accounting graduates were coded and input into the computer. Frequencies and percentages were used to answer the following questions divided by school type:

1. How many graduates were employed in accounting or bookkeeping jobs?
2. Was a degree or a diploma necessary to obtain employment in an accounting position?
3. How many graduates obtained additional schooling?
4. Was additional schooling necessary to obtain accounting positions?
5. How satisfied were graduates with their schooling?
6. What categories of employers hired community college or proprietary school graduates?

Frequencies and percentages were used also to answer questions concerning graduates' use of computers and their perceptions of course offerings. Chi square tests were used to detect significant differences by school type.

For graduates employed in accounting or related jobs, frequency counts and percentages were made of the number of graduates performing each of 57 accounting tasks divided into four categories. Further, a mean of the perceived importance of each task was computed. Spearman rank correlation and chi square tests were used to compare data between graduates of the two school types.

Data received from employers or supervisors were coded and input into the computer. Means were calculated for each task to determine the degree of importance placed on each task by employers. The means were divided into four groups (general, cost, tax and auditing) and listed in rank order. Then means were determined separately for employers of graduates of both school types. Spearman rank correlation tests were used to compare data between employers of graduates from each school type.

Next, frequencies and percentages were calculated on two questions relating to employer satisfaction with graduates. These were computed separately by school type and chi square analysis was used to determine any significant difference in employer attitude regarding hiring more of these graduates for each type of school.

Then the task lists from the three groups were compared. A comparison of the mean intensity of tasks taught by faculty was made with the mean importance of tasks as perceived by employers, both for total responses and divided by school types. The Spearman rank correlation was used to test for significant relationships between faculty and employers. Next a comparison of mean importance of tasks as perceived by graduates was made with mean importance of tasks as perceived by employers for both total responses and divided by school types. Spearman rank correlation was used to test for significant relationships. Finally, the mean intensity of tasks taught by faculty was compared with the mean importance of tasks as perceived by graduates, in total and by school type. Again the Spearman rank correlation was used to detect significant relationships between the groups.

## Chapter IV

### RESULTS AND DISCUSSION

The purpose of this study was to determine how relevant the accounting programs offered in community colleges and proprietary schools in Virginia were in terms of preparing students for accounting activities performed on the job by graduates of these programs.

Specifically, the study sought to evaluate these accounting programs by answering one main question and six sub-questions as listed in Chapter I. To make this evaluation, surveys were made of three groups:

1. Accounting faculty at selected community colleges and proprietary schools in Virginia
2. Accounting graduates of those programs
3. Employers of those accounting graduates

This chapter is comprised of presentation and discussion of the data received from the three surveys. It was divided into several parts as the data relate to the research questions and other findings.

#### Accounting Tasks Taught

Research Question A: What accounting tasks are being taught in the accounting programs in Virginia community colleges and proprietary schools?

The accounting tasks taught in Virginia community colleges and proprietary schools were determined by analyzing the accounting courses offered at each community college and proprietary school and compiling a task list representative of

those courses. The task list used by King (1976) was updated, expanded, and validated using accounting faculty from both school types. While King's list included 48 tasks, a total of 57 tasks, divided into four groups (general, cost, auditing, and tax), was used in this study. Then the list was submitted to accounting faculty at each school included in the study to determine the degree to which each task is taught. The actual task list is included in Appendix B.

### Catalog Analysis

College catalogs for all community colleges and proprietary schools in Virginia were reviewed and analyzed in terms of accounting program requirements. Several observations were made.

Community colleges appeared to present more depth and breadth to their curricula than did proprietary schools. Depth is defined by degree of detail and is measured by time or credit requirements. The accounting curricula of both school types emphasized general (financial) accounting courses. All four community colleges used in the study required three quarters of accounting principles and three quarters of intermediate accounting. For proprietary schools, both Kee Business Colleges required 288 clock hours of accounting principles while Commonwealth College required 144 clock hours of principles. None of them offered intermediate accounting which basically represents principles in depth.

Breadth is defined as scope of coverage which includes areas of specialization. Two community colleges in the study

required one quarter of auditing; the other two did not require it at all. None of the proprietary schools included auditing in their curriculum. Three community colleges required two quarters of taxes, one required three quarters. One proprietary school required 48 clock hours of taxes, the other two required no tax courses. Community colleges differed sharply on cost accounting requirements: two colleges required three quarters of cost, one college required two quarters, the other college required only one quarter. One proprietary school required 48 clock hours of cost accounting, the other two did not require any.

Proprietary schools appeared to surpass community colleges in one important area: computer application. Two of the proprietary schools included computer application with all their accounting courses. Community colleges generally offered separate computerized accounting courses, often as an elective.

#### Faculty Survey

The accounting task list was submitted to accounting faculty at the four community colleges and three proprietary schools included in the study. The number of responses from this first survey is shown in Table 7. There was a total response rate of 85% (89% from community college faculty and 77% from proprietary school faculty.)

Faculty were asked to indicate to what extent they teach their students how to perform each of 57 tasks. A four-part scale was used:

Table 7  
Responses From Accounting Faculty

Schools	Sample	Responses	Percent
<b>Community Colleges:</b>			
J. Sargeant Reynolds	5	5	100.0
Southwest Virginia	4	4	100.0
Tidewater	14	12	85.7
Virginia Western	<u>5</u>	<u>4</u>	<u>80.0</u>
Total	28	25	89.3
<b>Proprietary Schools:</b>			
Commonwealth College	4	4	100.0
Kee Business College (Newport News)	5	4	80.0
Kee Business College (Norfolk)	<u>4</u>	<u>2</u>	<u>50.0</u>
Total	<u>13</u>	<u>10</u>	<u>76.9</u>
TOTAL	<u><u>41</u></u>	<u><u>35</u></u>	<u><u>85.4</u></u>

1. Tasks not taught
2. Tasks touched upon
3. Tasks covered
4. Tasks emphasized

From the responses, mean intensities were calculated for each task, both for total faculty and for faculty divided by school type, i.e., community colleges and proprietary schools.

The mean intensity for each task for total faculty is shown in Table 8. The tasks have been divided into four groups: general accounting, cost accounting, auditing, and tax accounting. The table is rank ordered in terms of intensity with the highest mean for each group listed first. Rankings, however, are for all 57 tasks, not for tasks within each group in this and subsequent tables. Ties are listed in order of appearance on the questionnaire in this and all subsequent tables. There was a wide range in emphasis placed on the tasks. Journalizing and posting data manually was emphasized most with a mean intensity of 3.91 out of a possible 4.00; preparing invoices for customers was emphasized least with a mean intensity of 1.69. While both of these extremes were general accounting tasks, general tasks tended to be emphasized more than other groups. The first 13 tasks with the highest rankings and 18 of the first 19 highest-ranked tasks were general accounting tasks. At the lower end, tax accounting tasks ranged from numbers 29 to 56 in rankings.

In Table 9 are displayed the mean intensities of each task for both community college faculty and proprietary school faculty. Proprietary school faculty tended to emphasize general



Table 8

Intensity With Which 57 Accounting Tasks  
are Taught by All Accounting Faculty

Rank	Accounting Task	Means
<u>General Accounting Tasks</u>		
1	Determine, journalize and/or post entries manually	3.91
2	Prepare balance sheets and/or income statements	3.89
3	Prepare adjusting and/or closing entries	3.86
4	Prepare trial balances	3.80
4	Prepare worksheets	3.80
6	Reconcile subsidiary ledgers with general ledger	3.63
7	Maintain a sales journal or a purchases journal	3.57
7	Reconcile bank statements	3.57
9	Maintain cash books or journals	3.54
10	Maintain inventory records and/or determine inventory costs	3.44
11	Prepare statements of retained earnings (owners' equity)	3.42
12	Keep accounts payable ledger or voucher register	3.37
12	Maintain petty cash fund	3.37
15	Receive cash from customers and/or keep accounts receivable ledger	3.31
15	Maintain fixed assets ledgers/compute depreciation	3.31
17	Record transactions in equity accounts	3.29
18	Prepare statements of changes in financial position and/or cash flow statements	3.24
19	Calculate payrolls and keep payroll records	3.20
22	Analyze financial data for management decisions	3.03
30	Account for investments and/or long-term debt	2.88
38	Pay accounts/prepare vouchers for payment	2.74
41	Account for sales tax and/or credit card transactions	2.60
44	Prepare consolidated financial statements	2.53
48	Compute supplemental data to financial statements, such as general price levels or current cost	2.35
52	Prepare payroll tax returns	2.15
53	Determine, journalize and/or post entries by machine/computer	2.06
54	Account for leases and/or pensions	2.03
57	Prepare invoices for customers	1.69

Table 8 (Cont.)

Rank	Accounting Task	Means
<u>Cost Accounting Tasks</u>		
14	Determine product cost (manufacturing process)	3.36
21	Maintain cost ledgers	3.04
23	Compute or analyze budget variances	3.00
23	Determine standard costs	3.00
23	Analyze standard cost variances	3.00
28	Allocate costs between departments or branches	2.92
30	Prepare cost reports for management decision making	2.88
36	Prepare budgets	2.79
47	Evaluate capital expenditures employing capital budgeting techniques	2.36
<u>Auditing Tasks</u>		
20	Check accuracy of postings to various ledger accounts	3.05
26	Check accuracy of journal entries	2.95
26	Confirm bank accounts	2.95
32	Check arithmetical accuracy of various journals and ledgers	2.86
32	Evaluate internal control systems	2.86
34	Analyze various prepayments to see if proper amount is prepaid	2.85
37	Confirm receivables or payables	2.77
39	Analyze various accruals to see if proper amount is accrued	2.67
41	Take physical inventories	2.60
41	Confirm inventory costs	2.60
45	Test cash payments to see if proper accounts have been charged	2.50
48	Count cash funds	2.35
55	Check corporate minute book	1.95
<u>Tax Accounting Tasks</u>		
29	Prepare individual income tax returns	2.91
35	Prepare any supporting schedules for individual tax returns	2.81
40	Keep information solely for tax purposes	2.65
46	Prepare corporate or partnership income tax returns	2.45

Table 8 (Cont.)

Rank	Accounting Task	Means
<u>Tax Accounting Tasks Continued</u>		
50	Refer to any of the tax services	2.30
51	Prepare any supporting schedules for corporate or partnership income tax returns	2.27
56	Give tax advice to clients	1.90

Table 9

Intensity with Which 57 Accounting Tasks are Taught by College Type

Accounting Task	Comm. Coll.		Prop. Sch.	
	Rank	Mean	Rank	Mean
<u>General Accounting Tasks</u>				
Determine, journalize and/or post entries manually	1	4.00	5	3.70
Prepare adjusting and/or closing entries	2	3.92	5	3.70
Prepare balance sheets and/or income statements	2	3.92	2	3.80
Prepare worksheets	4	3.80	2	3.80
Prepare trial balances	5	3.76	1	3.90
Reconcile bank statements	6	3.60	11	3.50
Maintain cash books or journals	7	3.56	11	3.50
Reconcile subsidiary ledgers with general ledger	7	3.56	2	3.80
Maintain a sales journal or a purchases journal	9	3.52	5	3.70
Prepare statements of retained earnings (owners' equity)	10	3.50	17	3.22
Maintain inventory records and/or determine inventory costs	11	3.48	15	3.33
Prepare statements of changes in financial position and/or cash flow statements	13	3.45	30	2.70
Record transactions in equity accounts	14	3.40	22	3.00
Maintain petty cash fund	16	3.36	14	3.40
Keep accounts payable ledger or voucher register	19	3.24	5	3.70
Maintain fixed assets ledgers/compute depreciation	19	3.24	11	3.50
Receive cash from customers and/or keep accounts receivable ledger	22	3.20	9	3.60
Calculate payrolls and keep payroll records	31	3.04	9	3.60
Analyze financial data for management decisions	31	3.04	22	3.00
Account for investments and/or long-term debt	37	2.88	24	2.90
Pay accounts/prepare vouchers for payment	47	2.52	16	3.30
Compute supplemental data to financial statements, such as general price levels or current cost	48	2.50	46	2.00
Account for sales tax and/or credit card transactions	49	2.40	21	3.10
Prepare consolidated financial statements	50	2.38	24	2.90
Account for leases and/or pensions	52	2.24	52	1.44

Table 9 (Cont.)

Accounting Task	Comm.	Coll.	Prop.	Sch.
	Rank	Mean	Rank	Mean
<u>General Accounting Tasks Continued</u>				
Prepare payroll tax returns	55	1.96	33	2.60
Determine, journalize and/or post entries by machine/computer	56	1.92	38	2.40
Prepare invoices for customers	57	1.44	41	2.30
<u>Cost Accounting Tasks</u>				
Determine product costs (manufacturing process)	12	3.47	18	3.13
Compute or analyze budget variances	17	3.35	43	2.25
Analyze standard cost variances	17	3.35	43	2.25
Determine standard costs	19	3.24	36	2.50
Maintain cost ledgers	25	3.12	26	2.88
Prepare cost reports for management decision making	29	3.06	36	2.50
Allocate costs between departments or branches	29	3.06	31	2.63
Prepare budgets	37	2.88	34	2.57
Evaluate capital expenditures employing capital budgeting techniques	45	2.59	49	1.88
<u>Auditing Tasks</u>				
Evaluate internal control systems	15	3.38	46	2.00
Confirm bank accounts	24	3.15	31	2.63
Confirm inventory costs	26	3.08	50	1.71
Test cash payments to see if proper accounts have been charged	26	3.08	53	1.43
Analyze various prepayments to see if proper amount is prepaid	33	3.00	34	2.57
Check accuracy of postings to various ledger accounts	33	3.00	18	3.13
Confirm receivables or payables	33	3.00	39	2.38
Take physical inventories	36	2.92	46	2.00
Analyze various accruals to see if proper amount is accrued	39	2.86	42	2.29
Check accuracy of journal entries	39	2.86	18	3.13

Table 9 (Cont.)

Accounting Task	<u>Comm. Coll.</u>		<u>Prop. Sch.</u>	
	Rank	Mean	Rank	Mean
<u>Auditing Tasks Continued</u>				
Check arithmetical accuracy of various journals and ledgers	39	2.86	26	2.88
Count cash funds	44	2.77	51	1.57
Check corporate minute book	53	2.23	53	1.43
<u>Tax Accounting Tasks</u>				
Prepare individual income tax returns	22	3.20	39	2.38
Prepare corporate or partnership income tax returns	28	3.07	56	1.38
Prepare any supporting schedules for corporate or partnership income tax returns	39	2.86	57	1.25
Prepare any supporting schedules for individual tax returns	43	2.80	28	2.83
Keep information solely for tax purposes	46	2.58	29	2.75
Refer to any of the tax services	50	2.38	45	2.14
Give tax advice to clients	54	2.15	53	1.43

$r_s = .6, t = 5.56, df = 55, \underline{p.} = <.0005$

tasks, those associated with bookkeeping or clerical jobs, considerably more than the specialized tasks. (No specialized task ranked higher than 18.) This is reflective of the curricula at these schools which stressed general tasks. Community college faculty seemed to be a little more balanced in their emphasis (i.e., they emphasized tasks in the specialized areas as well as general accounting tasks). This supports the curricula findings in the catalog analysis. The Spearman rank correlation indicated there was a moderate to strong relationship in intensities of accounting tasks taught by faculties of the two school types ( $r_s = .6$ ). This statistic was selected because it is appropriate for ranked data (Hinkle, Wiersma, and Jurs, 1979). Since it measures relationships, a significant relationship implies no significant difference in ranking. (Tied scores were assigned an average of the ranks in this and all other Spearman rank correlations.)

#### Accounting Tasks Performed

Research Question B: What accounting tasks are accounting graduates of these schools performing in accounting or related jobs?

Questionnaires were sent to all accounting graduates who received degrees, diplomas, or certificates in accounting from four community colleges and three proprietary schools in Virginia for the years 1980, 1981, and 1982. The number of graduates, the number contacted, the number who responded to the survey, and the percentage of those contacted who responded are shown in Table 10. Overall, the response rate for graduates

Table 10  
Responses From Accounting Graduates

Schools	Total Graduates	Total Contacted	Total Respondents	Percent of Total Contacted Who Responded
<b>Community Colleges</b>				
J. Sargeant Reynolds	44	39	28	71.8
Southwest Virginia	50	48	34	70.8
Tidewater	112	97	63	64.9
Virginia Western	<u>52</u>	<u>41</u>	<u>32</u>	<u>78.0</u>
Total	258	225	157	69.8
<b>Proprietary Schools</b>				
Commonwealth College	34	24	12	50.0
Kee Business College (Norfolk)	46	16	9	56.3
Kee Business College (Newport News)	<u>46</u>	<u>38</u>	<u>25</u>	<u>65.8</u>
Total	<u>126</u>	<u>78</u>	<u>46</u>	<u>59.0</u>
TOTAL	<u><u>384</u></u>	<u><u>303</u></u>	<u><u>203</u></u>	<u><u>67.0</u></u>



of community colleges was 69.8% compared to 59.0% response rate for proprietary school graduates. A problem was encountered in contacting graduates of Kee Business College in Norfolk. Only 16 of 46 surveys were delivered. Post office markings on the envelopes returned were analyzed and four reasons for nondelivery were identified. Ten envelopes were marked, "Not deliverable as addressed, unable to forward;" nine envelopes stated, "Attempted, not known;" and five envelopes were marked, "Moved, left no forwarding address." Kee Business College was appealed to for additional help or explanation but was unable or unwilling to cooperate further. One possible explanation is that the Tidewater area of Virginia is heavily populated with military personnel who tend to be more transient than the general population.

From the survey, 78 community college graduates and 19 proprietary school graduates were identified who were employed in accounting or related positions (See Table 13). Those graduates were asked to respond to the task list to determine the number of graduates performing each task and the perceived relative importance of each task to the overall job content.

From the data received from graduates who were employed in accounting jobs, frequency counts were calculated for each task. Frequencies for total graduates, i.e., from both community colleges and proprietary schools are shown in Table 11. The tasks are divided into groups with the most frequently performed tasks within each group listed first. The data show that there was a wide disparity in the frequencies with

Table 11

## Number of Graduates Performing Each Accounting Task

Rank	Accounting Task	Number <sup>a</sup>	Percent
<u>General Accounting Tasks</u>			
1	Determine, journalize and/or post entries manually	64	66.0
2	Reconcile bank statements	60	61.9
2	Receive cash from customers and/or keep accounts receivable ledger	60	61.9
4	Prepare worksheets	59	60.8
5	Reconcile subsidiary ledgers with general ledger	58	59.8
5	Pay accounts/prepare vouchers for payment	58	59.8
5	Maintain cash books or journals	58	59.8
10	Keep accounts payable ledger or voucher register	55	56.7
12	Prepare adjusting and/or closing entries	51	52.6
13	Prepare balance sheets and/or income statements	50	51.5
14	Prepare trial balances	47	48.5
15	Calculate payrolls and keep payroll records	46	47.4
16	Determine, journalize and/or post entries by machine/computer	45	46.4
18	Prepare payroll tax returns	41	42.3
20	Analyze financial data for management decisions	36	37.1
20	Account for sales tax and/or credit card transactions	36	37.1
20	Prepare invoices for customers	36	37.1
23	Maintain petty cash fund	34	35.1
26	Maintain a sales or purchases journal	33	34.0
28	Maintain inventory records and/or determine inventory costs	30	30.9
30	Maintain fixed assets ledgers/compute depreciation	29	29.9
39	Account for investments and/or long-term debt	23	23.7
40	Prepare statements of retained earnings/owners' equity	22	22.7
41	Prepare statements of changes in financial position and/or cash flow statements	21	21.6
43	Record transactions in equity accounts	19	19.6
47	Account for leases and/or pensions	18	18.6

Table 11 (Cont.)

Rank	Accounting Task	Number <sup>a</sup>	Percent
<u>General Accounting Tasks Continued</u>			
51	Prepare consolidated financial statements	12	12.4
51	Compute supplemental data to financial statements such as general price levels or current cost	12	12.4
<u>Cost Accounting Tasks</u>			
43	Prepare cost reports for management decision making	19	19.6
43	Allocate costs between departments or branches	19	19.6
43	Compute or analyze budget variances	19	19.6
49	Determine product cost (manufacturing process)	15	15.5
50	Prepare budgets	13	13.4
54	Determine standard costs	9	9.3
54	Evaluate capital expenditures employing capital budgeting techniques	9	9.3
54	Maintain cost ledgers	9	9.3
57	Analyze standard cost variances	5	5.2
<u>Auditing Tasks</u>			
5	Check arithmetical accuracy of various journals and ledgers	58	59.8
5	Check accuracy of postings to various ledger accounts	58	59.8
11	Check accuracy of journal entries	53	54.6
16	Confirm receivables or payables	45	46.4
18	Confirm bank accounts	41	42.3
23	Analyze various accruals to see if proper amount is accrued	34	35.1
26	Evaluate internal control systems	33	34.0
28	Test cash payments to see if proper accounts have been charged	30	30.9
32	Analyze various prepayments to see if proper amount is prepaid	28	28.9
33	Take physical inventories	26	26.8
35	Count cash funds	25	25.8
35	Confirm inventory costs	25	25.8
53	Check corporate minute books	10	10.3

Table 11 (Cont.)

Rank	Accounting Task	Number <sup>a</sup>	Percent
<u>Tax Accounting Tasks</u>			
23	Keep information solely for tax purposes	34	35.1
30	Prepare any supporting schedules for individual tax returns	29	29.9
33	Prepare any supporting schedules for corporate or partnership income tax returns	26	26.8
37	Prepare individual income tax returns	24	24.7
37	Refer to any of the tax services	24	24.7
42	Give tax advice to clients	20	20.6
47	Prepare corporate or partnership income tax returns	18	18.6

<sup>a</sup>Total number of respondents = 97

which tasks were performed. The range was from 66% of respondents determining, journalizing and/or posting entries manually, a very basic general accounting task, to only 5.2% of respondents who analyze standard cost variances, a highly specialized cost accounting task. There were greater ranges and generally higher percentages for general accounting (66.0% - 12.4%) and auditing tasks (59.8% - 10.3%) than for tax (35.1% - 18.6%) and cost accounting tasks (19.6% - 5.2%).

Graduates were asked to indicate how important it was that they know how to perform each task using a four-point scale with four as the most important. Means were calculated for each task and are shown in Table 12 in rank order by groups with the highest mean listed first. There was not much variation in graduates' perception of task importance. They indicated it was most important that they know how to count cash funds, an auditing task (mean of 3.84) and least important that they know how to analyze standard cost variances, a cost accounting task (2.80 mean).

It is apparent from the data that graduates of these sub-baccalaureate schools performed a variety of tasks. However, Table 11 reveals that only 13 of the 57 tasks were performed by more than half of the graduates employed as accountants. Of these 13 tasks, 10 related to general accounting and three were auditing tasks. In fact, 15 tasks were performed by fewer than 20% of the graduates. All nine of the cost accounting tasks included on the list were among these least-performed

Table 12

## Importance of Accounting Tasks Performed by All Graduates

Rank	Accounting Task	Mean
	<u>General Accounting Tasks</u>	
2	Prepare payroll tax returns	3.78
3	Maintain a sales or purchases journal	3.70
4	Maintain cash books or journals	3.67
4	Calculate payrolls and keep payroll records	3.67
6	Determine, journalize and/or post entries manually	3.66
7	Prepare consolidated financial statements	3.58
9	Reconcile subsidiary ledgers with general ledger	3.55
11	Record transactions in equity accounts	3.53
12	Maintain fixed assets ledgers/compute depreciation	3.52
13	Keep accounts payable ledgers or voucher register	3.51
13	Determine, journalize and/or post entries by machine/computer	3.51
15	Reconcile bank statements	3.50
15	Pay accounts/prepare vouchers for payment	3.50
15	Prepare balance sheets and/or income statements	3.50
21	Receive cash from customers and/or keep accounts receivable ledger	3.43
23	Prepare adjusting and/or closing entries	3.41
24	Prepare trial balances	3.40
28	Prepare worksheets	3.36
36	Prepare statements of retained earnings/owners' equity	3.32
39	Account for sales tax and/or credit card transactions	3.31
40	Maintain inventory records and/or determine inventory costs	3.30
44	Analyze financial data for management decisions	3.22
44	Account for investments and/or long-term debt	3.22
47	Prepare invoices for customers	3.11
47	Account for leases and/or pensions	3.11
49	Compute supplemental data to financial statements, such as general price levels or current cost	3.08
51	Prepare statements of changes in financial position and/or cash flow statements	3.00
55	Maintain petty cash fund	2.97

Table 12 (Cont.)

Rank	Accounting Task	Mean
<u>Cost Accounting Tasks</u>		
33	Determine product cost (manufacturing process)	3.33
36	Prepare cost reports for management decision making	3.32
36	Allocate costs between departments or branches	3.32
43	Prepare budgets	3.23
46	Compute or analyze budget variances	3.16
51	Determine standard costs	3.00
51	Evaluate capital expenditures employing capital budgeting techniques	3.00
51	Maintain cost ledgers	3.00
56	Analyze standard cost variances	2.80
<u>Auditing Tasks</u>		
1	Count cash funds	3.84
15	Take physical inventories	3.50
19	Confirm receivables or payables	3.47
20	Confirm bank accounts	3.46
21	Analyze various prepayments to see if proper amount is prepaid	3.43
24	Test cash payments to see if proper accounts have been charged	3.40
26	Evaluate internal control systems	3.39
28	Confirm inventory costs	3.36
30	Analyze various accruals to see if proper amount is accrued	3.35
32	Check accuracy of journal entries	3.34
33	Check arithmetical accuracy of various journals and ledgers	3.33
33	Check accuracy of postings to various ledger accounts	3.33
56	Check corporate minute books	2.80
<u>Tax Accounting Tasks</u>		
7	Prepare individual income tax returns	3.58
9	Prepare any supporting schedules for individual tax returns	3.55
26	Prepare corporate or partnership income tax returns	3.39
30	Keep information solely for tax purposes	3.35

Table 12 (Cont.)

Rank	Accounting Task	Mean
<u>Tax Accounting Tasks Continued</u>		
40	Give tax advice to clients	3.30
42	Prepare any supporting schedules for corporate or partnership income tax returns	3.27
49	Refer to any of the tax services	3.08



tasks along with four general accounting, one tax, and one auditing task. None of the least-performed general, tax, or auditing tasks would be considered routine, and probably would be performed by personnel classified above a bookkeeper or accounting clerk position.

Apparently those graduates who did perform certain accounting tasks believed it was very important that they know how to perform them, especially general accounting tasks. The data summarized in Table 12 reveal that graduates gave a mean score of three or higher on a four-point scale to 54 of the 57 tasks. Of the 18 tasks with a mean of 3.50 or greater, 13 were general accounting tasks.

#### Community College Graduates Compared to Proprietary School Graduates

Research Question C: Are there any differences between accounting graduates of community colleges and accounting graduates of proprietary schools in job placements as indicated by the kind of jobs secured and tasks performed?

#### Employment Status

Several questions were asked graduates relating to their employment. All graduates were asked if they were presently employed and if their employment was in accounting or related positions. Further, they were asked if a degree, diploma or certificate was necessary for employment.

Employment status of graduates is summarized in Table 13. The data indicate 81% of community college graduates were employed, 50% as accountants or bookkeepers. Sixty-seven

Table 13  
Employment Status of Graduates

Status	Community Colleges		Proprietary Schools	
	Number	Percent	Number	Percent
Employed in Accounting Jobs	78	50.3	19	41.3
Employed Otherwise, Not Looking for Accounting Jobs	35	22.6	6	13.0
Employed Otherwise, But Looking for Accounting Jobs	13	8.4	6	13.0
Not Employed but Looking for Accounting Jobs	15	9.7	9	19.6
Not Employed and Not Looking for Accounting Jobs	<u>14</u>	<u>9.0</u>	<u>6</u>	<u>13.1</u>
Total Respondents	<u>155</u>	<u>100.0</u>	<u>46</u>	<u>100.0</u>

$\chi^2 = 6.695$ ,  $df = 4$ ,  $p. = 0.161$

percent of proprietary school graduates were employed, 41% in accounting or related jobs. Of the 44 unemployed respondents, 24 indicated they were looking for accounting or bookkeeping jobs. No significant differences were found in employment status between graduates of the two school types at the .05 significance level using chi square analysis. Chi square statistic was used here and in much of the analysis later because it is an appropriate test of group differences for nominal data (Hinkle, et al., 1979).

Only 41% of total employed community college graduates and 56% of total employed proprietary school graduates indicated they needed an accounting certificate or degree to obtain their present jobs. This difference was not significant using chi square test. Results are shown in Table 14. The total number of respondents to this question did not equal total respondents employed because six unemployed respondents nevertheless answered this question. However, among graduates employed in accounting jobs, the need for certification was much greater. Sixty percent of community college graduates and 79% of proprietary school graduates indicated they needed an accounting certificate or degree to obtain initial employment. These results are also shown in Table 14. The difference between graduates was not significant using chi square analysis.

From the survey, 78 community college graduates and 19 proprietary school graduates were identified as employed in accounting or related positions. Responses indicating types

Table 14

Number of Graduates Who Indicated They Needed an Accounting Certificate or Degree to Obtain Their Present Jobs

Graduates of	Total Employed Respondents					Respondents Employed as Accountants						
	Yes	%	No	%	Total	Yes	%	No	%	No		Total
										Answer	%	
Community Colleges	53	41.1	76	58.9	129	47	60.2	30	38.5	1	1.3	78
Proprietary Schools	19	55.9	15	44.1	34	15	78.9	4	21.1	-	-	19

$\chi^2=2.388$ ,  $df=1$ ,  $p.=0.107$      $\chi^2=2.549$ ,  $df =1$ ,  $p.=0.115$

of employers are presented in Table 15. Graduates were employed by a variety of businesses, industry and service organizations with heavy concentration in small business firms, especially among proprietary school graduates.

Another question on the survey asked how many years graduates had been employed in accounting or bookkeeping positions. Responses are summarized in Table 16. Of the graduates employed as accountants, 30 (38%) of community college graduates compared to no proprietary school graduates had been working four years or more in accounting jobs, which means they were already working as accountants prior to graduation. This indicated that employees already working in accounting jobs tended to choose community colleges for their training, perhaps on a part-time basis, rather than proprietary schools.

#### Tasks Performed

A comparison of the frequencies and percentages of tasks performed by community college and proprietary school graduates is shown in Table 17. There was a wide disparity in frequencies and percentages within both groups, but less disparity for community college graduates than for proprietary school graduates. The range for community college graduates was from 50 graduates (64%) making journal entries manually, a basic general accounting task, to four graduates (5%) analyzing standard cost variances, a highly-specialized cost accounting task. Task performance for proprietary school graduates

Table 15

Types of Employers Hiring Community College  
and Proprietary School Accounting Graduates

Type of Employer	Graduates of			
	Community Colleges	Proprietary Schools		
	Number	Percent	Number	Percent
Government Agencies	14	17.9	0	00.0
Small Businesses	11	14.1	7	36.8
Industrial Firms	9	11.5	1	5.3
Retail Sales	9	11.5	1	5.3
Banks	5	6.4	2	10.5
Own Businesses	5	6.4	0	00.0
Public Accounting Firms	4	5.1	1	5.3
Wholesale Distributors	4	5.1	0	00.0
Educational Institutions	3	3.9	1	5.3
Health Services	3	3.9	0	00.0
Non-profit Institutions	2	2.6	3	15.8
Bookkeeping/Tax Services	2	2.6	1	5.3
Others	7	9.0	2	10.4
	<u>78</u>	<u>100.0</u>	<u>19</u>	<u>100.0</u>
Total	<u><u>78</u></u>	<u><u>100.0</u></u>	<u><u>19</u></u>	<u><u>100.0</u></u>

Table 16

## Number of Years Graduates Have Been Employed in Accounting Positions

Years	<u>Community Colleges</u>		<u>Proprietary Schools</u>	
	Number	Percent	Number	Percent
1 - 3	46	59.0	19	100.0
4 - 6	14	17.9	-	-
7 - 9	9	11.5	-	-
10 or more	7	9.0	-	-
No Response	2	2.6	-	-
Total	<u>78</u>	<u>100.0</u>	<u>19</u>	<u>100.0</u>

Table 17

Number of Community College and Proprietary  
School Graduates Performing Each Accounting Task

Accounting Task	Comm. Coll.		Prop. Sch.	
	No. <sup>a</sup>	%	No. <sup>b</sup>	%
<u>General Accounting Tasks</u>				
Determine, journalize and/or post entries manually	50	64.1	14	73.7
Prepare worksheets	48	61.5	11	57.9
Reconcile subsidiary ledgers with general ledger	47	60.3	11	57.9
Reconcile bank statements	45	57.7	15	78.9
Receive cash from customers and/or keep accounts receivable ledger	45	57.7	15	78.9
Pay accounts/prepare vouchers for payment	44	56.4	14	73.7
Prepare adjusting and/or closing entries	43	55.1	8	42.1
Maintain cash books or journals	41	52.6	14	73.7
Prepare balance sheets and/or income statements	41	52.6	9	47.4
Keep accounts payable ledger or voucher register	40	51.3	15	78.9
Prepare trial balances	36	46.2	11	57.9
Determine, journalize and/or post entries by machine/computer	35	44.9	10	52.6
Analyze financial data for management decisions	33	42.3	3	15.8
Calculate payrolls and keep payroll records	32	41.0	14	73.7
Prepare payroll tax returns	31	39.7	10	52.6
Account for sales tax and/or credit card transactions	27	34.6	9	47.4
Prepare invoices for customers	26	33.3	10	52.6
Maintain fixed assets ledgers/compute depreciation	25	32.1	4	21.1
Maintain a sales or purchases journal	24	30.8	9	47.4
Maintain a petty cash fund	24	30.8	10	52.6
Maintain inventory records and/or determine inventory costs	23	29.5	7	36.8
Prepare statements of retained earnings/ owners' equity	20	25.6	2	10.5
Account for investments and/or long-term debt	20	25.6	3	15.8
Prepare statements of changes in financial position and/or cash flow statements	17	21.8	2	10.5
Record transactions in equity accounts	17	21.8	2	10.5



Table 17 (Cont.)

Accounting Task	Comm.	Coll.	Prop.	Sch.
	No. <sup>a</sup>	%	No. <sup>b</sup>	%
<u>General Accounting Tasks Continued</u>				
Account for leases and/or pensions	14	17.9	4	21.1
Prepare consolidated financial statements	11	14.1	1	5.3
Compute supplemental data to financial statements such as general price levels or current cost	9	11.5	3	15.8
<u>Cost Accounting Tasks</u>				
Allocate costs between departments or branches	17	21.8	2	10.5
Compute or analyze budget variances	15	19.2	4	21.1
Prepare cost reports for management decision making	13	16.7	6	31.6
Prepare budgets	12	15.4	1	5.3
Determine product cost (manufacturing process)	11	14.1	4	21.1
Evaluate capital expenditures employing capital budgeting techniques	9	11.5	0	00.0
Maintain cost ledgers	7	9.0	2	10.5
Determine standard costs	6	7.7	3	15.8
Analyze standard cost variances	4	5.1	1	5.3
<u>Auditing Tasks</u>				
Check arithmetical accuracy of various journals/ ledgers	48	61.5	10	52.6
Check accuracy of postings to various ledger accounts	48	61.5	10	52.6
Check accuracy of journal entries	45	57.7	8	42.1
Confirm receivables or payables	40	51.3	5	26.3
Confirm bank accounts	37	47.4	4	21.1
Analyze various accruals to see if proper amount is accrued	31	39.7	3	15.8
Evaluate internal control systems	29	37.2	4	21.1
Test cash payments to see if proper accounts have been charged	27	34.6	3	15.8
Analyze various prepayments to see if proper amount is prepaid	26	33.3	2	10.5

Table 17 (Cont.)

Accounting Task	Comm. Coll.		Prop. Sch.	
	No. <sup>a</sup>	%	No. <sup>b</sup>	%
<u>Auditing Tasks Continued</u>				
Take physical inventories	21	26.9	5	26.3
Count cash funds	20	25.6	5	26.3
Confirm inventory costs	20	25.6	5	26.3
Check corporate minute book	10	12.8	0	00.0
<u>Tax Accounting Tasks</u>				
Keep information solely for tax purposes	31	39.7	3	15.8
Prepare any supporting schedules for individual tax returns	25	32.1	4	21.1
Prepare any supporting schedules for corporate or partnership income tax returns	23	29.5	3	15.8
Refer to any of the tax services	23	29.5	1	5.3
Prepare individual income tax returns	21	26.9	3	15.8
Give tax advice to clients	19	24.4	1	5.3
Prepare corporate or partnership income tax returns	16	20.5	2	10.5

<sup>a</sup>Total number of community college respondents = 78

<sup>b</sup>Total number of proprietary school respondents = 19

ranged from 15 graduates (79%) performing three general accounting tasks (reconciling bank statements, receiving cash from customers, and keeping accounts payable ledgers) to none evaluating capital expenditures (cost task) and checking corporate minute books (auditing task).

Analyzing the tasks within groups revealed that both community college graduates and proprietary school graduates performed general and auditing tasks considerably more frequently than they performed tax and cost accounting tasks. Of the 20 tasks most frequently performed by community college graduates, 15 were general accounting tasks and five were auditing tasks. The 20 tasks most frequently performed by proprietary school graduates included 17 general and three auditing tasks. King (1976) asked a group of practicing CPAs to rank tasks on her list by degree of difficulty to perform. The CPAs ranked cost accounting tasks as a group to be the most difficult, tax tasks as second most difficult. General accounting tasks followed, with auditing tasks ranked as the easiest. Using that criterion, it can be concluded that graduates of community colleges and proprietary schools tended to perform the easiest tasks. This is the same conclusion King reached.

#### Importance of Tasks

The task importance means for graduates by school types are shown in Table 18 to facilitate comparisons. The range in perceived importance by community college graduates was from 3.80 (counting cash funds, an auditing task) to 2.50 (analyzing

Table 18

## Importance of Accounting Tasks as Perceived by Graduates by School Type

Accounting Task	Comm. Coll.		Prop. Sch.	
	Rank	Mean	Rank	Mean
<u>General Accounting Tasks</u>				
Prepare payroll tax returns	2	3.74	11	3.90
Maintain a sales or purchases journal	3	3.71	22	3.67
*Reconcile subsidiary ledgers with general ledger	4	3.68	50	3.00
Determine, journalize and/or post entries manually	5	3.66	26	3.64
Prepare consolidated financial statements	6	3.64	50	3.00
Maintain cash books or journals	8	3.61	12	3.86
Calculate payrolls and keep payroll records	10	3.59	12	3.86
Reconcile bank statements	11	3.56	38	3.33
Keep accounts payable ledger or voucher register	12	3.55	36	3.40
Determine, journalize and/or post entries by machine/computer	14	3.51	31	3.50
Pay accounts/prepare vouchers for payment	15	3.48	29	3.57
Maintain fixed assets ledgers/compute depreciation	15	3.48	19	3.75
Record transactions in equity accounts	17	3.47	1	4.00
Prepare adjusting and/or closing entries	21	3.44	45	3.25
Prepare balance sheets and/or income statements	21	3.44	17	3.78
Prepare trial balances	27	3.39	35	3.45
Receive cash from customers and/or keep accounts receivable ledger	28	3.38	27	3.60
Prepare worksheets	34	3.31	30	3.55
Prepare statements of retained earnings/owners' equity	37	3.25	1	4.00
Account for investments and/or long-term debt	39	3.20	38	3.33
Analyze financial data for management decisions	40	3.18	22	3.67
Maintain inventory records and/or determine inventory costs	41	3.17	21	3.71
Account for sales tax and/or credit card transactions	44	3.15	17	3.78
Account for leases and/or pensions	46	3.07	45	3.25
Prepare invoices for customers	48	3.03	43	3.30

Table 18 (Cont.)

Accounting Task	Comm. Coll.		Prop. Sch.	
	Rank	Mean	Rank	Mean
<u>General Accounting Tasks Continued</u>				
Prepare statements of changes in financial position and/or cash flow statements	49	3.00	50	3.00
Compute supplemental data to financial statements, such as general price levels or current cost	49	3.00	38	3.33
Maintain petty cash fund	53	2.92	49	3.10
<u>Cost Accounting Tasks</u>				
Determine product cost (manufacturing process)	12	3.55	53	2.75
Allocate costs between departments or branches	25	3.41	54	2.50
Prepare budgets	41	3.17	1	4.00
Prepare cost reports for management decision making	45	3.08	14	3.83
Evaluate capital expenditures employing capital budgeting techniques	49	3.00	56	0.00
Compute or analyze budget variances	52	2.93	1	4.00
Maintain cost ledgers	54	2.86	31	3.50
Determine standard costs	56	2.67	22	3.67
Analyze standard cost variances	57	2.50	1	4.00
<u>Auditing Tasks</u>				
Count cash funds	1	3.80	1	4.00
Confirm bank accounts	18	3.46	31	3.50
Confirm receivables or payables	19	3.45	27	3.60
Take physical inventories	23	3.43	15	3.80
Analyze various prepayments to see if proper amount is prepaid	24	3.42	31	3.50
Test cash payments to see if proper accounts have been charged	25	3.41	38	3.33
Check arithmetical accuracy of various journals/ ledgers	29	3.35	48	3.20
Evaluate internal control systems	30	3.34	19	3.75
Check accuracy of postings to various ledger accounts	31	3.33	43	3.30

Table 18 (Cont.)

Accounting Task	<u>Comm. Coll.</u>		<u>Prop. Sch.</u>	
	Rank	Mean	Rank	Mean
<u>Auditing Tasks Continued</u>				
Check accuracy of journal entries	31	3.33	37	3.38
Analyze various accruals to see if proper amount is accrued	33	3.32	22	3.67
Confirm inventory costs	37	3.25	15	3.80
Check corporate minute book	55	2.80	56	0.00
<u>Tax Accounting Tasks</u>				
Prepare individual income tax returns	7	3.62	38	3.33
Prepare any supporting schedules for individual tax returns	9	3.60	45	3.25
Keep information solely for tax purposes	21	3.44	17	3.78
Prepare corporate or partnership income tax returns	34	3.31	1	4.00
Give tax advice to clients	36	3.26	1	4.00
Prepare any supporting schedules for corporate or partnership income tax returns	41	3.17	1	4.00
Refer to any of the tax services	47	3.04	1	4.00

$r_s = -.039$ ,  $t = .319$ ,  $df = 55$ ,  $\underline{p.} = >.10$

\*Significant difference ( $\chi^2 = 7.022$ ,  $df = 1$ ,  $\underline{p.} = .009$ )

standard cost variances, a cost accounting task). Proprietary school graduates, however, presented a much greater variation, spanning the full range from 4.00 for ten tasks to zero for two tasks. The Spearman rank correlation indicated there was no significant relationship in perceptions of graduates of the two school types ( $r_s = -.039$ ). Some of the tasks with the greatest differences between paired ranks (d) were:

	<u>Rankings by Graduates</u>		<u>d</u>
	<u>Comm. Coll.</u>	<u>Prop. Sch.</u>	
Analyze standard cost variances	57	5.5	51.5
Reconcile subsidiary ledgers with general ledger	4	51	-47
Compute or analyze budget variances	52	5.5	46.5
Prepare consolidated financial statements	6	51	-45
Refer to any of the tax services	47	5.5	41.5
Determine product costs (manufacturing process)	12.5	53	-40.5
Prepare any supporting schedules for individual income tax returns	9	46	-37
Prepare budgets	42	5.5	36.5
Prepare any supporting schedules for corporate or partnership tax returns	42	5.5	36.5
Keep information solely for tax purposes	19.5	55	-35.5
Prepare individual income tax returns	7	40	33
Determine standard costs	56	23.5	32.5
Prepare statements of retained earnings/owners' equity	37.5	5.5	32

Upon first inspection it appears that proprietary school graduates believed it was most important to know many unlikely tasks. For example, they gave the highest rating (4.0) to tasks such as "Analyze standard cost variances," and "Prepare budgets." A check with Table 17, however, reveals that only one graduate performed each of those tasks and rated it essential to know (4.0). Therefore, the small number of respondents may have distorted the data.

In addition, chi square tests were made on all 57 tasks. A significant difference was found in task importance between community college graduates and proprietary school graduates in only one case, Reconcile subsidiary ledgers with general ledger, indicating that, overall, there were no significant differences between the two groups of graduates.

Space was left at the end of the list for tasks performed which were not included on the list. Only six respondents added items. Some of the tasks added did not involve accounting functions per se, but were related, such as filing, typing, and supervising accounting clerks. Other items seemed to duplicate tasks already on the list, e.g.,

"Prepare monthly general ledger and financial  
statements for clients"  
Prepare sales tax returns  
Verify vouchers before payment  
Close out purchase orders after payment is made

Two items were mentioned that would warrant adding to future lists: (1) preparing trust/fiduciary tax returns (mentioned by two respondents) and (2) financial statement analysis.



Two graduates used the space to make additional comments. One wrote, "Practice sets are very helpful in understanding the accounting process." The other used the survey to vent his frustrations. He wrote, "Knowing what I know now about the way corporate management treats managers, supervisors, and employees, I would encourage everyone to join the free enterprise system by going into their own business."

### Employer Expectations

Research Question D: What accounting tasks do employers or supervisors of community college and proprietary school graduates expect these graduates to be able to perform?

Respondents to the questionnaires sent to graduates provided names and addresses of their employers. Although assurances were provided that responses from graduates would not be divulged to their employers, five graduates who were employed as accountants did not provide names of their employers. Four were community college graduates; one was a graduate of a proprietary school. Four other graduates were self employed as accountants. Two graduates provided names of two employers each for both full-time and part-time employment. Also two graduates were hired by the same employer. (In those cases, only one employer questionnaire was sent.) Therefore, from a sample of 97 graduates, 89 employer questionnaires were mailed. Apparently all questionnaires were delivered since none were returned by the post office. Sixty-two employers (69.7%) responded. Responses are summarized in Table 19.

Table 19  
Responses From Employers

Employers of Graduates From	Total <sup>a</sup> Employers	Total Responses	Percentages
Community Colleges			
J. Sargeant Reynolds	14	12	85.7
Southwest Virginia	19	15	78.9
Tidewater	22	12	54.5
Virginia Western	16	10	62.5
Total	<u>71</u>	<u>49</u>	<u>69.0</u>
Proprietary Schools			
Commonwealth College	1	-	-
Kee Business College: Newport News	13	9	69.2
Kee Business College: Norfolk	4	4	100.0
Total	<u>18</u>	<u>13</u>	<u>72.2</u>
TOTAL	<u><u>89</u></u>	<u><u>62</u></u>	<u><u>69.7</u></u>

<sup>a</sup>All employers were contacted.

Employers were asked two questions regarding the task list: (1) whether they expected community college graduates or proprietary school graduates to know how to perform each task, and (2) how important it was that these graduates know how to perform each task.

The frequencies of employers who expected community college or proprietary school graduates to know how to perform each task are summarized in Table 20. The tasks were grouped and arranged with those receiving the most affirmative answers listed first. There was a wide variation among the tasks with nearly 92% of the employers expecting graduates to know how to determine, journalize and/or post entries manually, a basic general accounting task, whereas only 25.8% of the employers expected the graduates to know how to give tax advice to clients, a tax accounting task. Generally, employers expected accounting graduates to be well trained, especially in general accounting and auditing tasks. More than half the employers expected graduates to know how to perform 40 of the 57 tasks. Thirty-seven of the 40 tasks most frequently expected were general or auditing tasks. Generally, knowledge of cost and tax accounting tasks was expected considerably less frequently.

In Table 21 a comparison is made of how many employers expected community college graduates to know how to perform each task to similar expectations of proprietary school graduates. Analysis of tasks by groups suggested there were somewhat similar expectations by employers of either type of

Table 20

Number of Employers Expecting Community College or Proprietary School Graduates to Know How to Perform Each Accounting Task

Rank	Accounting Task	Number <sup>a</sup>	Percent
<u>General Accounting Tasks</u>			
1	Determine, journalize and/or post entries manually	57	91.9
2	Reconcile bank statements	56	90.3
3	Pay accounts/prepare vouchers for payment	55	88.7
4	Calculate payrolls and keep payroll records	54	87.1
4	Receive cash from customers and/or keep accounts receivable ledger	54	87.1
6	Maintain cash books or journals	53	85.5
6	Reconcile subsidiary ledgers with general ledger	53	85.5
8	Keep accounts payable ledger or voucher register	52	83.9
8	Prepare adjusting and/or closing entries	52	83.9
10	Prepare worksheets	51	82.3
11	Prepare balance sheets and/or income statements	49	79.0
13	Maintain inventory records and/or determine inventory costs	47	75.8
13	Prepare trial balances	47	75.8
16	Prepare payroll tax returns	46	74.2
16	Maintain a sales or purchases journal	46	74.2
16	Maintain petty cash fund	46	74.2
20	Maintain fixed assets ledgers/compute depreciation	45	72.6
22	Determine, journalize and/or post entries by machine/computer	44	71.0
23	Prepare invoices for customers	43	69.4
26	Account for sales tax and/or credit card transactions	41	66.1
31	Prepare statements of retained earnings/owners' equity	38	61.3
31	Prepare statements of changes in financial position and/or cash flow statements	38	61.3
35	Account for investments and/or long-term debt	35	56.5
35	Analyze financial data for management decisions	35	56.5
40	Record transactions in equity accounts	32	53.2
43	Account for leases and/or pensions	30	48.4

Table 20 Cont.

Rank	Accounting Task	Number <sup>a</sup>	Percent
<u>General Accounting Tasks Continued</u>			
46	Prepare consolidated financial statements	29	46.8
56	Compute supplemental data to financial statements, such as general price levels or current cost	22	35.5
<u>Cost Accounting Tasks</u>			
35	Compute or analyze budget variances	35	56.5
41	Prepare budgets	31	50.0
43	Maintain cost ledgers	30	48.4
43	Allocate costs between departments or branches	30	48.4
47	Prepare cost reports for management decision making	27	43.5
48	Determine product cost (manufacturing process)	26	41.9
48	Evaluate capital expenditures employing capital budgeting techniques	26	41.9
52	Determine standard costs	25	40.3
52	Analyze standard cost variances	25	40.3
<u>Auditing Tasks</u>			
12	Check arithmetical accuracy of various journals and ledgers	48	77.4
13	Check accuracy of postings to various ledger accounts	47	75.8
16	Check accuracy of journal entries	46	74.2
20	Confirm bank accounts	45	72.6
24	Confirm receivables or payables	42	67.7
24	Test cash payments to see if proper accounts have been charged	42	67.7
27	Count cash funds	40	64.5
28	Analyze various accruals to see if proper amount is accrued	39	62.9
28	Analyze various prepayments to see if proper amount is prepaid	39	62.9
28	Take physical inventories	39	62.9
31	Evaluate internal control systems	38	61.3

Table 20 (Cont.)

Rank	Accounting Task	Number <sup>a</sup>	Percent
<u>Auditing Tasks Continued</u>			
31	Confirm inventory costs	38	61.3
48	Check corporate minute book	26	41.9
<u>Tax Accounting Tasks</u>			
35	Keep information solely for tax purposes	35	56.5
39	Prepare supporting schedules for corporate or partnership income tax returns	33	53.2
41	Prepare supporting schedules for individual income tax returns	31	50.0
48	Refer to any of the tax services	26	41.9
54	Prepare individual income tax returns	24	38.7
55	Prepare corporate or partnership income tax returns	23	37.1
57	Give tax advice to clients	16	25.8

<sup>a</sup>Number of respondents = 62

Table 21

Number of Employers Expecting Community College Graduates to Know How to Perform Each Accounting Task Compared to Proprietary School Graduates

Accounting Task	Comm. Coll.			Prop. Sch.		
	Rank	No. <sup>a</sup>	%	Rank	No. <sup>b</sup>	%
<u>General Accounting Tasks</u>						
Determine, journalize and/or post entries manually	1	45	91.8	3	12	92.3
Maintain cash books or journals	2	43	87.8	9	10	76.9
Reconcile bank statements	2	43	87.8	1	13	100.0
Pay accounts/prepare vouchers for payment	2	43	87.8	3	12	92.3
Calculate payrolls and keep payroll records	5	42	85.7	3	12	92.3
Receive cash from customers and/or keep accounts receivable ledgers	5	42	85.7	3	12	92.3
Keep accounts payable ledger or voucher register	5	42	85.7	9	10	76.9
Prepare worksheets	5	42	85.7	14	9	69.2
Prepare adjusting and/or closing entries	5	42	85.7	9	10	76.9
Reconcile subsidiary ledgers with general ledger	10	40	81.6	1	13	100.0
Maintain inventory records and/or determine inventory costs	12	39	79.6	19	8	61.5
Prepare balance sheets and/or income statements	14	38	77.6	7	11	84.6
Maintain petty cash fund	14	38	77.6	19	8	61.5
Maintain fixed assets ledgers/compute depreciation	14	38	77.6	28	7	53.8
Determine, journalize and/or post entries by machine/computer	18	37	75.5	28	7	53.8
Prepare trial balances	18	37	75.5	9	10	76.9
Maintain a sales or purchases journal	21	36	73.5	9	10	76.9
Prepare payroll tax returns	22	35	71.4	7	11	84.6
Prepare invoices for customers	24	34	69.4	14	9	69.2
Account for sales tax and/or credit card transactions	26	32	65.3	14	9	69.2
Prepare statements of retained earnings/owners' equity	33	30	61.2	19	8	61.5

Table 21 (Cont.)

Accounting Task	Comm. Coll.			Prop. Sch.		
	Rank	No. <sup>a</sup>	%	Rank	No. <sup>b</sup>	%
<u>General Accounting Tasks Continued</u>						
Prepare statements of changes in financial position and/or cash flow statements	33	30	61.2	19	8	61.5
Analyze financial data for management decisions	35	29	59.2	39	6	46.2
Account for investments and/or long-term debt	37	28	57.1	28	7	53.8
Record transactions in equity accounts	40	25	51.0	28	7	53.8
Prepare consolidated financial statements	45	23	46.9	39	6	46.2
Account for leases and/or pensions	45	23	46.9	28	7	53.8
Compute supplemental data to financial statements, such as general price levels or current cost	56	17	34.7	52	5	38.5
<u>Cost Accounting Tasks</u>						
Compute or analyze budget variances	35	29	59.2	39	6	46.2
Prepare budgets	40	25	51.0	39	6	46.2
Maintain cost ledgers	43	24	49.0	39	6	46.2
Allocate costs between departments or branches	43	24	49.0	39	6	46.2
Prepare cost reports for management decision making	47	21	42.9	39	6	46.2
Determine product cost (manufacturing process)	50	20	40.8	39	6	46.2
Evaluate capital expenditures employing capital budgeting techniques	50	20	40.8	39	6	46.2
Determine standard costs	53	19	38.8	39	6	46.2
Analyze standard cost variances	53	19	38.8	39	6	46.2
<u>Auditing Tasks</u>						
Check arithmetical accuracy of various journals and ledgers	10	40	81.6	19	8	61.5
Check accuracy of postings to various ledger accounts	12	39	79.6	19	8	61.5
Check accuracy of journal entries	14	38	77.6	19	8	61.5



Table 21 (Cont.)

Accounting Task	Comm. Coll.			Prop. Sch.		
	Rank	No. <sup>a</sup>	%	Rank	No. <sup>b</sup>	%
<u>Auditing Tasks Continued</u>						
Confirm bank accounts	18	37	75.5	19	8	61.5
Test cash payments to see if proper accounts have been charged	22	35	71.4	28	7	53.8
Confirm receivables or payables	25	33	67.3	14	9	69.2
Analyze various accruals to see if proper amount is accrued	26	32	65.3	28	7	53.8
Analyze various prepayments to see if proper amount is prepaid	26	32	65.3	28	7	53.8
Confirm inventory costs	26	32	65.3	39	6	46.2
Evaluate internal control systems	30	31	63.3	28	7	53.8
Count cash funds	30	31	63.3	14	9	69.2
Take physical inventories	30	31	63.3	19	8	61.5
Check corporate minute book	47	21	42.9	52	5	38.5
<u>Tax Accounting Tasks</u>						
Keep information solely for tax purposes	37	28	57.1	28	7	53.8
Prepare any supporting schedule for corporate or partnership tax returns	40	25	51.0	28	7	53.8
Prepare any supporting schedules for individual tax returns	40	25	51.0	39	6	46.2
Refer to any of the tax services	47	21	42.9	52	5	38.5
Prepare individual income tax returns	50	20	40.8	57	4	30.8
Prepare corporate or partnership income tax returns	55	18	36.7	52	5	38.5
Give tax advice to clients	57	11	22.4	52	5	38.5

<sup>a</sup>Number of employers of community college graduates = 49

<sup>b</sup>Number of employers of proprietary school graduates = 13

graduate. Furthermore, both groups tended to have greater expectations for general and auditing tasks than for cost and tax accounting tasks.

Means were calculated on the importance attached to each task by employers using a four-point scale with four representing those tasks considered essential that graduates know how to perform. The combined responses from employers of graduates from both types of schools are summarized in Table 22. There was not much variation among the task's means. The responses centered around "very important," ranging from 3.52 for bank reconciliations, a general accounting task, to 2.39 for preparation of corporate or partnership income tax returns, a tax accounting task. Analyzed by groups, the responses followed the same pattern as for faculty and students, i.e., general accounting tasks and auditing tasks were considered more important than cost accounting and tax accounting tasks. Of 22 tasks rated 3.00 or greater, 20 were general or auditing tasks, two were cost accounting tasks.

A comparison was made between employers of community college graduates and employers of proprietary school graduates in terms of perceived importance of each task. This comparison is displayed in Table 23. Analysis of tasks by groups reveals some differences in perception. There were wide variations in perceived importance related to general accounting tasks with no discernable differences between the two employer groups. However, in the specialized areas, there

Table 22

## Importance of Accounting Tasks as Perceived by Employers

Rank	Accounting Task	Mean
<u>General Accounting Tasks</u>		
1	Reconcile bank statements	3.52
2	Reconcile subsidiary ledgers with general ledger	3.49
3	Determine, journalize and/or post entries manually	3.37
4	Prepare trial balances	3.36
5	Prepare adjusting and/or closing entries	3.29
7	Calculate payrolls and keep payroll records	3.24
7	Prepare worksheets	3.24
9	Maintain cash books or journals	3.23
11	Prepare payroll tax returns	3.22
12	Keep accounts payable ledger or voucher register	3.19
13	Prepare balance sheets and/or income statements	3.18
15	Pay accounts/prepare vouchers for payment	3.16
18	Maintain a sales or purchases journal	3.04
22	Determine, journalize and/or post entries by machine/computer	3.02
24	Prepare statement of changes in financial position and/or cash flow statements	2.97
26	Receive cash from customers and/or keep accounts receivable ledger	2.96
29	Maintain fixed assets ledgers/compute depreciation	2.91
29	Analyze financial data for management decisions	2.91
33	Prepare consolidated financial statements	2.86
37	Maintain petty cash fund	2.80
39	Prepare invoices for customers	2.79
39	Prepare statement of retained earnings/owners' equity	2.79
42	Maintain inventory records and/or determine inventory costs	2.77
45	Account for leases and/or pensions	2.67
48	Account for sales tax and/or credit card transactions	2.63
48	Account for investments and/or long-term debt	2.63
53	Compute supplemental data to financial statements, such as general price levels or current cost	2.50
53	Record transactions in equity accounts	2.50

Table 22 (Cont.)

Rank	Accounting Task	Mean
<u>Cost Accounting Tasks</u>		
18	Prepare cost reports for management decision making	3.04
21	Prepare budgets	3.03
26	Determine product cost (manufacturing process)	2.96
31	Maintain cost ledgers	2.90
43	Allocate costs between departments or branches	2.70
47	Determine standard costs	2.64
48	Compute or analyze budget variances	2.63
52	Analyze standard cost variances	2.60
56	Evaluate capital expenditures employing capital budgeting techniques	2.42
<u>Auditing Tasks</u>		
6	Check arithmetical accuracy of various journals and ledgers	3.25
9	Check accuracy of posting to various ledger accounts	3.23
13	Confirm bank accounts	3.18
16	Test cash payments to see if proper accounts have been charged	3.10
17	Confirm receivables or payables	3.07
18	Check accuracy of journal entries	3.04
23	Count cash funds	2.98
24	Evaluate internal control systems	2.97
28	Analyze various accruals to see if proper amount is accrued	2.95
31	Take physical inventories	2.90
34	Confirm inventory costs	2.82
39	Analyze various prepayments to see if proper amount is prepaid	2.79
53	Check corporate minute book	2.50
<u>Tax Accounting Tasks</u>		
34	Prepare any supporting schedules for corporate or partnership income tax returns	2.82
36	Prepare any supporting schedules for individual tax returns	2.81
37	Keep information solely for tax purposes	2.80
44	Give tax advice to clients	2.69

Table 22 (Cont.)

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Rank	Accounting Task	Mean
<u>Tax Accounting Tasks Continued</u>		
45	Prepare individual income tax returns	2.67
51	Refer to any of the tax services	2.62
57	Prepare corporate or partnership income tax returns	2.39

Table 23

Perceived Importance of Accounting Tasks: Employers of Community College Graduates Compared to Employers of Proprietary School Graduates

Accounting Task	Comm. Coll.		Prop. Sch.	
	Rank	Mean	Rank	Mean
<u>General Accounting Tasks</u>				
Reconcile subsidiary ledgers with general ledger	1	3.55	10	3.31
Reconcile bank statements	2	3.54	4	3.46
*Prepare trial balances	2	3.54	28	2.70
Prepare adjusting and/or closing entries	4	3.38	18	2.90
Prepare worksheets	6	3.36	29	2.67
Determine, journalize and/or post entries manually	8	3.29	1	3.67
Prepare balance sheets and/or income statements	10	3.23	16	3.00
Maintain cash books or journals	12	3.19	7	3.40
Calculate payrolls and keep payroll records	14	3.17	3	3.50
Prepare payroll tax returns	15	3.15	5	3.45
Keep accounts payable ledger or voucher register	17	3.14	7	3.40
Pay accounts/prepare vouchers for payment	18	3.13	11	3.25
*Prepare consolidated financial statements	22	3.08	48	2.00
*Maintain fixed assets ledgers/compute depreciation	25	3.03	42	2.29
Maintain a sales or purchases journal	27	3.00	13	3.20
Analyze financial data for management decisions	31	2.96	29	2.67
Determine, journalize and/or post entries by machine/computer	33	2.94	6	3.43
Prepare statements of retained earnings/owners' equity	35	2.93	43	2.25
Prepare statement of changes in financial position and/or cash flow statements	35	2.93	14	3.13
Receive cash from customers and/or keep accounts receivable ledgers	40	2.85	9	3.33
Maintain inventory records and/or determine inventory costs	42	2.77	23	2.75
Account for leases and/or pensions	45	2.74	37	2.43
Maintain petty cash fund	48	2.73	14	3.13
Prepare invoices for customers	50	2.68	12	3.22
Compute supplemental data to financial statements such as general price levels or current cost	52	2.65	48	2.00

Table 23 (Cont.)

Accounting Task	Comm. Coll.		Prop. Sch.	
	Rank	Mean	Rank	Mean
<u>General Accounting Tasks Continued</u>				
Account for sales tax and/or credit card transactions	53	2.62	29	2.67
Account for investments and/or long-term debt	54	2.61	27	2.71
Record transactions in equity accounts	55	2.60	46	2.14
<u>Cost Accounting Tasks</u>				
Determine product costs (manufacturing process)	15	3.15	40	2.33
Prepare budgets	19	3.12	29	2.67
Prepare cost reports for management decision making	20	3.10	20	2.83
Maintain cost ledgers	27	3.00	48	2.00
Allocate cost between departments or branches	44	2.75	35	2.50
Determine standard costs	45	2.74	40	2.33
Analyze standard cost variances	45	2.74	45	2.17
Compute or analyze budget variances	51	2.66	35	2.50
Evaluate capital expenditures employing capital budgeting techniques	55	2.60	54	1.83
<u>Auditing Tasks</u>				
Check arithmetical accuracy of various journals and ledgers	4	3.38	33	2.63
Check accuracy of postings to various ledger accounts	7	3.30	19	2.88
Confirm bank accounts	9	3.27	23	2.75
Confirm receivables or payables	11	3.21	34	2.56
*Evaluate internal control systems	12	3.19	48	2.00
Check accuracy of journal entries	20	3.10	23	2.75
Analyze various accruals to see if proper amount is accrued	24	3.06	37	2.43
Test cash payments to see if proper accounts have been charged	26	3.01	2	3.57
Count cash funds	30	2.97	16	3.00

Table 23 (Cont.)

Accounting Task	Comm. Coll.		Prop. Sch.	
	Rank	Mean	Rank	Mean
<u>Auditing Tasks Continued</u>				
Take physical inventories	33	2.94	23	2.75
Analyze various prepayments to see if proper amount is prepaid	39	2.87	37	2.43
Confirm inventory costs	41	2.82	20	2.83
Check corporate minute book	49	2.71	56	1.60
<u>Tax Accounting Tasks</u>				
Prepare any supporting schedules for corporate or partnership income tax returns	22	3.08	53	1.86
*Prepare any supporting schedules for individual tax returns	27	3.00	22	2.80
Keep information solely for tax purposes	31	2.96	46	2.14
Give tax advice to clients	37	2.91	44	2.20
*Prepare individual income tax returns	38	2.90	57	1.50
*Refer to any of the tax services	42	2.77	48	2.00
Prepare corporate or partnership income tax returns	57	2.55	55	1.80

$r_s = .426$ ,  $t = 3.491$ ,  $df = 55$ ,  $p = .0005$

\*Significant differences at .05 using chi square tests.



were some notable differences. Employers of community college graduates rated every cost accounting task, every tax accounting task and 10 of the 13 auditing tasks higher than did employers of proprietary school graduates. This may be explained to some extent by the fact that proprietary school graduates tended to be employed by small businesses more than community college graduates. Small businesses would have less use for some of the specialized accounting tasks than would other employers. The Spearman rank correlation test showed a correlation of .426 indicating a moderate but significant relationship between the two lists. In addition, chi square tests were computed on each of the 57 tasks. Significant differences were found in seven tasks as noted in Table 23. Three of them were general accounting tasks, three were tax accounting tasks, and one was an auditing task. In all seven cases, employers of community college graduates emphasized the task more than did employers of proprietary school graduates.

Provision was made to add to the list. Additions made by 14 employers concentrated on three areas: (1) analytical abilities, (2) use of computers, and (3) communication skills. Even though some do not involve accounting tasks, all the additions are summarized here with the number of respondents in parentheses:

1. Analytical abilities (8)
  - a. Analyze an account's activity over time (1)
  - b. Understand accounting system flow (1)
  - c. Ability to analyze (perceive or detect) fraud (1)
  - d. Reconcile financial data input with ADP generated reports (1)
  - e. Present/future value analysis (1)
  - f. Analysis of accounting problems (1)
  - g. Think - use common sense (1)
  - h. Control and understand month-end accruals and reversals (1)
2. Use of computers (6)
  - a. Know how to operate computers (2)
  - b. Use personal computers (1)
  - c. Use microcomputers (2)
  - d. Familiarity with data input via CRT (1)
3. Communication skills (5)
  - a. Communicate (1)
  - b. Effective presentation of ideas/  
oral skills (2)
  - c. Writing skills (2)
4. Other (6)
  - a. Office management skills, supervisory skills (1)
  - b. Knowledge of general business ethics (1)
  - c. Trust and estate accounting (1)
  - d. Maintenance of audit workpapers (1)
  - e. General knowledge of how accounts work with an ability to grasp procedures explained by supervisor (1)
  - f. Understand basis for capital leases vs. operating leases

#### Cross Comparisons

Data received from the three groups were compared to each other to determine if the accounting tasks taught in Virginia community colleges and proprietary schools were those needed on the job by graduates of these schools. The rankings for

each task by groups are shown in Table 24. First, three Spearman rank correlations were computed:

1. Total faculty to total graduates. This revealed a weak relationship ( $r_s = .242$ ,  $t = 1.850$ ,  $df = 55$ ,  $p. < .05$ ).
2. Total faculty to total employers. This showed a moderate relationship ( $r_s = .487$ ,  $t = 4.135$ ,  $df = 55$ ,  $p. < .0005$ ).
3. Total graduates to total employers. This relationship was much stronger ( $r_s = .556$ ,  $t = 4.961$ ,  $df = 55$ ,  $p. < .0005$ ).

Next six additional rank correlations were computed:

1. Community college faculty to community college graduates. There was a nonsignificant relationship between these groups ( $r_s = .168$ ,  $t = 1.264$ ,  $df = 55$ ,  $p. > .10$ ).
2. Community college faculty to employers of community college graduates. This relationship was moderate ( $r_s = .363$ ,  $t = 2.887$ ,  $df = 55$ ,  $p. < .004$ ).
3. Community college graduates to their employers. There was a strong relationship here ( $r_s = .557$ ,  $t = 4.973$ ,  $df = 55$ ,  $p. < .0005$ ).
4. Proprietary school faculty to proprietary school graduates. This relationship was insignificant ( $r_s = -.163$ ,  $t = 1.225$ ,  $df = 55$ ,  $p. > .10$ ).
5. Proprietary school faculty to employers of proprietary school graduates. The relationship was moderate ( $r_s = .486$ ,  $t = 4.114$ ,  $df = 55$ ,  $p. < .0005$ ).
6. Proprietary school graduates to their employers. There was a nonsignificant relationship between these two groups ( $r_s = -.033$ ,  $t = .245$ ,  $df = 55$ ,  $p. > .10$ ).

Table 24  
Task Rankings by Each Group

Task Number	Accounting Task	Rankings		
		Faculty	Graduates	Employers
<u>General Accounting Tasks</u>				
1	Calculate payrolls and keep payroll records	19	4	7
2	Prepare payroll tax returns	52	2	11
3	Determine, journalize and/or post entries manually	1	6	3
4	Determine, journalize and/or post entries by machine/computer	53	13	22
5	Prepare invoices for customers	57	47	39
6	Receive cash from customers and/or keep accounts receivable ledger	15	21	26
7	Maintain a sales or purchases journal	7	3	18
8	Account for sales tax and/or credit card transactions	41	39	48
9	Maintain cash books or journals	9	4	9
10	Reconcile bank statements	7	15	1
11	Pay accounts/prepare vouchers for payment	38	15	15
12	Keep accounts payable ledger or voucher register	12	13	12
13	Reconcile subsidiary ledgers with general ledger	6	9	2
14	Maintain inventory records and/or determine inventory costs	10	40	42
15	Prepare trial balances	4	24	4
16	Prepare worksheets	5	28	7
17	Prepare adjusting and/or closing entries	3	23	5
18	Prepare balance sheets and/or income statements	2	15	13
19	Prepare statements of retained earnings/owners' equity	11	36	39
20	Prepare statements of changes in financial position and/or cash flow statements	18	51	24
21	Compute supplemental data to financial statements, such as general price levels or current cost	48	49	53

Table 24 (Cont.)

Task Number	Accounting Task	Rankings		
		Faculty	Graduates	Employers
<u>General Accounting Tasks Continued</u>				
22	Prepare consolidated financial statements	44	7	33
23	Maintain petty cash fund	12	55	37
24	Maintain fixed assets ledgers/ compute depreciation	15	12	29
25	Account for leases and/or pensions	54	47	45
26	Account for investments and/or long-term debt	30	44	48
27	Record transactions in equity accounts	17	11	53
28	Analyze financial data for management decisions	22	44	29
<u>Cost Accounting Tasks</u>				
29	Determine product cost (manufacturing)	14	33	26
30	Maintain cost ledgers	21	51	31
31	Prepare budgets	36	43	21
32	Compute or analyze budget variances	23	46	48
33	Determine standard costs	23	51	47
34	Analyze standard cost variances	23	56	52
35	Prepare cost reports for management	30	36	18
36	Evaluate capital expenditures employing capital budgeting techniques	47	51	56
37	Allocate costs between departments or branches	28	36	43
<u>Auditing Tasks</u>				
38	Analyze various accruals to see if proper amount is accrued	39	30	28
39	Analyze various prepayments to see if proper amount is prepaid	34	21	39
40	Check accuracy of journal entries	26	32	18
41	Check accuracy of postings to various ledger accounts	20	33	9

Table 24 (Cont.)

Task Number	Accounting Task	Rankings		
		Faculty	Graduates	Employers
<u>Auditing Tasks Continued</u>				
42	Check arithmetical accuracy of various journals and ledgers	32	33	6
43	Evaluate internal control systems	32	26	24
44	Confirm bank accounts	26	20	13
45	Confirm receivables or payables	37	19	17
46	Count cash funds	48	1	23
47	Take physical inventories	41	15	31
48	Confirm inventory costs	41	28	34
49	Test cash payments to see if proper accounts have been charged	45	24	16
50	Check corporate minute book	55	56	53
<u>Tax Accounting Tasks</u>				
51	Give tax advice to clients	56	40	44
52	Keep information solely for tax purposes	40	30	37
53	Prepare any supporting schedules for individual tax returns	35	9	36
54	Prepare individual income tax returns	29	7	45
55	Prepare any supporting schedules for corporate or partnership income tax returns	51	42	34
56	Prepare corporate or partnership income tax returns	46	26	57
57	Refer to any of the tax services	50	49	51

Accounting Tasks Taught  
Compared to Employer Expectations

Research Question E: What is the relationship between accounting tasks taught in Virginia community colleges and proprietary schools and accounting tasks employers or supervisors expect graduates of these schools to be able to perform?

It appears faculty properly emphasized those tasks employers expected graduates to be able to perform. In some cases faculty may have emphasized the tasks more than was necessary to satisfy employers. A moderate but significant correlation ( $r_s = .487$ ,  $t = 4.135$ ,  $df = 55$ ,  $p = < .0005$ ) was found between faculty emphasis and employer expectations in total using the Spearman rank correlation.

Tasks with the greatest  $d$  (differences between paired ranks) were:

<u>Task</u>	<u>Faculty Ranking</u>	<u>Employer Ranking</u>	<u>d</u>
Prepare payroll tax returns	52	11	41
Record transactions in equity accounts	17	54	-37
Maintain inventory records and/or determine inventory costs	10	42	-32
Determine, journalize and/or post entries by machine/computer	53	22	31
Prepare statement of retained earnings/owners' equity	11	40	-29
Test cash payments to see if proper accounts have been charged	45	16	29

The  $d$ 's are faculty ranking minus employer ranking. Thus a negative  $d$  indicates that faculty emphasized the task more

than did employers. Note that faculty emphasized three tasks more than employers and employers emphasized three tasks more than faculty. The first five tasks listed are general accounting tasks, the last one is an auditing task. Of the three tasks employers stressed more, testing cash payments to see if proper accounts have been charged probably could best be learned on the job since there are wide variations in account names and classifications among employers. The use of computers to record data probably will be resolved in time. There appears to be a lag between technology and pedagogy in use of computers, especially at community colleges. Regarding the third task emphasized more by employers, faculty may not adequately emphasize preparing payroll tax returns for two reasons: (1) it is detailed procedure which is often neglected in the classroom and, (2) tax laws change so frequently, faculty may elect to teach concepts instead of procedure.

#### Graduate Performance Compared to Employer Expectations

Research Question F: What is the relationship between accounting tasks performed by graduates of Virginia community colleges and proprietary schools and accounting tasks employers or supervisors expect these graduates to be able to perform?

There was a moderate to strong relationship ( $r_s = .556$ ,  $t = 4.961$ ,  $df = 55$ ,  $p. = < .0005$ ) between graduate and employer perceptions using the Spearman rank correlation.

Chi square tests run on individual tasks revealed significant differences between total graduates and total employers



for only six tasks. In all six cases graduates emphasized the task more. The tasks were:

- Maintain fixed assets ledgers/compute depreciation
- Prepare any supporting schedules for individual income tax returns
- Prepare individual income tax returns
- Take physical inventories
- Receive cash from customers and/or keep accounts receivable ledger
- Record transactions in equity accounts

Community college graduates apparently placed proper emphasis on the tasks employers believed it was most important they know how to perform. A moderate to strong relationship ( $r_s = .557$ ) was found in the task mean importance between these graduates and their employers using Spearman rank correlation.

A very weak relationship ( $r_s = -.033$ ), however, was found between proprietary school graduates' perceptions of task importance and their employers' expectations using the Spearman rank correlation. An analysis of the ten tasks with the greatest difference between paired ranks ( $d$ ), however, revealed that nine of the tasks were performed by three or fewer graduates which may have biased the results. Graduates believed the other task, Give tax advice to clients, was more important than did their employers.

Accounting Tasks Taught Compared to  
Accounting Tasks Performed by Graduates

Main Research Question: What is the relationship between the accounting tasks taught in Virginia community colleges and proprietary schools and the accounting tasks performed by graduates of accounting programs at these schools?

There was a statistically significant but weak relationship between total faculty and total graduates ( $r_s = .242$ ,  $t = 1.850$ ,  $df = 55$ ,  $p. = .03$ ) in task importance using the Spearman rank correlation. (See Table 24.)

Computed by school type, no significant relationship was found between community college faculty and community college graduates ( $r_s = .168$ ) as well as between proprietary school faculty and proprietary school graduates ( $r_s = -.163$ ) using Spearman rank correlation.

Community Colleges

Comparison of community college faculty and community college graduates is presented in Table 25. Rankings for each task by faculty and graduates are listed. Thirteen tasks with a  $d$  (difference in paired ranks) of 30 or more were identified and are presented below. Faculty emphasized these tasks more than did graduates:

<u>Task</u>	<u>Faculty Ranking</u>	<u>Graduate Ranking</u>	<u>d</u>
Analyze standard cost variances (c)	17.5	57	-39.5
Prepare statements of changes in financial position and/or cash flow statements (g)	13	50	-37
Maintain petty cash fund (g)	20	56	-36

	<u>Faculty Ranking</u>	<u>Graduate Ranking</u>	<u>d</u>
Determine standard costs (c)	20	56	-36
Compute or analyze budget variances (c)	17.5	52	-34.5
Maintain inventory records and/or determine inventory costs (g)	11	42	-31
Prepare worksheets (g)	4	34.5	-30.5

(g = general, c = cost)

Graduates emphasised these tasks more than did faculty:

	<u>Faculty Ranking</u>	<u>Graduate Ranking</u>	<u>d</u>
Prepare payroll tax returns (g)	55	2	53
Prepare consolidated finan- cial statements (g)	50.5	6	44.5
Count cash funds (a)	44	1	43
Determine, journalize and/or post entries by machine/ computer (g)	56	14	42
Prepare any supporting schedules for individual tax returns (t)	43	9	34
Pay accounts/prepare vouchers for payment (g)	47	15.5	31.5

(g = general, c = cost, a = auditing, t = tax)

Faculty emphasized four general tasks and three cost tasks more than did graduates. Graduates emphasized three general tasks, one auditing task and one tax accounting task more than did faculty. No discernable pattern can be detected from this observation with the possible exception that community college faculty emphasized cost accounting tasks more than was necessary. This observation is supported by the

Table 25

Task Rankings for Community College Faculty  
Compared to Community College Graduates

Accounting Task	Rankings		d <sup>a</sup>
	Faculty	Graduates	
<u>General Accounting Tasks</u>			
Calculate payrolls and keep payroll records	31.5	10	21.5
Prepare payroll tax returns	55	2	53
Determine, journalize and/or post entries manually	1	5	- 4
Determine, journalize and/or post entries by machine/computer	56	14	42
Prepare invoices for customers	57	48	9
Receive cash from customers and/or keep accounts receivable ledger	22.5	28	- 5.5
Maintain a sales or purchases journal	9	3	6
Account for sales tax and/or credit card transactions	49	44	5
Maintain cash books or journals	7.5	8	- .5
Reconcile bank statements	6	11	- 5
Pay accounts/prepare vouchers for payment	47	15.5	31.5
Keep accounts payable ledger or voucher register	20	12.5	7.5
Reconcile subsidiary ledgers with general ledger	7.5	4	3.5
Maintain inventory records and/or determine inventory costs	11	42	- 31
Prepare trial balances	5	27	- 22
Prepare worksheets	4	34.5	- 30.5
Prepare adjusting and/or closing entries	2.5	21.5	- 19
Prepare balance sheets and/or income statements	2.5	21.5	- 19
Prepare statements of retained earnings/owners' equity	10	37.5	- 27.5
Prepare statements of changes in financial position and/or cash flow statements	13	50	- 37
Compute supplemental data to financial statements, such as general price levels or current cost	48	50	- 2

Table 25 (Cont.)

Accounting Task	Rankings		d <sup>a</sup>
	Faculty	Graduates	
<u>General Accounting Tasks Continued</u>			
Prepare consolidated financial statements	50.5	6	44.5
Maintain petty cash fund	16	53	- 37
Maintain fixed assets ledgers/compute depreciation	20	15.5	4.5
Account for leases and/or pensions	52	46	6
Account for investments and/or long-term debt	37.5	39	- 1.5
Record transactions in equity accounts	14	17	- 3
Analyze financial data for management decisions	31.5	40	- 8.5
<u>Cost Accounting Tasks</u>			
Determine product cost (manufacturing process)	12	12.5	- .5
Maintain cost ledgers	25	54	- 29
Prepare budgets	37.5	42	- 4.5
Compute or analyze budget variances	17.5	52	- 34.5
Determine standard costs	20	56	- 36
Analyze standard cost variances	17.5	57	- 39.5
Prepare cost reports for management decision making	29.5	45	- 15.5
Evaluate capital expenditures employing capital budgeting techniques	45	50	- 5
Allocate costs between departments or branches	29.5	25.5	- 4
<u>Auditing Tasks</u>			
Analyze various accruals to see if proper amount is accrued	40.5	33	7.5
Analyze various prepayments to see if proper amount is prepaid	34	24	10
Check accuracy of journal entries	40.5	31.5	9
Check accuracy of postings to various ledger accounts	34	31.5	2.5
Check arithmetical accuracy of various journals and ledgers	40.5	29	11.5

Table 25 (Cont.)

Accounting Task	Rankings		d <sup>a</sup>
	Faculty	Graduates	
<u>Auditing Tasks Continued</u>			
Evaluate internal control systems	15	30	- 15
Confirm bank accounts	24	18	6
Confirm receivables or payables	34	19.5	14.5
Count cash funds	44	1	43
Take physical inventories	36	23	13
Confirm inventory costs	26.5	37.5	- 11
Test cash payments to see if proper accounts have been charged	26.5	25.5	1
Check corporate minute book	53	55	- 2
<u>Tax Accounting Tasks</u>			
Give tax advice to clients	54	36	18
Keep information solely for tax purposes	46	19.5	26.5
Prepare any supporting schedules for individual tax returns	43	9	34
Prepare individual income tax returns	22.5	7	15.5
Prepare any supporting schedules for corporate or partnership income tax returns	40.5	42	- 1.5
Prepare corporate or partnership income tax returns	28	34.5	- 6.5
Refer to any of the tax services	50.5	47	- 3.5

<sup>a</sup>d = faculty ranking minus graduate ranking.

$r_s = .168$ ,  $t = 1.264$ ,  $df = 55$ ,  $p = >.10$ .

fact that only 11.5% of community college graduates were employed in industry (See Table 15).

### Proprietary Schools

A comparison of faculty rankings and graduate rankings for proprietary schools is presented in Table 26. As noted earlier, the Spearman rank correlation indicated there is no significant relationship between the two rankings ( $r_s = -.163$ ). Fourteen tasks with 30 or more differences in paired ranks (d) were identified and are presented here. Faculty emphasized these tasks more than did their graduates:

<u>Task</u>	<u>Faculty Ranking</u>	<u>Graduate Ranking</u>	<u>d</u>
Reconcile subsidiary ledgers with general ledger (g)	3	51	-48
Prepare adjusting and/or closing entries (g)	6.5	46	-39.5
Maintain petty cash fund (g)	14	49	-35
Prepare trial balances (g)	1	35	-34
Determine product cost (manufacturing process) (c)	19	53	-34

(g = general, c = cost)

Graduates emphasized these tasks more than did faculty:

<u>Task</u>	<u>Faculty Ranking</u>	<u>Graduate Ranking</u>	<u>d</u>
Prepare any supporting schedules for corporate or partnership income tax returns (t)	57	5.5	51.5
Prepare corporate or partnership income tax returns (t)	56	5.5	50.5
Give tax advice to clients (t)	54	5.5	48.5
Count cash funds (a)	51	5.5	45.5

<u>Task</u>	<u>Faculty Ranking</u>	<u>Graduate Ranking</u>	<u>d</u>
Refer to any of the tax services (t)	45	5.5	39.5
Compute or analyze budget variances (c)	43.5	5.5	38
Analyze standard cost variances (c)	43.5	5.5	38
Confirm inventory costs (a)	50	15.5	34.5
Take physical inventories (a)	47	15.5	31.5

(t = tax, c = cost, a = auditing)

It is noted that four of the five tasks emphasized more by faculty were general accounting tasks; one was a cost task. However, graduates emphasized four (of only seven) tax accounting tasks, three auditing tasks, and two cost accounting tasks more than did their faculty.

This trend might be expected since a catalog analysis indicated that proprietary schools tended to emphasize general accounting tasks. Only one proprietary school required tax (48 clock hours); no proprietary schools required auditing. Even though only one proprietary school in the survey offered any cost accounting courses (48 clock hours), this presented little problem to graduates since they do not tend to perform cost accounting tasks. Only five percent of the graduates were employed by industrial firms (See Table 15). Although accounting principles courses tended to give an overview of some of the specialized subjects, apparently that was not enough to meet the needs of proprietary school graduates for tax and auditing.



Table 26  
Task Rankings for Proprietary School Faculty  
Compared to Proprietary School Graduates

Accounting Task	<u>Rankings</u>		
	Faculty	Graduates	d <sup>a</sup>
<u>General Accounting Tasks</u>			
Calculate payrolls and keep payroll records	9.5	12	- 2.5
Prepare payroll tax returns	33	11	22
Determine, journalize and/or post entries manually	6.5	26	- 19.5
Determine, journalize and/or post entries by machine/computer	38	32.5	5.5
Prepare invoices for customers	41	43.5	- 2.5
Receive cash from customers and/or keep accounts receivable ledger	9.5	27.5	- 18
Maintain a sales or purchases journal	6.5	23.5	- 17
Account for sales tax and/or credit card transactions	21	17.5	- 3.5
Maintain cash books or journals	12	12.5	- .5
Reconcile bank statements	12	40	- 28
Pay accounts/prepare vouchers for payment	16	29	- 13
Keep accounts payable ledger or voucher register	6.5	36	- 29.5
Reconcile subsidiary ledgers with general ledger	3	51	- 48
Maintain inventory records and/or determine inventory costs	15	21	- 6
Prepare trial balances	1	35	- 34
Prepare worksheets	3	30	- 27
Prepare adjusting and/or closing entries	6.5	46	- 39.5
Prepare balance sheets and/or income statements	3	17.5	- 14.5
Prepare statements of retained earnings/owners' equity	17	5.5	11.5
Prepare statements of changes in financial position and/or cash flow statements	30	51	- 21
Compute supplemental data to financial statements, such as general price levels or current cost	47	40	7
Prepare consolidated financial statements	24.5	51	- 26.5
Maintain petty cash fund	14	49	- 35
Maintain fixed assets ledgers/compute depreciation	12	19.5	- 7.5

Table 26 (Cont.)

Accounting Task	Rankings		
	Faculty	Graduates	d <sup>a</sup>
<u>General Accounting Tasks Continued</u>			
Account for leases and/or pensions	52	46	6
Account for investments and/or long-term debt	24.5	40	- 15.5
Record transactions in equity accounts	22.5	5.5	17
Analyze financial data for management decisions	22.5	23.5	- 1
<u>Cost Accounting Tasks</u>			
Determine product cost (manufacturing process)	19	53	- 34
Maintain cost ledgers	26.5	32.5	5.5
Prepare budgets	34.5	5.5	29
Compute or analyze budget variances	43.5	5.5	38
Determine standard costs	36.5	23.5	13
Analyze standard cost variances	43.5	5.5	38
Prepare cost reports for management decision making	36.5	14	22.5
Evaluate capital expenditures employing capital budgeting techniques	49	56.5	- 7.5
Allocate costs between departments or branches	31.5	54	- 22.5
<u>Auditing Tasks</u>			
Analyze various accruals to see if proper amount is accrued	42	23.5	18.5
Analyze various prepayments to see if proper amount is prepaid	34.5	32.5	2
Check accuracy of journal entries	19	37	- 18
Check accuracy of postings to various ledger accounts	19	43.5	- 24.5
Check arithmetical accuracy of various journals and ledgers	26.5	48	- 21.5
Evaluate internal control systems	47	19.5	27.5
Confirm bank accounts	31.5	32.5	- 1
Confirm receivables or payables	39.5	27.5	12
Count cash funds	51	5.5	45.5
Take physical inventories	47	15.5	31.5

Table 26 (Cont.)

Accounting Task	Rankings		d <sup>a</sup>
	Faculty	Graduates	
<u>Auditing Tasks Continued</u>			
Confirm inventory costs	50	15.5	34.5
Test cash payments to see if proper accounts have been charged	54	40	14
Check corporate minute book	54	56.5	- 2.5
<u>Tax Accounting Tasks</u>			
Give tax advice to clients	54	5.5	48.5
Keep information solely for tax purposes	29	55	- 26
Prepare any supporting schedules for individual tax returns	28	46	- 18
Prepare individual income tax returns	39.5	40	- .5
Prepare any supporting schedules for corporate or partnership income tax returns	57	5.5	51.5
Prepare corporate or partnership income tax returns	56	5.5	50.5
Refer to any of the tax services	45	5.5	39.5

<sup>a</sup>d = faculty ranking minus graduate ranking.

$r_s = -.163$ ,  $t = 1.225$ ,  $df = 55$ ,  $p. = >.10$ .

### Other Findings

The questionnaires solicited some information which, while not directly related to the research questions, were pertinent to an overall evaluation of accounting programs in Virginia community colleges and proprietary schools. The questions, asked graduates and employers, were basically judgemental in nature. Some questions solicited demographic information.

### Additional Schooling

At the .05 alpha level, there was a significant difference between the number of community college graduates and proprietary school graduates who obtained additional schooling. Results are summarized in Table 27. Since graduating from community colleges, 32 respondents enrolled in and eight graduated from four-year colleges or universities. Of those receiving further schooling, 26 (40%) were employed in accounting positions. Twenty-one more were employed in other capacities. Seventeen were unemployed. Eight of the unemployed graduates were full-time students and six were part-time students; one was a graduate student and one had graduated from a four-year college. One respondent receiving further schooling did not indicate employment status.

Since graduating from proprietary schools, three respondents enrolled in four-year colleges or universities, but none graduated from senior institutions. Of the nine receiving additional schooling, two were employed in accounting positions, three were employed in other capacities. Of the four who were

Table 27

## Number of Graduates Who Obtained Additional Schooling

Responses	<u>Community College Graduates</u>		<u>Proprietary School Graduates</u>	
	Number	Percent	Number	Percent
Yes	65	41.9	9	20.0
No	<u>90</u>	<u>58.1</u>	<u>36</u>	<u>80.0</u>
Total	<u>155</u>	<u>100.0</u>	<u>45</u>	<u>100.0</u>

$\chi^2 = 7.198$ ,  $df = 1$ ,  $p. = 0.0013$ .

unemployed, two were full-time students and two were part-time students.

Of the respondents receiving additional schooling, 37% of the community college graduates and 75% of the proprietary school graduates indicated the extra schooling was necessary for entry-level employment in the accounting field. This difference in graduate perception was significant. The results are shown in Table 28.

Note that community college graduates obtained additional schooling significantly more often than did proprietary school graduates (Table 27). However, of those seeking additional schooling, proprietary school graduates significantly more often than community college graduates indicated that the extra schooling was necessary for entry-level employment (Table 28). This may mean that community college graduates more often sought additional schooling for reasons other than initial employment, such as for job advancements, higher entry levels, or personal satisfaction.

#### Adequacy of Schooling: Graduate Perceptions

Graduates were asked how satisfied they were with the adequacy of the training at their schools. Of those responding, 93% of community college graduates and 68% of proprietary school graduates were either very satisfied or somewhat satisfied with their training. Table 29 summarizes the results of this question. Chi square analysis indicated there was a significant difference between graduates of the two school types.

Table 28

Necessity of Additional Schooling to Secure  
Entry-level Employment in Accounting Positions

Responses	Community College Graduates		Proprietary School Graduates	
	Number	Percent	Number	Percent
Yes	22	37.3	6	75.0
No	<u>37</u>	<u>62.7</u>	<u>2</u>	<u>25.0</u>
Sub-total	59	<u>100.0</u>	8	<u>100.0</u>
No Response	<u>6</u>		<u>1</u>	
TOTAL	<u>65</u>		<u>9</u>	

$$\chi^2 = 5.42, df = 1, p. = 0.0199$$

Table 29

## Graduate Satisfaction with the Adequacy of Their Training

Degree of Satisfaction	Graduates of			
	Community Colleges		Proprietary Schools	
	Number	Percent	Number	Percent
Very satisfied	81	54.3	13	31.7
Somewhat satisfied	57	38.5	15	36.6
Somewhat dissatisfied	7	4.7	9	22.0
Very dissatisfied	3	2.0	4	9.7
	<u>148</u>	<u>100.0</u>	<u>41</u>	<u>100.0</u>
No Response	9		5	
Total	<u>157</u>		<u>46</u>	

$$\chi^2 = 19.879, df = 3, p. = 0.0002$$



Community college graduates tended to be satisfied more often with the adequacy of their training than did graduates of proprietary schools.

Graduates were asked also if they would choose to attend the same type of school if they had their educational training to do over. Results are shown in Table 30. Chi square analysis indicated that community college students would choose to attend a community college again significantly more often than proprietary school students would choose a proprietary school again. Reasons graduates presented for not choosing to attend the same type of school are shown in Tables 31 and 32. Some graduates presented more than one response to this question.

Both of these variables support the same conclusion: proprietary school graduates were less satisfied with their schooling than were community college graduates. The researcher is hesitant to conclude any more than this, however, since differences in attitude may be attributable to personal characteristics of students or other factors rather than to quality of instruction they received. These variables are beyond the scope of this study.

Additionally, graduates were asked if a cooperative work experience or an internship program would be of value to the accounting programs. The responses were overwhelmingly affirmative with no significant differences between groups as presented in Table 33.

Next, respondents were asked to list the three most

Table 30

Number of Graduates Who Would/Would Not Attend the Same School Type

Responses	Community College Graduates		Proprietary School Graduates	
	Number	Percent	Number	Percent
Yes	132	88.6	25	62.5
No	<u>17</u>	<u>11.4</u>	<u>15</u>	<u>37.5</u>
Sub-total	149	<u>100.0</u>	40	<u>100.0</u>
No Response	<u>8</u>		<u>6</u>	
TOTAL	<u>157</u>		<u>46</u>	

$\chi^2 = 14.158$ ,  $df = 1$ ,  $p. = 0.0001$ .

Table 31

Reasons Some Community College Graduates  
Would Not Attend a Community College Again

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Reason	Number of Responses
A four-year degree is needed to obtain employment	8
Credits are not transferrable	6
Schooling did not prepare one to sit for CPA examination	2
Campus life was needed	2
Instruction was too limited and not long enough	1

Table 32

Reasons Some Proprietary School Graduates  
Would Not Attend a Proprietary School Again

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Reason	Number of Responses
More training was needed to obtain employment	10
Courses were too short, too rushed or inadequate	4
School was too expensive	3
Teachers were uncaring, unqualified or incompetent	2
Credits were not transferrable	2
A four-year college program was preferred	2

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Table 33

Number of Graduates Who Believed a Cooperative Work Experience or Internship Would/Would Not Be of Value to the Accounting Program

Responses	<u>Community College Graduates</u>		<u>Proprietary School Graduates</u>	
	Number	Percent	Number	Percent
Yes	139	88.5	38	82.6
No	7	4.5	1	2.2
No Response	<u>11</u>	<u>7.0</u>	<u>7</u>	<u>15.2</u>
Total	<u>157</u>	<u>100.0</u>	<u>46</u>	<u>100.0</u>

$\chi^2 = .701$ ,  $df = 1$ ,  $p. = 0.42$ .

beneficial accounting courses and the three least beneficial accounting courses in helping them perform their jobs. Several observations should be made regarding these responses. First, many respondents did not limit their answers to accounting courses. All non-accounting courses listed were eliminated. Second, many respondents did not provide answers to the least beneficial courses or provided fewer than three courses. Some noted that all the courses were beneficial. Third, several respondents provided the same answers for the most beneficial and the least beneficial courses. The responses are summarized in Tables 34 - 37. A weighting of responses is provided to facilitate comparisons. Community college graduates and proprietary school graduates agreed that Principles of Accounting was the most beneficial to them. They also tended to agree that Cost Accounting and Tax Accounting courses were the least helpful in performing their jobs.

Several questions were asked graduates employed in accounting positions relating to the use of automation on the job. The purpose of these questions was to assess how well community colleges and proprietary schools were keeping abreast of changing technology. Responses are summarized in Table 38.

Graduates were asked if they use electronic data processing (EDP) equipment on their jobs and what accounting tasks they perform on that equipment. Forty-nine percent of the community college respondents and 26% of proprietary school respondents indicated they use EDP equipment. Responses to

Table 34  
 Most Beneficial Accounting Courses as  
 Perceived by Community College Graduates

Accounting Course	Rankings			Weighted <sup>a</sup>
	First	Second	Third	
Principles of Accounting	46	10	1	159
Intermediate Accounting	15	19	6	89
Auditing	4	5	4	46
Cost Accounting	5	9	8	41
Taxes	4	8	10	38
Computerized Accounting	-	4	5	13
Payroll Accounting	1	3	-	9
Governmental Accounting	-	1	-	2
Advanced Accounting	-	1	-	2

<sup>a</sup>Weights: Three for first ranking, two for second ranking, and one for third ranking.

Table 35

Least Beneficial Accounting Courses as  
Perceived by Community College Graduates

Accounting Course	Rankings			Weighted <sup>a</sup>
	First	Second	Third	
Taxes	13	3	-	45
Cost Accounting	11	3	1	40
Auditing	5	2	1	20
Intermediate Accounting	3	1	1	12
Governmental Accounting	3	1	-	11
Computerized Accounting	1	3	-	7
Principles of Accounting	2	-	-	6
Advanced Accounting	1	1	1	6
Financial Statement Analysis	1	-	-	3
Budgeting	1	-	-	3

<sup>a</sup>Weights: Three for first ranking, two for second ranking, and one for third ranking.



Table 36

Most Beneficial Accounting Courses as  
Perceived by Proprietary School Graduates

Accounting Course	Rankings			Weighted <sup>a</sup>
	First	Second	Third	
Principles of Accounting	15	1	-	47
Payroll Accounting	1	7	1	18
Computer (Automated) Accounting	-	3	2	8
Taxes	-	1	1	3

<sup>a</sup>Weights: Three for first ranking, two for second ranking, and one for third ranking.

Table 37

Least Beneficial Accounting Courses as  
Perceived by Proprietary School Graduates

Accounting Course	Rankings			Weighted <sup>a</sup>
	First	Second	Third	
Cost Accounting	1	1	-	5
Taxes	1	-	-	3
Computer (Automated) Accounting	1	-	-	3
Payroll Accounting	-	-	1	1

<sup>a</sup>Weights: Three for first ranking, two for second ranking, and one for third ranking.

Table 38

## Graduates Using Electronic Data Processing Equipment

Questions	Graduates of			
	Community Colleges		Proprietary Schools	
	Number	Percent	Number	Percent
Use EDP Equipment?				
No	38	51.4	14	73.7
Yes	<u>36</u>	<u>48.6</u>	<u>5</u>	<u>26.3</u>
Total Respondents	<u>74</u>	<u>100.0</u>	<u>19</u>	<u>100.0</u>
$(\chi^2 = 2.436, df = 1, p. = 0.1075)$				
Use Microcomputers?				
No	51	70.8	14	73.7
Yes	<u>21</u>	<u>29.2</u>	<u>5</u>	<u>26.3</u>
Total Respondents	<u>72</u>	<u>100.0</u>	<u>19</u>	<u>100.0</u>
$(\chi^2 = 0.045, df = 1, p. = 0.8396)$				
Learn to Use Microcomputers in School?				
No	18	64.3	2	25.0
Yes	<u>10</u>	<u>35.7</u>	<u>6</u>	<u>75.0</u>
Total Respondents	<u>28</u>	<u>100.0</u>	<u>8</u>	<u>100.0</u>
$(\chi^2 = 3.743, df = 1, p. = 0.0543)$				

accounting tasks performed on EDP equipment tended to be general rather than specific and covered a wide range of topics as summarized here with the number of responses to each task in parentheses:

- Account receivable, billing, collection (12)
- Journals, data recording (11)
- Ledgers, postings (11)
- Financial statements and reports (9)
- Accounts payable (7)
- Auditing, updating or reviewing data, adjustments, corrections (7)
- Account analysis, data retrieval (4)
- Inventory control (3)
- Cash management (2)
- Taxes, i.e., reports, returns, schedules, planning (2)
- Loan amortization schedules (2)
- Trial balances (1)
- Cost of goods sold (1)
- Fringe benefits and leave time (1)
- "Internal bookkeeping" (1)

A second set of questions asked respondents about microcomputers, i.e., how many graduates used them on their jobs, if they learned to use them in school, and what accounting tasks they perform with them. About the same percentage of community college graduates (29%) as proprietary school graduates (26%) use microcomputers in their work. However, only 36% of community college graduates compared to 67% of proprietary school graduates learned to use microcomputers in school. Note that the questionnaire only asked for responses to this question from graduates who use microcomputers in their jobs. Nevertheless, several graduates answered the question who indicated they do not currently use microcomputers. Their responses were retained because it was felt this would not bias the data. Responses to tasks performed with microcomputers

were also of a general nature rather than specific. They are summarized here with the number of responses in parentheses:

- Financial statements, accounting reports (8)
- General ledger (7)
- "All" or "Essentially everything" (7)
- Accounts payable (6)
- Payroll (3)
- Inventory control (3)
- Accounts receivable (3)
- Cost control (3)
- Account analysis (2)
- Depreciation (2)
- Journals (1)
- Pro forma statements (1)
- Present value schedules (1)
- Parking control (1)

Chi square analysis indicated there were no significant differences between graduates of the two school types on any of the questions relating to automation.

#### Adequacy of Schooling: Employer Perceptions

Employers appeared to be well pleased with the training graduates received at both school types. Two judgemental questions were asked to measure this.

Employers were asked to indicate how satisfied they were with the adequacy of training provided by Virginia's community colleges and proprietary schools based on the performance of accounting graduates they employ. Employers of both types of graduates expressed high degrees of satisfaction. Only one employer expressed dissatisfaction, although there were nine nonresponses. These results are shown in Table 39.

Also, employers were asked if they would hire more graduates as positions became open. The responses were overwhelmingly affirmative as shown in Table 40. There was no significant difference between employers of the two graduate types.

Table 39  
Employer Satisfaction with Training of Graduates

Degree of Satisfaction	Graduates of			
	Community Colleges		Proprietary Schools	
	Number	Percent	Number	Percent
Very satisfied	28	62.2	7	87.5
Somewhat satisfied	16	35.6	1	12.5
Somewhat dissatisfied	1	2.2	-	-
Very dissatisfied	-	-	-	-
Sub-total	45	<u>100.0</u>	8	<u>100.0</u>
No response	<u>4</u>		<u>5</u>	
Total	<u>49</u>		<u>13</u>	

Table 40

Number of Employers Who Would/Would Not Hire More  
Graduates of Virginia Community Colleges or Proprietary Schools

Responses	<u>Community College Graduates</u>		<u>Proprietary School Graduates</u>	
	Number	Percent	Number	Percent
Yes	40	93.0	7	87.5
No	<u>3</u>	<u>7.0</u>	<u>1</u>	<u>12.5</u>
Sub-Total	43	<u>100.0</u>	8	<u>100.0</u>
No Response	<u>6</u>		<u>5</u>	
TOTAL	<u>49</u>		<u>13</u>	

$$\chi^2 = 0.3394, df = 1, p. = 0.5778$$

## Chapter V

### SUMMARY AND IMPLICATIONS

In Chapter II several studies were cited relating to accounting programs at one-or-two year colleges. Two early studies concentrated on determining what accounting tasks are performed by semiprofessional or technical accountants (Kelly, 1970 and Ozzello, 1967). Three other studies evaluated community college programs through graduate follow-up studies (Clary, 1977; King, 1976 and Yandoh, 1977). Bond (1975) also used graduate follow-up to evaluate proprietary schools. Two other studies compared accounting programs in public and proprietary colleges (Jung, et al., 1976; and Wilms, 1974). As far as the researcher can determine, there has been no evaluation of accounting programs in Virginia community colleges since the Clary study in 1977 and no comparison ever of community colleges and proprietary school in Virginia. Thus this study served to evaluate community colleges in an ongoing process and to provide a much needed evaluation of proprietary schools in terms of meeting employment needs.

Using a validated task inventory, the purpose of this study was to evaluate the accounting programs at selected Virginia community colleges and proprietary schools. To do this, the study compared the relative importance placed on each of 57 accounting tasks by accounting faculty, accounting graduates and employers of those graduates.



Specifically, the study answered the following question and subquestions:

What is the relationship between the accounting tasks taught in Virginia community colleges and proprietary schools and the accounting tasks performed by graduates of accounting programs at these schools?

A. What accounting tasks are being taught in the accounting programs in Virginia community colleges and proprietary schools?

B. What accounting tasks are accounting graduates of these schools performing in accounting or related jobs?

C. Are there any differences between accounting graduates of community colleges and accounting graduates of proprietary schools in job placements as indicated by the kinds of jobs secured and tasks performed?

D. What accounting tasks do employers or supervisors of community college and proprietary school graduates expect these graduates to be able to perform?

E. What is the relationship between accounting tasks taught in Virginia community colleges and proprietary schools and accounting tasks employers or supervisors expect graduates of these schools to be able to perform?

F. What is the relationship between accounting tasks performed by graduates of Virginia community college and proprietary schools and accounting tasks employers or supervisors expect these graduates to be able to perform?

The following discussion presents a summary of the findings from this study and focuses on the implications of those findings as they relate to community college and proprietary school accounting programs in Virginia.

### Summary of Findings

Following is a summary of the major findings of this study and, where appropriate, how these findings relate to other studies and the literature in general.

#### Accounting Tasks Taught

In terms of course offerings, community colleges in this study appeared to present more depth and breadth to their curricula than did proprietary schools. Depth is represented by three quarters of intermediate accounting required at each community college compared to none at any proprietary school. Breadth of curricula means community colleges required more specialized courses, e.g., cost, tax, auditing, than did proprietary schools. Proprietary schools tended to emphasize the basics, presumably in an effort to get students employed as quickly as possible. "By offering short courses proprietary schools are recognizing that a student's foregone income is the largest single expense of training." (Wilms, 1974, p.7).

In a survey of members of the Junior (Community) College section of the American Accounting Association, Huus (1979) assessed the relative importance of selected course offerings for terminal accounting programs. He found that while introductory

courses were relatively more important than advanced courses, Principles of Accounting, Intermediate, Cost, Taxes, Managerial Accounting, and Accounting Information Systems were considered essential accounting courses for terminal accounting students. (Auditing was among the courses ranked relatively low in importance.) Using that criterion, the community colleges in this study came close, but proprietary schools fell far short of providing the essentials for accounting graduates.

Emphasis placed on tasks by faculty in this study reflected well the curricula of the schools. Proprietary school faculty tended to emphasize general accounting tasks considerably more than specialized tasks. Community college faculty were more balanced in their emphasis between general accounting tasks and the more specialized accounting tasks as presented in Table 9 and its discussion.

#### Accounting Tasks Performed by Graduates

Graduates of Virginia community colleges and proprietary schools performed a variety of accounting tasks in their jobs. However, general accounting and auditing tasks were performed considerably more frequently than were tax and cost accounting tasks (Table 11). According to a survey of CPAs conducted by King (1976), general accounting and auditing tasks are easier to perform than are cost and tax accounting tasks. Using that criterion, graduates in this study, as in King's study, performed the easier tasks. In terms of task importance, graduates tended to give high ratings to all tasks (Table 12).

The lesser importance of cost and tax accounting tasks was further documented by the fact that graduates of both school types listed cost and tax as the two least beneficial courses in their curricula (See Tables 35 and 37).

### Graduate Comparisons

Both community college graduates and proprietary school graduates performed a wide range of tasks as indicated in Table 17. Perceived importance of tasks was similar with only one task showing a significant difference using chi square analysis (Table 18).

Employment. In terms of percent of respondents employed or of percent employed in accounting or related jobs, figures for neither type of school were impressive in regards to preparing students for employment. Despite recruitment claims that proprietary schools assist in (or even guarantee<sup>2</sup>) job placements, proprietary school graduates were employed less often than were community college graduates. As indicated in Table 13, 81.3% of community college graduates were employed compared to 67.3% of proprietary school graduates. Furthermore, community college graduates were employed in accounting jobs more often than were proprietary school graduates: 50.3% to 41.3%. (Additionally, 18.1% of community college students compared to 32.6% of proprietary school graduates were looking for accounting jobs).

By way of comparison, 91% of the respondents to King's survey of community college graduates in Virginia in 1976 were

employed, 64% as accountants. It should be noted, however, that when the surveys were made for this study, the economy was in a recession and unemployment rates generally were abnormally high.

These results support the findings of Jung et al. (1976) in which nonproprietary school graduates obtained jobs related to their training more often than did proprietary school graduates. Further, less than 20% of the proprietary school graduates in Jung's study obtained their jobs through school placement services. Results in this study, however, do not support Wilm's findings in 1974. Wilms found that proprietary school graduates got accounting or related jobs significantly more often than did graduates of public schools, i.e., community colleges and technical schools. This study did surpass Wilms in terms of percentages of graduates employed. Wilms found only 20% of proprietary school graduates and 10% of public school graduates were employed in accounting or related jobs. However, Wilms excluded bookkeeping and clerical jobs as accounting or related. Therefore, comparison to Wilms may be misleading in that respect.

Type of Employers. A study by Gordon, et al. in 1973 found that 68.7% of two-year accounting graduates were employed in industrial firms. They predicted that other types of employers would increase their use of these graduates. The data from this study confirmed their prediction. From Table 15 it can be seen that only 11.5% of community college graduates and 5.3% of proprietary school graduates were employed by industry. This may

help explain why so few graduates performed cost accounting tasks since cost accounting concepts are used most frequently by manufacturing firms.

Community college graduates were employed by many different types of employers with no predominate group. Proprietary school graduates, however, were concentrated in small business firms.

One additional note, despite the call for more use of paraprofessionals in public accounting (Barton, 1975; Carey, 1965; Compton, 1980; Freeman, 1971; Loeb and Rymer, 1973; Schwerseng, 1969), only about five percent of the graduates in this study were employed by public accounting firms.

Adequacy of Schooling. Significant differences were found in several variables intended to measure adequacy of schooling.

1. Community college graduates obtained additional schooling significantly more often than did proprietary school graduates, but it was for reasons other than to obtain initial employment. Transfer of community college students to senior institutions, even from purported terminal degree programs such as accounting, is well documented despite loss of many credits and duplications of courses (King, 1976; Thompson, 1980).

As for proprietary schools, since many of them lack accreditation by regional accrediting agencies, their graduates often encounter difficulties in transferring their credits to more traditional educational institutions (Harris and Grede, 1977). Wilms (1974) reported that these schools are making a bid for "respectability" which includes efforts to increase transfer of credits. Yet not much in the literature suggest this is happening

to any significant extent. In this study, only 20% of proprietary school graduates obtained additional schooling (Table 27).

2. Community college graduates were significantly more satisfied with the adequacy of their training than were graduates of proprietary schools. This was the same finding as Wilms (1974) and Jung et al. (1976) in comparative studies of public and proprietary vocational training.

3. Community college graduates would choose to attend the same kind of school if they had their training to do over significantly more often than would proprietary school graduates. This was also the same as Wilms (1974) found in his study.

Several areas of similarity were found between graduates of the two school types:

1. Graduates of both school types agreed that a cooperative work experience or an internship program would be beneficial to the accounting programs at their schools (Table 33). This was the same as findings of several previous studies (Chasen, 1977; King, 1976; Smith, 1981; Weston, 1980; Yandoh, 1971). Despite heavy demand for cooperative programs, Harris and Grede (1977, p. 75) observed, "Work experience or internship programs often receive only minor attention" in community colleges. None of the schools of either type included in this study offered practical work experience programs.

2. Even though proprietary schools tended to emphasize computers more than did community colleges, less than half the

graduates of either school type used electronic data processing equipment on their jobs and just over one fourth of them used microcomputers (Table 38). This is an area in which change might be expected. Smith (1981) found a need for more instruction in electronic data processing in junior college accounting programs. Also, six employers in this study mentioned the need for more computer skills for graduates of these schools.

3. Graduates from both school types believed that Principles of Accounting was the most beneficial accounting course in helping them perform their jobs. They also agreed that Taxes and Cost Accounting were the two least helpful courses. Chasen et al. (1977) found Accounting Principles and Intermediate Accounting to be the most beneficial to practicing public accountants and Cost Accounting to be the least beneficial. King (1976) found Cost Accounting to be the least beneficial accounting course for community college graduates in a variety of jobs in Virginia.

#### Employer Expectations

Employers expected graduates to be well trained. In Table 20 it is revealed that more than half the employers expected graduates to know how to perform 40 of the 57 tasks on the list. Employers had considerably more expectations regarding general and auditing tasks than they did for cost or tax accounting tasks. They also assigned greater importance to general and auditing tasks than to cost and tax accounting tasks.

Employers of graduates from both school types had similar expectations. There was a moderate but significant relationship



( $r_s=.426$ ) between the two groups in rating task importance (Table 23).

Employers appeared to be well pleased with the job performance of graduates from community colleges and proprietary schools. Ninety-eight percent of employers expressed satisfaction with the training of these graduates, 66% were very satisfied with their training (Table 39). Also, of those responding, 47 of 51 employers (92%) indicated they would hire more graduates from these schools (Table 40).

Employer satisfaction agrees with other studies. Clary (1977) found employers well pleased with training of cost accountants in Virginia community colleges/junior colleges. Weston (1980) found that employers considered accounting graduates from various post-secondary educational institutions to be adequately prepared to handle the positions they were assigned. Bond (1974) reported that employers rated graduates of private vocational schools as average or above average compared to employees in the jobs with other educational backgrounds. Further, employers preferred to hire graduates of private vocational schools.

#### Cross Comparisons

Comparisons were made between the three groups (six groups when divided by school type). The major findings are summarized here:

1. Faculty at both school types emphasized those tasks employers believed were important ( $r_s=.487$ ). Where differences occurred, faculty emphasized the tasks more than did employers (Table 24).

2. Graduates emphasized those tasks employers believed to be important. A strong relationship ( $r_s = .556$ ) was found between graduate and employer perceptions of task importance (Table 24).

3. Very weak relationships, however, were found between faculty emphasis and graduate perception of task importance in total ( $r_s = .242$ ) and for both community colleges ( $r_s = .168$ ) and proprietary schools ( $r_s = -.163$ ). (See Table 24.)

Spearman rank correlation analysis was used to identify 13 tasks with 30 or more differences in paired ranks (d) between community college graduates and faculty at community colleges (Table 25). Analyzed by task groups, no discernible patterns were detected which may indicate community colleges offered adequately-balanced curricula. A possible exception: community college faculty emphasized cost accounting tasks more than did their graduates. Since fewer graduates obtained jobs in manufacturing firms compared to previous studies, consideration might be given to reducing cost accounting requirements.

Using Spearman rank correlation analysis, 14 tasks with 30 or more differences in paired ranks (d) between proprietary school faculty and their graduates were identified (Table 26). Faculty adequately emphasized general accounting tasks. However, in all other areas there were considerable numbers of tasks which graduates rated higher than did their faculty. This could indicate major deficiencies in accounting curricula at these schools. A need for more specialized course offerings is indicated.

### Conclusions

Although there were mixed results, overall the study supports the basic conclusion that both community college and proprietary school accounting programs make fair to good contributions to local employment needs. The employment percentages were not as high as might be hoped for or expected; nevertheless, these schools were adequately preparing students for lower-level accounting positions and there is expected to be an adequate job market to sustain future graduates of these programs. It is also concluded that community colleges were doing a better job of preparing students for employment than were proprietary schools. Both of these general conclusions are supported by the following specific conclusions in terms of objectives of the study:

1. A greater percent of community college graduates were employed in any capacity and employed in accounting jobs than were proprietary school graduates. However, more than 18% of community college graduates and 32% of proprietary school graduates were unemployed. About that same percent, employed or not, were looking for accounting jobs.

2. Community college graduates possessed marketable skills in diverse areas as evidenced by a wide variety of employment including government, small businesses, industry, and retail sales, with no predominant group. Proprietary school graduates tended to be employed by small business firms.

3. Community college graduates were significantly more satisfied with their training than were proprietary school graduates.

4. Community college graduates obtained additional schooling more often than did proprietary school graduates, but it was not to obtain initial employment.

5. Employers were well pleased with the job performance of graduates from both community colleges and proprietary schools and would hire more of these graduates in the future.

6. Accounting graduates performed a variety of accounting tasks on the job, but mostly general and auditing tasks. Tax and cost accounting tasks were performed infrequently. Graduates from both school types generally performed the same kinds of tasks.

7. Employers expected graduates to know how to perform a variety of tasks, but expected knowledge of general and auditing tasks more often than tax or cost accounting tasks.

8. Faculty at both types of schools were properly emphasizing general accounting tasks, those most needed on the job by accounting graduates.

9. Faculty at both school types emphasized the tasks employers expected graduates to be able to perform.

10. Community colleges may be placing more emphasis on cost accounting tasks than is needed. Proprietary schools are too limited by not teaching enough specialized courses.

Previous studies have found that valuable contributions have been made to employer needs by both community colleges (Clary, 1977; King, 1976; Ozzello, 1967; Weston, 1980) and proprietary schools (Bond, 1975, Weston, 1980) by adequately training graduates for lower and middle-level accounting jobs. Previous

comparative studies have found community colleges generally are doing a better job of training these graduates than are proprietary schools (Jung et al., 1976; Wilms, 1974). This study tends to support those findings although some areas for potential improvement in curricula were identified.

### Recommendations

The study presented several implications for curricula development at both community colleges and proprietary schools in Virginia. These implications lead to the following recommendations:

#### Short-term Recommendations

1. Since graduates performed general accounting tasks more often and assigned greater emphasis to them than to other tasks, the emphasis in the curricula of these accounting programs should be on general accounting tasks. In this regards, proprietary schools need to add more hours of intermediate accounting. Graduates should have some training, however, in the specialized accounting areas.

2. The requirements in specialized accounting areas should be determined by local employment needs. In the areas under study, proprietary schools need to add more auditing, tax and cost coverage as evidenced by differences between faculty and graduate perceptions. In response to changing employment patterns, e.g., less jobs in manufacturing firms, the community colleges under study could reduce their cost accounting requirements.

3. To meet expected changes in employment needs, community colleges, especially, need to incorporate more computer applications, particularly microcomputers, in their accounting programs.

#### Long-term Recommendations

1. Cooperative or internship programs should be established at least as an elective to provide job experiences and as an avenue to full-time employment opportunities. (Only six of 23 community colleges in Virginia and no proprietary schools offered this in their programs, yet 87% of the graduates believed it would be beneficial. See Table 33.)

2. Since a large percent of graduates, especially at community colleges, receive additional schooling, better articulation between these schools and four-year institutions is needed to avoid excessive loss of credits and duplication of courses. Several states, notably Florida, Michigan, Texas, Illinois, New York, California and Minnesota, have made changes to ease transfer problems (Thompson, 1978). No such state-wide effort has been initiated in Virginia.

3. Greater emphasis should be placed on communication and analytical skills of students in response to needs expressed by employers. More emphasis is needed on techniques of problem solving. Writing skills could be enhanced by more essay test items.

In terms of further research, the following recommendations are presented:

1. This study and others revealed that community college accounting graduates sought additional education to a large

extent despite potential problems with credit transfer. This study also revealed that the additional education was not to obtain initial employment. A study needs to be made as to why these graduates continued their education and what problems they encountered.

2. This study revealed that employers were well pleased with the training proprietary school graduates received and would hire more of them. Yet many proprietary school graduates were not satisfied with their training. An in-depth study needs to be made concerning the causes of this dissatisfaction and its implication on proprietary school curricula.

3. Both of the studies suggested above lead to speculation that graduates of both school types may not be satisfied with the level of jobs they received. Further studies might include a variable concerning what skills are needed for promotions or for higher-leveled job entry.

4. Additional studies should be made of these accounting programs in an ongoing evaluative process. Such studies might include differentiation of tasks based on perceived difficulty of the accounting tasks.

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## Footnotes

<sup>1</sup>The researcher is fully aware that accounting activities are performed by women. In fact, a study by Moon (1970) found "more females are employed as full-charge bookkeepers than males." Any use of "sexist" words in referring to accountants or bookkeepers is not intended as such.

<sup>2</sup>In 1983 Brown Mackie College of Salina, Kansas, started offering students tuition refunds if they failed to get serious, full-time job offers in their general field of study within 120 days of graduation ("College to refund," 1984). In 1984 Pittsburgh Technical Institute in Pittsburgh, Pennsylvania, made similar guarantees to students who attended 95% of classes and maintained a "B" average ("Graduates to get a job," 1984).

APPENDIX A

Correspondence Relating to  
Data Collection



# J. SARGEANT REYNOLDS COMMUNITY COLLEGE

Post Office Box 12084 Richmond, Va. 23241

DOWNTOWN CAMPUS

Teleph

January 18, 1984

Dear

As an educator, you undoubtedly are interested in how well the accounting program at your school is meeting the vocational needs of the students it serves. A study has been designed to help answer this question. A survey will be sent to accounting graduates asking them to indicate what accounting tasks they perform and the relative importance of each task. Before that survey can be sent, however, I need to know what accounting tasks are taught and how much emphasis is placed on each task.

The study includes four community colleges and three proprietary schools in Virginia. Since there are a small number of accounting faculty at these schools, your response is important to obtain representative results. Have a cup of tea as you answer a few questions, please. This survey has been approved by

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that I can check your name off of the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire.

The results of this research will be available to anyone interested in improving educational quality and relevance of accounting programs to job requirements. You may receive a summary of results by writing "Copy of Results Requested" on the back of the return envelope and printing your name and address below it.

I would be most happy to answer any questions you might have. Please write or call. The telephone number is \_\_\_\_\_ or \_\_\_\_\_.

Thank you very much for your assistance.

Sincerely,

Wallace P. Carroll  
Associate Professor of Accounting  
J. Sargeant Reynolds Community College







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J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

Telephone

February 8, 1984

Dear :

About three weeks ago I wrote to you seeking information about what accounting tasks you teach and how much emphasis you place on each task. As of today, I have not received your completed questionnaire.

I believe it is important that the accounting programs at Virginia community colleges and proprietary schools provide training that is relevant to the jobs their graduates secure.

I am writing you again because of the significance each questionnaire has on the usefulness of this study. The study include accounting programs at only four community colleges and three proprietary schools. Your name is among 44 included in the sample. In order for the results of this study to be truly representative of all community colleges and proprietary schools in Virginia, it is essential that all persons in the sample return their questionnaire.

In the event your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated. If you have any questions or concerns about the study, please do not hesitate to write or call me at  
or collect at

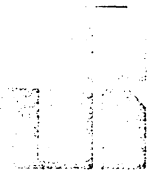
Cordially,

Wallace P. Carroll  
Associate Professor of Accounting

Enclosure



## J. SARGEANT REYNOLDS COMMUNITY COLLEGE



DOWNTOWN CAMPUS

Telephone

March 14, 1984

Dear

As a former student your school is interested in how well their accounting program met your needs to make a living. The only way I know to find out is to ask you. The information you provide may help improve programs for your fellow students.

You are one of a relatively small group of accounting graduates from four community colleges and three proprietary schools in Virginia asked to give your opinion about this important matter. In order that the results of this study will truly represent how well your needs were served, it is important that each questionnaire be completed and returned. Have a cup of tea while you answer a few questions, please.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that we may check your name off of the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire.

The results of this research will be made available to all persons interested in improving educational quality and relevance of accounting programs to job requirements. You may receive a summary of results by writing "Copy of Results Requested" on the back of the return envelope and printing your name and address below it. Please do not put this information on the questionnaire itself.

I would be most happy to answer any questions you might have. Please write or call. The telephone number is \_\_\_\_\_ or collect at \_\_\_\_\_

Thank you very much for your assistance.

Sincerely,

Wallace P. Carroll  
Associate Professor of Accounting  
J. Sargeant Reynolds Community College

Enclosure



# J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

Telephone  
804-

About three weeks ago I wrote you seeking your opinion about the accounting program at your community college. As of today I have not received your completed questionnaire.

I believe it is important that the accounting programs at Virginia community colleges provide training that is relevant to the jobs their graduates secure. I also believe you agree with this. I need your help to complete a study that will give us some insight into this important issue.

I am writing to you again because of the significance each questionnaire has on the usefulness of this study. The study includes graduates during a three-year period from four community colleges and three proprietary schools in Virginia. Your name is among 384 included in the sample representing about 1,200 graduates from 28 colleges. In order for the results of this study to be truly representative of the opinions of all the graduates, it is essential that all persons in the sample return their questionnaire.

In the event that your questionnaire is no longer available, a replacement is enclosed. Your cooperation is greatly appreciated. If you have any questions about the study, please write or give me a call.

Cordially,

Wallace P. Carroll  
Associate Professor of Accounting

enclosure





## J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

About three weeks ago I wrote to you seeking your opinion about the accounting program at your proprietary school. As of today I have not received your completed questionnaire.

I believe it is important that the accounting programs at Virginia proprietary schools provide training that is relevant to the jobs their graduates secure.

I am writing to you again because of the significance each questionnaire has on the usefulness of this study. The study includes graduates during a three-year period from four community colleges and three proprietary schools in Virginia. Your name is among 384 included in the sample representing about 1,200 graduates from 28 colleges. In order for the results of this study to be truly representative of the opinions of all the graduates, it is essential that all persons in the sample return their questionnaire.

In the event that your questionnaire is no longer available, a replacement is enclosed. Your cooperation is greatly appreciated.

Cordially,

Wallace P. Carroll  
Associate Professor of Accounting

enclosure





## J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

Telephone

I am writing to you about my study of accounting instruction at selected community colleges and proprietary schools in Virginia.

The large number of questionnaires returned is very encouraging. But, whether I will be able to describe accurately how graduates feel about the adequacy of accounting instruction at their schools depends upon you and the others who have not yet responded. This is because experience suggests that those of you who have not yet sent in your questionnaire may hold quite different opinions than those who have.

To my knowledge this is the first study of this kind conducted in Virginia. Therefore the results are of particular importance to educators who are interested in providing quality instruction and relevant accounting programs to their students. The usefulness of the results depends on how accurately I am able to describe how the accounting graduates feel about their schools.

It is for these reasons I am asking again for your help. In case my earlier correspondence did not reach you, a replacement questionnaire is enclosed. May I urge you to complete and return it as quickly as possible.

Your school is among four community colleges and three proprietary schools which have approved this study and are cooperating with me in gathering data. You have my assurances of complete confidentiality. I will be happy to send you a copy of the results if you want me. Simply put your name, address and "Copy of Results Requested" on the back of the return envelope.

Your contribution to the success of this study will be appreciated greatly.

Most Sincerely,

Wallace P. Carroll  
Associate Professor of Accounting

enclosure





## J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

Telephone

One of the missions of community colleges in Virginia is to provide skills needed in the job market. As an employer or supervisor of a community college graduate, you have insight which could be most valuable to a study I designed to evaluate the effectiveness of community college accounting programs.

I have conducted a study of accounting graduates from four community colleges and three proprietary schools in Virginia. Those graduates employed in accounting or related jobs were asked to indicate which specific accounting tasks they perform and the relative importance of each task. The final step in the study involves determining what accounting tasks employers expect these graduates to know how to perform and the relative importance of each task.

You are one of a small group of employers or supervisors identified from the earlier survey. In order that this study will truly represent the views of all employers of community college graduates, it is important that each questionnaire be returned. Will you help by completing the enclosed survey?

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that I can check your name off of a mailing list when your response is received. Neither your name nor the name of your company or firm will be placed on the questionnaire.

The results of this research will be made available to educators interested in quality instruction in our colleges and maintaining relevance of accounting programs to job requirements. I would be most happy to answer any questions you might have. Please write or call. The telephone number is

Thank you very much for your assistance.

Sincerely,

Wallace P. Carroll  
Associate Professor of Accounting



## J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

Telephone

One of the missions of proprietary schools in Virginia is to provide skills needed in the job market. As an employer or supervisor of a proprietary school graduate, you have insight which could be most valuable to a study I have designed to evaluate the effectiveness of proprietary school accounting programs.

I have conducted a study of accounting graduates from four community colleges and three proprietary schools in Virginia. Those graduates employed in accounting or related jobs were asked to indicate which specific accounting tasks they perform and the relative importance of each task. The final step in the study involves determining what accounting tasks employers expect these graduates to know how to perform and the relative importance of each task.

You are one of a small group of employers or supervisors identified from the earlier survey. In order that this study will truly represent the views of all employers of proprietary school graduates, it is important that each questionnaire be returned. Will you help by completing the enclosed survey?

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that I can check your name off of a mailing list when your response is received. Neither your name nor the name of your company or firm will be placed on the questionnaire.

The results of this research will be made available to educators interested in quality instruction in our colleges and maintaining relevance of accounting programs to job requirements. I would be most happy to answer any questions you might have. Please write or call. The telephone number is

Thank you very much for your assistance.

Sincerely,

Wallace P. Carroll  
Associate Professor of Accounting





# J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

Telephone

About three weeks ago I wrote to you seeking your opinion about what accounting tasks graduates of Virginia community colleges or proprietary schools should know how to perform. As of today I have not received your completed questionnaire.

I believe it is important that the accounting programs at Virginia community colleges and proprietary schools provide training that is relevant to the jobs their graduates secure. I also believe that you, as an employer, feel the same way.

I am writing to you again because of the significance each questionnaire has on the usefulness of this study. You are among only 89 employers or supervisors included in the sample. In order for the results of the study to be truly representative of the opinions of all employers of Virginia community college or proprietary school accounting graduates, it is essential that all persons in the sample return their questionnaire.

In the event your questionnaire is no longer available, a replacement is enclosed.

Your cooperation is greatly appreciated.

Cordially,

Wallace P. Carroll  
Associate Professor of Accounting

enclosure







# J. SARGEANT REYNOLDS COMMUNITY COLLEGE

DOWNTOWN CAMPUS

Telephone

I am writing to you about my study of accounting instruction at selected community colleges and proprietary schools in Virginia.

The large number of questionnaires returned is very encouraging. But, whether I will be able to describe accurately how employers feel about the adequacy of accounting instruction at these schools depends upon you and the others who have not yet responded. This is because experience suggests that those of you who have not yet sent in your questionnaire may hold quite different opinions than those who have.

To my knowledge this is the first study of this kind conducted in Virginia. Therefore the results are of particular importance to educators who are interested in providing quality instruction and relevant accounting programs to their students. Your reward may be better qualified employees.

It is for these reasons I am asking again for your help. In case my earlier correspondence did not reach you, a replacement questionnaire is enclosed. May I urge you to complete and return it as quickly as possible.

You have my assurances of complete confidentiality. I will be happy to send you a copy of the results if you want me. Simply put your name, address and "Copy of Results Requested" on the back of the return envelope.

Your contribution to the success of this study will be appreciated greatly.

Most Sincerely,

Wallace P. Carroll  
Associate Professor of Accounting

enclosure

APPENDIX B

Sample Questionnaires Used In Survey

## QUESTIONNAIRE

For each of the accounting tasks listed below please indicate to what extent you teach your students how to perform it using the following scale:

- |                |              |
|----------------|--------------|
| 1 not taught   | 3 covered    |
| 2 touched upon | 4 emphasized |

CIRCLE THE APPROPRIATE NUMBER IN THE COLUMN TO THE RIGHT

(Note: If you do not teach a course relative to a task, leave the item blank.)

ACCOUNTING TASKS	INTENSITY			
	1	2	3	4
1. Calculate payrolls and keep payroll records	1	2	3	4
2. Prepare payroll tax returns	1	2	3	4
3. Determine, journalize and/or post entries manually	1	2	3	4
4. Determine, journalize and/or post entries by machine/computer	1	2	3	4
5. Prepare invoices for customers	1	2	3	4
6. Receive cash from customers and/or keep accounts receivable ledger	1	2	3	4
7. Maintain a sales journal or a purchases journal	1	2	3	4
8. Account for sales tax and/or credit card transactions	1	2	3	4
9. Maintain cash books or journals	1	2	3	4
10. Reconcile bank statements	1	2	3	4
11. Pay accounts/prepare vouchers for payment	1	2	3	4
12. Keep accounts payable ledger or voucher register	1	2	3	4
13. Reconcile subsidiary ledgers with general ledger	1	2	3	4
14. Maintain inventory records and/or determine inventory costs	1	2	3	4
15. Prepare trial balances	1	2	3	4
16. Prepare worksheets	1	2	3	4
17. Prepare adjusting and/or closing entries	1	2	3	4
18. Prepare Balance Sheets and/or Income Statements	1	2	3	4
19. Prepare Statements of Retained Earnings (Owners' Equity)	1	2	3	4
20. Prepare Statements of Changes in Financial Position and/or Cash Flow Statements	1	2	3	4
21. Compute supplemental data to financial statements, such as general price levels or current cost	1	2	3	4

1 not taught  
2 touched upon

3 covered  
4 emphasized

ACCOUNTING TASKS	INTENSITY
22. Prepare consolidated financial statements	1 2 3 4
23. Maintain petty cash fund	1 2 3 4
24. Maintain fixed assets ledgers/compute depreciation	1 2 3 4
25. Account for leases and/or pensions	1 2 3 4
26. Account for investments and/or long-term debt	1 2 3 4
27. Record transactions in equity accounts	1 2 3 4
28. Analyze financial data for management decisions	1 2 3 4
<u>Cost Accounting</u>	
1. Determine product cost (manufacturing process)	1 2 3 4
2. Maintain cost ledgers	1 2 3 4
3. Prepare budgets	1 2 3 4
4. Compute or analyze budget variances	1 2 3 4
5. Determine standard costs	1 2 3 4
6. Analyze standard cost variances	1 2 3 4
7. Prepare cost reports for management decision making	1 2 3 4
8. Evaluate capital expenditures employing capital budgeting techniques	1 2 3 4
9. Allocate costs between departments or branches	1 2 3 4
<u>Auditing</u> (Duties performed on accounts kept by someone else)	
1. Analyze various accruals to see if proper amount is accrued	1 2 3 4
2. Analyze various prepayments to see if proper amount is prepaid	1 2 3 4
3. Check accuracy of journal entries	1 2 3 4
4. Check accuracy of postings to various ledger accounts	1 2 3 4
5. Check arithmetical accuracy of various journals and ledgers	1 2 3 4
6. Evaluate internal control systems	1 2 3 4
7. Confirm bank accounts	1 2 3 4
8. Confirm receivables or payables	1 2 3 4

1 not taught  
2 touched upon

3 covered  
4 emphasized

ACCOUNTING TASKS	INTENSITY			
<u>Auditing Continued</u>				
9. Count cash funds	1	2	3	4
10. Take physical inventories	1	2	3	4
11. Confirm inventory costs	1	2	3	4
12. Test cash payments to see if proper accounts have been charged	1	2	3	4
13. Check corporate minute book	1	2	3	4
<u>Tax Accounting</u>				
1. Give tax advice to clients	1	2	3	4
2. Keep information solely for tax purposes	1	2	3	4
3. Prepare any supporting schedules for individual tax returns	1	2	3	4
4. Prepare individual income tax returns	1	2	3	4
5. Prepare any supporting schedules for corporate or partnership income tax returns	1	2	3	4
6. Prepare corporate or partnership income tax returns	1	2	3	4
7. Refer to any of the tax services	1	2	3	4
<u>Other</u>				
(Please list any other tasks not included on this questionnaire which you cover or emphasize)				
1. _____	1	2	3	4
2. _____	1	2	3	4
3. _____	1	2	3	4
4. _____	1	2	3	4

## QUESTIONNAIRE

## Section 1: Background information

Please answer the following questions relating to your education and work.

Q-1 Your sex (Optional Circle number of your answer)

1. MALE
2. FEMALE

Q-2 Your present job title \_\_\_\_\_

Q-3 What year did you graduate from a community college? \_\_\_\_\_

Q-4 How many years have you been employed in an accounting/bookkeeping position? \_\_\_\_\_.

Q-5 Please check one of the following:

- I am employed in an accounting/bookkeeping position (full time or part time)
- I am employed but not in an accounting/bookkeeping job
- I am employed but looking for an accounting/bookkeeping job
- I am not employed but looking for an accounting/bookkeeping job
- I am not employed but not looking for an accounting/bookkeeping job

Q-6 Would you have been employed in your present job without an AAS degree in accounting? (Circle number)

1. NO
2. YES

Q-7 Since graduating from a community college have you received further schooling? (Circle number)

1. NO
2. YES

↓  
(If yes)

Q-8 Check the appropriate category:

- Presently attending a four-year college or university
- Part time
- Full time
- Presently attending a two-year college
- Part time
- Full time
- Graduated from a four-year college or university

Q-9 Was this additional schooling necessary to secure entry-level employment in the accounting field? (Circle number)

- 1. NO
- 2. YES

Q-10 Do you think a cooperative work experience or an internship would be of value to the accounting program? (Circle number)

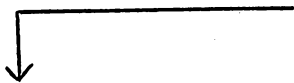
- 1. NO
- 2. YES

Q-11 How satisfied are you with the adequacy of training provided by your community college? (Circle number)

- 1. VERY SATISFIED
- 2. SOMEWHAT SATISFIED
- 3. SOMEWHAT DISSATISFIED
- 4. VERY DISSATISFIED

Q-12 If you had your educational training to do all over, would you choose to attend a community college? (Circle number)

- 1. NO
- 2. YES



(If no)

Q-13 Briefly explain why you would not attend a community college? \_\_\_\_\_

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If you are presently employed in the accounting field, either full time in accounting/bookkeeping or where accounting/bookkeeping is just a part of your job, please continue in Part II of this questionnaire. If you are not presently employed in the accounting/bookkeeping field, stop here. THANK YOU FOR YOUR HELP!

Section II: Accounting/Bookkeeping Employment

Q-14 I am presently employed by: (Circle number)

- 1. INDUSTRIAL FIRM
- 2. GOVERNMENT AGENCY
- 3. SMALL BUSINESS
- 4. MY OWN BUSINESS
- 5. BANK
- 6. EDUCATIONAL INSTITUTION
- 7. NON-PROFIT INSTITUTION
- 8. BOOKKEEPING/TAX SERVICE
- 9. PUBLIC ACCOUNTING FIRM (CPA)
- 10. OTHER (SPECIFY) \_\_\_\_\_

Q-15 Please supply the name and address of your employer:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q-16 Name of your supervisor (Optional) \_\_\_\_\_

NOTE: THE INFORMATION ASKED FOR IN Q-15 AND Q-16 IS NEEDED FOR ANOTHER QUESTIONNAIRE. NONE OF YOUR RESPONSES WILL BE DIVULGED TO YOUR EMPLOYER OR SUPERVISOR.

Q-17 In your opinion, which accounting course(s) were most beneficial to you in performing your accounting or related job? (List the most beneficial first)

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

Q-18 In your opinion, which accounting course(s) were of least benefit to you in performing your accounting or related job? (List the least beneficial first)

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_



Q-19 Do you use electronic data processing equipment in your job?  
(Circle number)

- 1. NO
- 2. YES

↓  
(If yes)

Q-20 List any accounting or related tasks you perform with electronic data processing equipment. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Q-21 Do you use microcomputers in your job? (Circle number)

- 1. NO
- 2. YES

↓  
(If yes)

Q-22 Did you learn to use microcomputers in your community college?  
(Circle number)

- 1. NO
- 2. YES
- 3. DO NOT REMEMBER

Q-23 List any accounting or related tasks you perform with microcomputers.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PLEASE CONTINUE TO THE TASK LIST ON THE NEXT PAGE

## Section II: Task Analysis

This section concerns accounting tasks that you now perform in an accounting position. You are to indicate whether you perform the listed tasks and the importance of each task using the following scale:

- |                        |                  |
|------------------------|------------------|
| 1 slightly important   | 3 very important |
| 2 moderately important | 4 essential      |

In column 1 indicate whether you perform the task by checking either "Yes" or "No". In column 2 indicate how important it is that you know how to perform each task relative to your overall job using the above scale.

CIRCLE THE APPROPRIATE NUMBER IN COLUMN TWO

ACCOUNTING TASKS	TASKS PERFORMED	IMPORTANCE OF TASK
<u>General Accounting</u>		
1. Calculate payrolls and keep payroll records	( )Yes ( )No	1 2 3 4
2. Prepare payroll tax returns	( )Yes ( )No	1 2 3 4
3. Determine, journalize and/or post entries manually	( )Yes ( )No	1 2 3 4
4. Determine, journalize and/or post entries by machine/computer	( )Yes ( )No	1 2 3 4
5. Prepare invoices for customers	( )Yes ( )No	1 2 3 4
6. Receive cash from customers and/or keep accounts receivable ledger	( )Yes ( )No	1 2 3 4
7. Maintain a sales or purchases journal	( )Yes ( )No	1 2 3 4
8. Account for sales tax and/or credit card transactions	( )Yes ( )No	1 2 3 4
9. Maintain cash books or journals	( )Yes ( )No	1 2 3 4
10. Reconcile bank statements	( )Yes ( )No	1 2 3 4
11. Pay accounts/prepare vouchers for payment	( )Yes ( )No	1 2 3 4
12. Keep accounts payable ledger or voucher register	( )Yes ( )No	1 2 3 4
13. Reconcile subsidiary ledgers with general ledger	( )Yes ( )No	1 2 3 4
14. Maintain inventory records and/or determine inventory costs	( )Yes ( )No	1 2 3 4
15. Prepare trial balances	( )Yes ( )No	1 2 3 4
16. Prepare worksheets	( )Yes ( )No	1 2 3 4
17. Prepare adjusting and/or closing entries	( )Yes ( )No	1 2 3 4

1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	TASKS PERFORMED	IMPORTANCE OF TASK			
<u>General Accounting Continued</u>					
18. Prepare Balance Sheets and/or Income Statements	( )Yes ( )No	1	2	3	4
19. Prepare Statements of Retained Earnings/ Owners' Equity	( )Yes ( )No	1	2	3	4
20. Prepare Statements of Changes in Financial Position and/or Cash Flow Statements	( )Yes ( )No	1	2	3	4
21. Compute supplemental data to financial statements, such as general price levels or current cost	( )Yes ( )No	1	2	3	4
22. Prepare consolidated financial statements	( )Yes ( )No	1	2	3	4
23. Maintain petty cash fund	( )Yes ( )No	1	2	3	4
24. Maintain fixed assets ledgers/compute depreciation	( )Yes ( )No	1	2	3	4
25. Account for leases and/or pensions	( )Yes ( )No	1	2	3	4
26. Account for investments and/or long-term debt	( )Yes ( )No	1	2	3	4
27. Record transactions in equity accounts	( )Yes ( )No	1	2	3	4
28. Analyze financial data for management decisions	( )Yes ( )No	1	2	3	4
<u>Cost Accounting</u>					
1. Determine product cost (manufacturing process)	( )Yes ( )No	1	2	3	4
2. Maintain cost ledgers	( )Yes ( )No	1	2	3	4
3. Prepare budgets	( )Yes ( )No	1	2	3	4
4. Compute or analyze budget variances	( )Yes ( )No	1	2	3	4
5. Determine standard costs	( )Yes ( )No	1	2	3	4
6. Analyze standard cost variances	( )Yes ( )No	1	2	3	4
7. Prepare cost reports for management decision making	( )Yes ( )No	1	2	3	4
8. Evaluate capital expenditures employing capital budgeting techniques	( )Yes ( )No	1	2	3	4
9. Allocate costs between departments or branches	( )Yes ( )No	1	2	3	4

1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	TASKS PERFORMED	IMPORTANCE OF TASK
<u>Auditing</u> (Duties performed on accounts kept by someone else)		
1. Analyze various accruals to see if proper amount is accrued	( )Yes ( )No	1 2 3 4
2. Analyze various prepayments to see if proper amount is prepaid	( )Yes ( )No	1 2 3 4
3. Check accuracy of journal entries	( )Yes ( )No	1 2 3 4
4. Check accuracy of postings to various ledger accounts	( )Yes ( )No	1 2 3 4
5. Check arithmetical accuracy of various journals and ledgers	( )Yes ( )No	1 2 3 4
6. Evaluate internal control systems	( )Yes ( )No	1 2 3 4
7. Confirm bank accounts	( )Yes ( )No	1 2 3 4
8. Confirm receivables or payables	( )Yes ( )No	1 2 3 4
9. Count cash funds	( )Yes ( )No	1 2 3 4
10. Take physical inventories	( )Yes ( )No	1 2 3 4
11. Confirm inventory costs	( )Yes ( )No	1 2 3 4
12. Test cash payments to see if proper accounts have been charged	( )Yes ( )No	1 2 3 4
13. Check corporate minute book	( )Yes ( )No	1 2 3 4
<u>Tax Accounting</u>		
1. Give tax advice to clients	( )Yes ( )No	1 2 3 4
2. Keep information solely for tax purposes	( )Yes ( )No	1 2 3 4
3. Prepare any supporting schedules for individual tax returns	( )Yes ( )No	1 2 3 4
4. Prepare individual income tax returns	( )Yes ( )No	1 2 3 4
5. Prepare any supporting schedules for corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4
6. Prepare corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4
7. Refer to any of the tax services	( )Yes ( )No	1 2 3 4
<u>Other</u>		
1.		1 2 3 4
2.		1 2 3 4

## QUESTIONNAIRE

## Section I: Background Information

Please answer the following questions relating to your education and work.

Q-1 Your sex (Optional) (Circle number of your answer)

1. MALE
2. FEMALE

Q-2 Your present job title \_\_\_\_\_

Q-3 What year did you graduate from a proprietary school? \_\_\_\_\_

Q-4 How many years have you been employed in an accounting/bookkeeping position? \_\_\_\_\_

Q-5 Please check one of the following:

- I am employed in an accounting/bookkeeping position (full time or part time)
- I am employed but not in an accounting/bookkeeping job
- I am employed but looking for an accounting/bookkeeping job
- I am not employed but looking for an accounting/bookkeeping job
- I am not employed but not looking for an accounting/bookkeeping job

Q-6 Would you have been employed in your present job without a diploma or certificate in accounting? (Circle number)

1. NO
2. YES

Q-7 Since graduating from a proprietary school have you received further schooling? (Circle number)

1. NO
2. YES

↓  
(If yes)

Q-8 Check the appropriate category:

- Presently attending a four-year college or university  
      Part time  
      Full time
- Presently attending a two-year college  
      Part time  
      Full time
- Graduated from a four-year college or university
- Graduated from a two-year college or university

Q-9 Was this additional schooling necessary to secure entry-level employment in the accounting field? (Circle number)

- 1. NO
- 2. YES

Q-10 Do you think a cooperative work experience or an internship would be of value to the accounting program? (Circle number)

- 1. NO
- 2. YES

Q-11 How satisfied are you with the adequacy of training provided by your proprietary school? (Circle number)

- 1. VERY SATISFIED
- 2. SOMEWHAT SATISFIED
- 3. SOMEWHAT DISSATISFIED
- 4. VERY DISSATISFIED

Q-12 If you had your educational training to do all over, would you choose to attend a proprietary school? (Circle number)

- 1. NO
- 2. YES

(If no)

Q-13 Briefly explain why you would not attend a proprietary school?

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If you are presently employed in the accounting field, either full time in accounting/bookkeeping or where accounting/bookkeeping is just a part of your job; please continue in Part II of this questionnaire. If you are not presently employed in the accounting/bookkeeping field, stop here.

THANK YOU FOR YOUR HELP!

Section II: Accounting/Bookkeeping Employment

Q-14 I am presently employed by: (Circle number)

- 1. INDUSTRIAL FIRM
- 2. GOVERNMENT AGENCY
- 3. SMALL BUSINESS
- 4. MY OWN BUSINESS
- 5. BANK
- 6. EDUCATIONAL INSTITUTION
- 7. NON-PROFIT INSTITUTION
- 8. BOOKKEEPING/TAX SERVICE
- 9. PUBLIC ACCOUNTING FIRM (CPA)
- 10. OTHER (SPECIFY) \_\_\_\_\_

Q-15 Please supply the name and address of your employer:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Q-16 Name of your supervisor (Optional) \_\_\_\_\_

NOTE: THE INFORMATION ASKED FOR IN Q-15 AND Q-16 IS NEEDED FOR ANOTHER QUESTIONNAIRE. NONE OF YOUR RESPONSES WILL BE DIVULGUED TO YOUR EMPLOYER OR SUPERVISOR.

Q-17 In your opinion, which accounting course(s) were most beneficial to you in performing your accounting or related job? (List the most beneficial first)

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

Q-18 In your opinion, which accounting course(s) were of least benefit to you in performing your accounting or related job? (List the least beneficial first)

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

Q-19 Do you use electronic data processing equipment in your job?  
(Circle number)

- 1. NO
- 2. YES

↓  
(If yes)

Q-20 List any accounting or related tasks you perform with electronic data processing equipment. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q-21 Do you use microcomputers in your job? (Circle number)

- 1. NO
- 2. YES

↓  
(If yes)

Q-22 Did you learn to use microcomputers in your community college?  
(Circle number)

- 1. NO
- 2. YES
- 3. DO NOT REMEMBER

Q-23 List any accounting or related tasks you perform with microcomputers.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PLEASE CONTINUE TO THE TASK LIST ON THE NEXT PAGE



## Section II: Task Analysis

This section concerns accounting tasks that you now perform in an accounting position. You are to indicate whether you perform the listed tasks and the importance of each task using the following scale:

- |                        |                  |
|------------------------|------------------|
| 1 slightly important   | 3 very important |
| 2 moderately important | 4 essential      |

In column 1 indicate whether you perform the task by checking either "Yes" or "No". In column 2 indicate how important it is that you know how to perform each task relative to your overall job using the above scale.

CIRCLE THE APPROPRIATE NUMBER IN COLUMN TWO

ACCOUNTING TASKS	TASKS PERFORMED	IMPORTANCE OF TASK
<u>General Accounting</u>		
1. Calculate payrolls and keep payroll records	( )Yes ( )No	1 2 3 4
2. Prepare payroll tax returns	( )Yes ( )No	1 2 3 4
3. Determine, journalize and/or post entries manually	( )Yes ( )No	1 2 3 4
4. Determine, journalize and/or post entries by machine/computer	( )Yes ( )No	1 2 3 4
5. Prepare invoices for customers	( )Yes ( )No	1 2 3 4
6. Receive cash from customers and/or keep accounts receivable ledger	( )Yes ( )No	1 2 3 4
7. Maintain a sales or purchases journal	( )Yes ( )No	1 2 3 4
8. Account for sales tax and/or credit card transactions	( )Yes ( )No	1 2 3 4
9. Maintain cash books or journals	( )Yes ( )No	1 2 3 4
10. Reconcile bank statements	( )Yes ( )No	1 2 3 4
11. Pay accounts/prepare vouchers for payment	( )Yes ( )No	1 2 3 4
12. Keep accounts payable ledger or voucher register	( )Yes ( )No	1 2 3 4
13. Reconcile subsidiary ledgers with general ledger	( )Yes ( )No	1 2 3 4
14. Maintain inventory records and/or determine inventory costs	( )Yes ( )No	1 2 3 4
15. Prepare trial balances	( )Yes ( )No	1 2 3 4
16. Prepare worksheets	( )Yes ( )No	1 2 3 4
17. Prepare adjusting and/or closing entries	( )Yes ( )No	1 2 3 4

1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	TASKS PERFORMED	IMPORTANCE OF TASK
<u>General Accounting Continued</u>		
18. Prepare Balance Sheets and/or Income Statements	( )Yes ( )No	1 2 3 4
19. Prepare Statements of Retained Earnings/ Owners' Equity	( )Yes ( )No	1 2 3 4
20. Prepare Statements of Changes in Financial Position and/or Cash Flow Statements	( )Yes ( )No	1 2 3 4
21. Compute supplemental data to financial statements, such as general price levels or current cost	( )Yes ( )No	1 2 3 4
22. Prepare consolidated financial statements	( )Yes ( )No	1 2 3 4
23. Maintain petty cash fund	( )Yes ( )No	1 2 3 4
24. Maintain fixed assets ledgers/compute depreciation	( )Yes ( )No	1 2 3 4
25. Account for leases and/or pensions	( )Yes ( )No	1 2 3 4
26. Account for investments and/or long-term debt	( )Yes ( )No	1 2 3 4
27. Record transactions in equity accounts	( )Yes ( )No	1 2 3 4
28. Analyze financial data for management decisions	( )Yes ( )No	1 2 3 4
<u>Cost Accounting</u>		
1. Determine product cost (manufacturing process)	( )Yes ( )No	1 2 3 4
2. Maintain cost ledgers	( )Yes ( )No	1 2 3 4
3. Prepare budgets	( )Yes ( )No	1 2 3 4
4. Compute or analyze budget variances	( )Yes ( )No	1 2 3 4
5. Determine standard costs	( )Yes ( )No	1 2 3 4
6. Analyze standard cost variances	( )Yes ( )No	1 2 3 4
7. Prepare cost reports for management decision making	( )Yes ( )No	1 2 3 4
8. Evaluate capital expenditures employing capital budgeting techniques	( )Yes ( )No	1 2 3 4
9. Allocate costs between departments or branches	( )Yes ( )No	1 2 3 4

1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	TASKS PERFORMED	IMPORTANCE OF TASK
<u>Auditing</u>		
(Duties performed on accounts kept by someone else)		
1. Analyze various accruals to see if proper amount is accrued	( )Yes ( )No	1 2 3 4
2. Analyze various prepayments to see if proper amount is prepaid	( )Yes ( )No	1 2 3 4
3. Check accuracy of journal entries	( )Yes ( )No	1 2 3 4
4. Check accuracy of postings to various ledger accounts	( )Yes ( )No	1 2 3 4
5. Check arithmetical accuracy of various journals and ledgers	( )Yes ( )No	1 2 3 4
6. Evaluate internal control systems	( )Yes ( )No	1 2 3 4
7. Confirm bank accounts	( )Yes ( )No	1 2 3 4
8. Confirm receivables or payables	( )Yes ( )No	1 2 3 4
9. Count cash funds	( )Yes ( )No	1 2 3 4
10. Take physical inventories	( )Yes ( )No	1 2 3 4
11. Confirm inventory costs	( )Yes ( )No	1 2 3 4
12. Test cash payments to see if proper accounts have been charged	( )Yes ( )No	1 2 3 4
13. Check corporate minute book	( )Yes ( )No	1 2 3 4
<u>Tax Accounting</u>		
1. Give tax advice to clients	( )Yes ( )No	1 2 3 4
2. Keep information solely for tax purposes	( )Yes ( )No	1 2 3 4
3. Prepare any supporting schedules for individual tax returns	( )Yes ( )No	1 2 3 4
4. Prepare individual income tax returns	( )Yes ( )No	1 2 3 4
5. Prepare any supporting schedules for corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4
6. Prepare corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4
7. Refer to any of the tax services	( )Yes ( )No	1 2 3 4
<u>Other</u>		
1.		1 2 3 4
2.		1 2 3 4

## QUESTIONNAIRE

Check "Yes" or "No" in column 1 to indicate whether you expect community college graduates to know how to perform the specific tasks listed below.

In column 2 please indicate how important it is that community college graduates know how to perform each task listed using the following scale:

- |                        |                  |
|------------------------|------------------|
| 1 slightly important   | 3 very important |
| 2 moderately important | 4 essential      |

CIRCLE THE APPROPRIATE NUMBER IN COLUMN TWO

ACCOUNTING TASKS	EXPECTED TO PERFORM	IMPORTANCE OF TASK
<u>General Accounting</u>		
1. Calculate payrolls and keep payroll records	( )Yes ( )No	1 2 3 4
2. Prepare payroll tax returns	( )Yes ( )No	1 2 3 4
3. Determine, journalize and/or post entries manually	( )Yes ( )No	1 2 3 4
4. Determine, journalize and/or post entries by machine/computer	( )Yes ( )No	1 2 3 4
5. Prepare invoices for customers	( )Yes ( )No	1 2 3 4
6. Receive cash from customers and/or keep accounts receivable ledger	( )Yes ( )No	1 2 3 4
7. Maintain a sales or purchases journal	( )Yes ( )No	1 2 3 4
8. Account for sales tax and/or credit card transactions	( )Yes ( )No	1 2 3 4
9. Maintain cash books or journals	( )Yes ( )No	1 2 3 4
10. Reconcile bank statements	( )Yes ( )No	1 2 3 4
11. Pay accounts/prepare vouchers for payment	( )Yes ( )No	1 2 3 4
12. Keep accounts payable ledger or voucher register	( )Yes ( )No	1 2 3 4
13. Reconcile subsidiary ledgers with general ledger	( )Yes ( )No	1 2 3 4
14. Maintain inventory records and/or determine inventory costs	( )Yes ( )No	1 2 3 4
15. Prepare trial balances	( )Yes ( )No	1 2 3 4
16. Prepare worksheets	( )Yes ( )No	1 2 3 4
17. Prepare adjusting and/or closing entries	( )Yes ( )No	1 2 3 4
18. Prepare Balance Sheets and/or Income Statements	( )Yes ( )No	1 2 3 4
19. Prepare Statements of Retained Earnings/Owners' Equity	( )Yes ( )No	1 2 3 4
20. Prepare Statements of Changes in Financial Position and/or Cash Flow Statements	( )Yes ( )No	1 2 3 4

1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	EXPECTED TO PERFORM	IMPORTANCE OF TASK
<u>General Accounting Continued</u>		
21. Compute supplemental data to financial statements, such as general price levels or current cost	( )Yes ( )No	1 2 3 4
22. Prepare consolidated financial statements	( )Yes ( )No	1 2 3 4
23. Maintain petty cash fund	( )Yes ( )No	1 2 3 4
24. Maintain fixed assets ledgers/compute depreciation	( )Yes ( )No	1 2 3 4
25. Account for leases and/or pensions	( )Yes ( )No	1 2 3 4
26. Account for investments and/or long-term debt	( )Yes ( )No	1 2 3 4
27. Record transactions in equity accounts	( )Yes ( )No	1 2 3 4
28. Analyze financial data for management decisions	( )Yes ( )No	1 2 3 4
<u>Cost Accounting</u>		
1. Determine product cost (manufacturing process)	( )Yes ( )No	1 2 3 4
2. Maintain cost ledgers	( )Yes ( )No	1 2 3 4
3. Prepare budgets	( )Yes ( )No	1 2 3 4
4. Compute or analyze budget variances	( )Yes ( )No	1 2 3 4
5. Determine standard costs	( )Yes ( )No	1 2 3 4
6. Analyze standard cost variances	( )Yes ( )No	1 2 3 4
7. Prepare cost reports for management decision making	( )Yes ( )No	1 2 3 4
8. Evaluate capital expenditures employing capital budgeting techniques	( )Yes ( )No	1 2 3 4
9. Allocate costs between departments or branches	( )Yes ( )No	1 2 3 4
<u>Tax Accounting</u>		
1. Give tax advice to clients	( )Yes ( )No	1 2 3 4
2. Keep information solely for tax purposes	( )Yes ( )No	1 2 3 4
3. Prepare any supporting schedules for individual tax returns	( )Yes ( )No	1 2 3 4
4. Prepare individual income tax returns	( )Yes ( )No	1 2 3 4
5. Prepare any supporting schedules for corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4

1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	EXPECTED TO PERFORM	IMPORTANCE OF TASK
<u>Tax Accounting Continued</u>		
6. Prepare corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4
7. Refer to any of the tax services	( )Yes ( )No	1 2 3 4
<u>Auditing</u> (Duties performed on accounts kept by someone else)		
1. Analyze various accruals to see if proper amount is accrued	( )Yes ( )No	1 2 3 4
2. Analyze various prepayments to see if proper amount is prepaid	( )Yes ( )No	1 2 3 4
3. Check accuracy of journal entries	( )Yes ( )No	1 2 3 4
4. Check accuracy of postings to various ledger accounts	( )Yes ( )No	1 2 3 4
5. Check arithmetical accuracy of various journals and ledgers	( )Yes ( )No	1 2 3 4
6. Evaluate internal control systems	( )Yes ( )No	1 2 3 4
7. Confirm bank accounts	( )Yes ( )No	1 2 3 4
8. Confirm receivables of payables	( )Yes ( )No	1 2 3 4
9. Count cash funds	( )Yes ( )No	1 2 3 4
10. Take physical inventories	( )Yes ( )No	1 2 3 4
11. Confirm inventory costs	( )Yes ( )No	1 2 3 4
12. Test cash payments to see if proper accounts have been charged	( )Yes ( )No	1 2 3 4
13. Check corporate minute book	( )Yes ( )No	1 2 3 4
<u>Other</u> (Please list any other tasks not included on this questionnaire which you expect these graduates to know how to perform.)		
1.		1 2 3 4
2.		1 2 3 4
3.		1 2 3 4
4.		1 2 3 4

Please answer these additional questions related to your experience with community college accounting graduates.

1. How many accounting employees have you hired whose highest degree was from a community college? (Estimate, if necessary. Circle number.)

1. ONLY ONE
2. 2 TO 3
3. 4 TO 6
4. 7 TO 10
5. MORE THAN 10

2. How satisfied are you with the adequacy of training provided by Virginia's community colleges based on the accounting graduate(s) you employ? (Circle number)

1. VERY SATISFIED
2. SOMEWHAT SATISFIED
3. SOMEWHAT DISSATISIED
4. VERY DISSATISFIED

3. Would you hire more accounting graduates of Virginia's community colleges when positions come open? (Circle number)

1. NO
2. -YES

## QUESTIONNAIRE

Check "Yes or "No" in column 1 to indicate whether you expect proprietary school graduates to know how to perform the specific tasks listed below.

In column 2 please indicate how important it is that proprietary school graduates know how to perform each task listed using the following scale:

- |                        |                  |
|------------------------|------------------|
| 1 slightly important   | 3 very important |
| 2 moderately important | 4 essential      |

CIRCLE THE APPROPRIATE NUMBER IN COLUMN TWO

ACCOUNTING TASKS	EXPECTED TO PERFORM	IMPORTANCE OF TASK
<u>General Accounting</u>		
1. Calculate payrolls and keep payroll records	( )Yes ( )No	1 2 3 4
2. Prepare payroll tax returns	( )Yes ( )No	1 2 3 4
3. Determine, journalize and/or post entries manually	( )Yes ( )No	1 2 3 4
4. Determine, journalize and/or post entries by machine/computer	( )Yes ( )No	1 2 3 4
5. Prepare invoices for customers	( )Yes ( )No	1 2 3 4
6. Receive cash from customers and/or keep accounts receivable ledger	( )Yes ( )No	1 2 3 4
7. Maintain a sales or purchases journal	( )Yes ( )No	1 2 3 4
8. Account for sales tax and/or credit card transactions	( )Yes ( )No	1 2 3 4
9. Maintain cash books or journals	( )Yes ( )No	1 2 3 4
10. Reconcile bank statements	( )Yes ( )No	1 2 3 4
11. Pay accounts/prepare vouchers for payment	( )Yes ( )No	1 2 3 4
12. Keep accounts payable ledger or voucher register	( )Yes ( )No	1 2 3 4
13. Reconcile subsidiary ledgers with general ledger	( )Yes ( )No	1 2 3 4
14. Maintain inventory records and/or determine inventory costs	( )Yes ( )No	1 2 3 4
15. Prepare trial balances	( )Yes ( )No	1 2 3 4
16. Prepare worksheets	( )Yes ( )No	1 2 3 4
17. Prepare adjusting and/or closing entries	( )Yes ( )No	1 2 3 4
18. Prepare Balance Sheets and/or Income Statements	( )Yes ( )No	1 2 3 4
19. Prepare Statements of Retained Earnings/ Owners' Equity	( )Yes ( )No	1 2 3 4
20. Prepare Statements of Changes in Financial Position and/or Cash Flow Statements	( )Yes ( )No	1 2 3 4



1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	EXPECTED TO PERFORM	IMPORTANCE OF TASK
<u>General Accounting Continued</u>		
21. Compute supplemental data to financial statements, such as general price levels or current cost	( )Yes ( )No	1 2 3 4
22. Prepare consolidated financial statements	( )Yes ( )No	1 2 3 4
23. Maintain petty cash fund	( )Yes ( )No	1 2 3 4
24. Maintain fixed assets ledgers/compute depreciation	( )Yes ( )No	1 2 3 4
25. Account for leases and/or pensions	( )Yes ( )No	1 2 3 4
26. Account for investments and/or long-term debt	( )Yes ( )No	1 2 3 4
27. Record transactions in equity accounts	( )Yes ( )No	1 2 3 4
28. Analyze financial data for management decisions	( )Yes ( )No	1 2 3 4
<u>Cost Accounting</u>		
1. Determine product cost (manufacturing process)	( )Yes ( )No	1 2 3 4
2. Maintain cost ledgers	( )Yes ( )No	1 2 3 4
3. Prepare budgets	( )Yes ( )No	1 2 3 4
4. Compute or analyze budget variances	( )Yes ( )No	1 2 3 4
5. Determine standard costs	( )Yes ( )No	1 2 3 4
6. Analyze standard cost variances	( )Yes ( )No	1 2 3 4
7. Prepare cost reports for management decision making	( )Yes ( )No	1 2 3 4
8. Evaluate capital expenditures employing capital budgeting techniques	( )Yes ( )No	1 2 3 4
9. Allocate costs between departments or branches	( )Yes ( )No	1 2 3 4
<u>Tax Accounting</u>		
1. Give tax advice to clients	( )Yes ( )No	1 2 3 4
2. Keep information solely for tax purposes	( )Yes ( )No	1 2 3 4
3. Prepare any supporting schedules for individual tax returns	( )Yes ( )No	1 2 3 4
4. Prepare individual income tax returns	( )Yes ( )No	1 2 3 4
5. Prepare any supporting schedules for corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4

1 slightly important  
2 moderately important

3 very important  
4 essential

ACCOUNTING TASKS	EXPECTED TO PERFORM	IMPORTANCE OF TASK
<u>Tax Accounting Continued</u>		
6. Prepare corporate or partnership income tax returns	( )Yes ( )No	1 2 3 4
7. Refer to any of the tax services	( )Yes ( )No	1 2 3 4
<u>Auditing</u> (Duties performed on accounts kept by someone else)		
1. Analyze various accruals to see if proper amount is accrued	( )Yes ( )No	1 2 3 4
2. Analyze various prepayments to see if proper amount is prepaid	( )Yes ( )No	1 2 3 4
3. Check accruacy of journal entries	( )Yes ( )No	1 2 3 4
4. Check accruacy of postings to various ledger accounts	( )Yes ( )No	1 2 3 4
5. Check arithmetical accuracy of various journals and ledgers	( )Yes ( )No	1 2 3 4
6. Evaluate internal control systems	( )Yes ( )No	1 2 3 4
7. Confirm bank accounts	( )Yes ( )No	1 2 3 4
8. Confirm receivables of payables	( )Yes ( )No	1 2 3 4
9. Count cash funds	( )Yes ( )No	1 2 3 4
10. Take physical inventories	( )Yes ( )No	1 2 3 4
11. Confirm inventory costs	( )Yes ( )No	1 2 3 4
12. Test cash payments to see if proper accounts have been charged	( )Yes ( )No	1 2 3 4
13. Check corporate minute book	( )Yes ( )No	1 2 3 4
<u>Other</u> (Please list any other tasks not included on this questionnaire which you expect these graduates to know how to perform.)		
1.		1 2 3 4
2.		1 2 3 4
3.		1 2 3 4
4.		1 2 3 4

Please answer these additional questions related to your experience with proprietary school accounting graduates.

1. How many accounting employees have you hired whose highest diploma was from a proprietary school? (Estimate, if necessary. Circle number.)

1. ONLY ONE
2. 2 TO 3
3. 4 TO 6
4. 7 TO 10
5. MORE THAN 10

2. How satisfied are you with the adequacy of training provided by Virginia's proprietary schools based on the accounting graduate(s) you employ? (Circle number)

1. VERY SATISFIED
2. SOMEWHAT SATISFIED
3. SOMEWHAT DISSATISFIED
4. VERY DISSATISFIED

3. Would you hire more accounting graduates of Virginia's proprietary schools when positions come open? (Circle number)

1. NO
2. YES

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A COMPARISON OF ACCOUNTING PROGRAMS AT  
SELECTED VIRGINIA COMMUNITY COLLEGES AND  
PROPRIETARY SCHOOLS WITH JOB REQUIREMENTS

by

Wallace Palmer Carroll

(ABSTRACT)

Historically accounting has consisted basically of two levels. Upper level professional accountants received baccalaureate degrees while lower-leveled bookkeepers or clerks usually received on-the-job training. Recently a middle-level paraprofessional position has emerged staffed, in large part, by graduates from community colleges and proprietary schools.

The purpose of this study was to determine how relevant the accounting programs offered in Virginia community colleges and proprietary schools are in terms of preparing students for accounting activities performed on the job by graduates of these programs. Specifically the study sought to identify what accounting tasks are taught at these schools and their relationship to tasks performed by graduates of these programs. In addition the tasks employers expected these graduates to know how to perform were determined. Further, graduate and employer perceptions of the adequacy of training at these schools were examined.

Three questionnaires were developed and used to gather data. The first questionnaire, sent to accounting faculty at four community colleges and three proprietary schools in Virginia, consisted

of 57 accounting tasks sub-divided into four areas: general accounting, cost, auditing and tax. Faculty were asked to indicate to what intensity they teach each task. The second questionnaire was sent to accounting graduates of these schools for a three-year period. Those graduates employed in accounting jobs were asked to indicate which of the 57 tasks they perform and the relative importance of each task. A third questionnaire asked employers of those graduates to indicate which of the accounting tasks they expect community college or proprietary school graduates to know how to perform and the relative importance of each task.

From the data received from all three groups, frequencies and mean intensities/importance were calculated and compared to each other. The following conclusions were made:

1. Community colleges offered more depth and breadth in their curricula than did proprietary schools.
2. Community college graduates were employed in total and in accounting positions more frequently than were proprietary school graduates.
3. Community college graduates were hired by a variety of employer types while proprietary school graduates were concentrated in small business firms. This is a sharp departure from earlier studies which found these graduates concentrated in manufacturing firms.
4. Graduates of community colleges were satisfied more with the adequacy of their training than were graduates of proprietary schools.
5. Graduates of both school types performed a variety of accounting tasks, but those tasks defined as general or auditing were performed more frequently.

6. Employers expected graduates to know how to perform a variety of tasks, but expected knowledge of general and auditing tasks more often than tax or cost tasks.
7. Employers were well pleased with the performance of graduates from both school types.
8. Faculty at both school types properly emphasized the tasks needed most on the job by graduates.

In general it was concluded that the course offerings at both school types are relevant and there are ample employment opportunities for these graduates.