



A survey on student satisfaction with cooperative accounting education based on CPA firm internships

Student
satisfaction
with CAE

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Abstract

Purpose – The purpose of this paper is to investigate how cooperative accounting education (CAE) programs jointly activated by an accounting institution and its cooperating CPA firms impact the students' satisfaction with practising what they have learned in work placement.

Design/methodology/approach – A structured equation model is constructed to describe the explanatory framework of the student satisfaction with CAE programs based on the CPA firm internship. The paper also presents a survey of 192 accounting interns at 14 local CPA firms in South China, in order to test how satisfied the intern students are with the cooperative education program.

Findings – The results prove that student interns are quite satisfied with the arrangements and learning effects of CAE programs, but they are not much related to improvement of their socialization skills. The findings reveal that the CPA firm culture has considerable influence on the effectiveness of CAE; the student command of accounting expertise has moderate impacts on it; and university curriculum makes no significant differences to student satisfaction.

Research limitations/implications – The structural framework established in this study synthesizes the impacts of accounting expertise, CPA firm culture and university curriculum on student satisfaction with CAE programs could be implicative to further research on cooperative education or work integrated learning.

Practical implications – My study highlights the importance of student satisfaction with CAE programs based on the CPA firm internship. An effective CAE program requires the involvements of the universities, the students and the CPA firms. In particular, the firm culture greatly contributes to the student satisfaction with the program.

Originality/value – This paper points out the student satisfaction as a crucial perspective to evaluation the effects of CAE programs. This paper also synthesizes from prior literature a theoretical framework for investigating the effects of CAE programs based CPA firm internship.

Keywords China, Students, Accounting education, Surveys, Student satisfaction, Cooperative accounting education, Internship

Paper type Research paper

I. Introduction

The concept of cooperative accounting education (CAE) needs to be empirically tested to further our knowledge in the pedagogic and pragmatic areas of accounting education. A few researchers have provided helpful comments on the conceptualization of CAE (e.g. McCombs and Van Syckle, 1994; Wolitzer and Hirshfield, 1967; Cottell and Millis, 1992; Elliott and Jacobson, 2002), and some have conducted extensive surveys to

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investigate the responses to this process from the different parties such as the universities, the certified public accountant (CPA) firms or future employers and the student interns or prospective employees (e.g. Cottell and Millis, 1992; Tackett *et al.*, 2001, Paisey and Paisey, 2010). Despite the prevalence of CAE in western universities, not much research has been undertaken in the previous empirical literature on this area (Paisey and Paisey, 2010). Based on this, I suggest that an explanatory framework should benefit further inquiry on the effects of the CAE process.

This paper starts with the construction of an explanatory framework to evaluate the performance of CAE programs based on CPA firm internships. In this explanatory framework, the performance evaluation is centered on the student satisfaction with the internship programs, and factors affecting student satisfaction are studied from the perspectives of the students' command of accounting expertise, the CPA firm culture and the university curriculum. The explanatory framework is tested with survey data on 192 university accounting students who have participated in a four-month CPA firm internship required and arranged by the university.

The rest of the paper is structured as follows: Section II introduces the development of CAE in China; Section III presents a review of prior literature on CAE, together with the construction of an explanatory framework on student satisfaction; Section IV describes the research methodologies in the current study, including a description of the subjects in the surveyed program, pilot studies and measurements; Section V includes the results and discussion of the structured equation model; and the last section concludes with the major findings, and practical and research implications of the current study.

II. Developments in CAE in China

1. Drivers for CAE in China

There are several important drivers for CAE in China. One of the fundamental drivers is the internationalization of China's economy. A survey conducted by Ge and Lin (1993) indicated that the move toward the internationalization of accounting in China stemmed from the social and economic changes initiated by the opening policies and reforms. The accounting system rooted in the centrally planned economy has been challenged, and so both the accounting functions and the accounting profession have experienced drastic changes (Jaruga, 1990). These changes have also called for the development of accounting educational mechanisms to enhance the accounting functions and the status of accountants in the emergent market economy (Ge and Lin, 1993).

Another driver for CAE in China is the introduction of accounting departments in Chinese universities and their attempts to reform on the basis of the theories and practices imported from the western countries can improve the conceptual understanding of current accounting education in China. Accounting departments of the multi-disciplinary universities or the financial and economic institutes in China, which are important venues to disseminate accounting-related knowledge and skills, specialize and play a crucial role in training the financial and economic intellectual manpower for the nation.

Lin (2008) identified the problems of the traditional accounting education programs, which overemphasized training students for professional qualification examinations in the earlier stages of Chinese accounting education. Accounting education reforms have been called for by both accounting practitioners and accounting educators to

emphasize the broader knowledge base and professional skills in accounting education (Barsky *et al.*, 2003).

The third driver comes from the needs of both universities and accounting firms in China. Practical skills have become an integral part of current accounting education in Chinese universities, according to a factor analysis on the knowledge and skill components of Chinese accounting education (Lin, 2008). Accounting-related practice can be a voluntary choice made by students during the semester breaks or a compulsory arrangement made by the accounting departments. In the latter case, these practice sessions are credited into the students' academic records. Given that there are usually good relationships between the accounting departments in Chinese universities and the local big CPA firms, most of the accounting departments have integrated CPA firm internship programs into their curriculums. On the other hand, the demand of university accounting students for fieldwork practice is echoed by the local CPA firms who are keen to recruit accounting interns either as candidates for future employees or as a temporary labor force in the toughest seasons when extra professional hands are urgently needed. In this circumstance, many accounting departments are called on to set up CAE programs based on CPA firm internships.

Hence, CAE programs jointly run by the accounting departments and the local CPA firms, offer accounting students rich opportunities to practice real-world accounting, auditing and taxation skills. This type of cooperative education program not only helps students to enhance their understanding of the textbooks taught in the classroom, but also to lay solid foundations for successful future professional careers.

2. Recent developments in CAE in China

The earlier development of accounting education in Chinese universities was inhibited by the prevailing economic situation and professional environment. Although at this time there was great demand for qualified accountants in all sectors in China, the accounting discipline had only recently been reestablished in universities, and few CPA firms existed to provide accounting, auditing and taxation services to newly incorporated companies, especially listed companies.

Accounting departments can easily build up accounting laboratories with financial resources and facilities on hand. In these laboratories, accounting simulations and experiments play a key role in training the technical skills of the accounting students. In addition, the students, especially those in junior and senior grades, voluntarily seek internships by themselves for the purposes of securing job opportunities and getting used to the professional environment.

Zhang (2002) summarized the shortcomings of local CPA firms in receiving interns from accounting departments of Chinese universities in the last decade of the twentieth century. Very limited guidance was provided to the interns because the practitioners in the CPA firm, not themselves professionally trained as instructors, usually fail to impart to their apprentices what they have learned from real-world practice. Few CPA firms have prepared a well-organized task schedule or well-structured learning process for the interns, while nearly all firms just need extra hands to assist with temporary and emergency matters for their new clients. Further, without sufficient communication between accounting departments and CPA firms, in-class teaching and real-world practice can hardly be matched during the internships. Zhang (1996, 2002) concluded that the in-class simulations of accounting practices were more effective and efficient in training the technical skills and competences of the university accounting students than the CPA firm internships.

A great difference between Chinese CAE programs and those in many western universities lies in their arrangements. As investigated by Cottell and Millis (1992) and Tackett *et al.* (2001), CPA firm internships in the western accounting education systems have been provided on a voluntary basis, usually for the major purpose of securing a job. In the key Chinese universities that focus on the CAE effects of CPA firm internships, the internships are a compulsory part of the curriculum and a fixed period of school time is officially set aside for the students to participate in internship programs. Apparently, securing a job position is not a crucial purpose, and the first priority is instead given to training in the technical and social skills and competences required in future accounting careers.

Compared with their western counterparts, the accounting departments and accounting educators pay much less attention to the CAE process based on CPA firm internships. Training of accounting students' practical skills is accomplished by two major pedagogic approaches: in-class simulations of accounting practices and accounting internships. Zhang (1996) compares these two approaches in Chinese accounting education and finds that most accounting departments give higher priority to the in-class simulation of accounting practices than to internships.

However, some key Chinese universities have introduced CAE programs into their accounting departments. They are fully aware of the necessity of combining what is taught in the accounting classroom with what is to be practiced in the future accounting career, and the importance of forging the students' technical skills in fulfilling the true CPA firm services provided to their clients.

As an illustration, the accounting department of the university under this investigation has officially established, for nearly a decade, a regular CAE program based on internships with 14 big local CPA firms. This program includes inviting senior CPA firm partners to give university-proposed and firm-designed seminars to the students before their internships, sharing educational resources with the firms in training their young employees, as well as co-mentoring of professional master degree accounting students by university professors and CPA firm experts.

The cooperative educational model in the accounting program under investigation was the first in China to be institutionalized by the official "joint contracted bases of accounting internships by accounting department and CPA firms." This cooperative mechanism, in substance, targets the same practical employability skills as the work-integrated learning or work placement in educational programs, and in form, invites the CPA firm experts to take teaching roles in the university curriculum. The latter is different from the CAE programs of the west in terms of the fact that CPA firms are not only potential recruiters but also participative educators.

Regarding the difference in focus of the accounting education programs in China and the west, the current study intends to investigate the effects of Chinese CAE from the perspective of student satisfaction with the prevailing cooperative programs based on CPA firm internships. The study also discloses how much factors related to the internship schedules, the firm environment and university curriculum affect this satisfaction.

III. Literature review on CAE and explanatory framework on student satisfaction

1. Literature review on CAE

There are different expressions of cooperative education in the research literature of different countries and regions. Besides the American conceptualization of cooperative

education integrating academic studies at universities with practice in real-world situations (Koehler, 1974; Knechel and Snowball, 1987; Cottell and Millis, 1992; McCombs and Van Syckle, 1994; Beard, 1998; Tackett *et al.*, 2001), researchers of university education of European or Asian-Pacific origin may use alternative terms such as education with work placement (Paisey and Paisey, 2010) or work-integrated learning (Woodley *et al.*, 2011). I determine my research subject as CAE rather than work placement or work-integrated learning, as the studied program is part of a collaborative educational effort offered jointly by the accounting department and CPA firm in the course of the accounting curriculum.

My review of prior literature on CAE is arranged in two parts: one presents empirical evidence for the prevalence of this process in university accounting curriculum, the other summarizes the critical elements considered in successful CAE programs.

The prevalence of CAE has been documented ever since the 1970s. Koehler (1974) observed an increasing tendency to include accounting internship programs in the university academic curriculum in the USA. As part of the course for an accounting major at business schools, the CPA firm internship was highlighted in a number of studies. This practical form of applying accounting knowledge in CPA firms has been well recognized as a cooperative education process. Usually, a CAE program involves three parties: accounting departments requiring the accounting students to attend the CPA firm internship programs, students attending the internships and CPA firms hosting the interns. According to a survey conducted by McCombs and Van Syckle (1994) on AAA members in the USA, 100 percent of CPA firms and university students in accounting majors were in favor of internships during the university course, and 95 percent of university faculty and administrative staff expressed their support for the internship programs. Beard (1998) also reveals an increase in internship-based cooperative education programs in accounting education. Tackett *et al.* (2001) summarized that in the previous decade, CAE programs based on CPA firm internships have played an extremely important role in university accounting education in the USA. In countries and regions other than the USA, accounting educators have also found evidence of the prevalence and significance of cooperative education. For example, Woodley *et al.* (2011) reported the inspiring experiences of work-integrated learning for business and law school students at Victoria University, Australia, since 2007, and Woodley and Tam (2011) described and analyzed the effects of work-integrated learning in business and law in Hong Kong.

Earlier empirical literature has reported the effects of CAE programs, from which some of the key elements for a successful cooperative program can be identified. As part of their university accounting education at higher levels, students can relate what they have learned from their courses and textbooks with the accounting practices in the CPA firms. Through programs based on CPA firm internships, students are freed from highly intensive textbook-based instruction and step into the field of practice. What they are about to experience can bridge the gap between theory and practice, the gap between learning and application and the gap between knowledge and technical skills. As pointed out by Tackett *et al.* (2001), university students should prepare themselves during their CPA firm internships for their future career by knowing when and how to do what they are supposed to do in the accounting profession. Accounting students benefit from cooperative programs based on CPA firm internships in numerous ways. Cottell and Millis (1992) pointed out that the cooperative education process based on the internships had a positive impact on the professional

competences and personalities of university students involved in the internship programs. They also found evidence that under the guidance of experienced accounting professionals in the CPA firm, university students can successfully apply what they have learned in the classroom, benefit from cross-cultural social networking in the professional workplace and achieve high self-esteem and self-respect. Some interns can even succeed in securing future career opportunities. Knechel and Snowball (1987) investigated the effect of internship programs on subsequent college performance and found no significant differences between the performance of groups of interns and non-interns across all courses except the auditing coursework. However, after the internships, accounting students were observed to focus their efforts more practically on courses related to their future career. Recent literature contributed by the Asian-Pacific regions indicates that work-based placement programs in business and law schools could effectively improve students' networking and employability skills (Woodley and Tam, 2011; Woodley *et al.*, 2011).

As a preliminary conclusion from the above literature review, accounting departments can benefit from CAE programs. Putting the students into accounting-related positions in CPA firms and testing their classroom learning with practical tasks helps those who design university curriculums to evaluate the pedagogical outcomes and course effectiveness, improve the curriculum design and bridge the gap between accounting theories and accounting practices.

2. A framework for student satisfaction with corporate accounting education

Students are the objects of accounting education programs, no matter which pedagogical method is applied. In the case of accounting internships and cooperative education programs that aim to enhance the students' learning by practicing, the attainment of their learning objectives is the key indicator of an effective education program. Koehler (1974) stated that collection of feedback from the intern students greatly helped to improve the operations and effects of CAE. Swindle and Bailey (1984) described effective ways of structuring and implementing internship programs and proposed that these programs should be evaluated by the student interns. Following the same logic, the current study assumes that evaluation of cooperative education programs is anchored around student satisfaction. Therefore, the explanatory framework starts with student satisfaction with regard to what they can learn from the internship and cooperative education experiences.

As has been pointed out in prior empirical evidence, student interns participating in cooperative education programs can be satisfied from different perspectives. Earlier researchers paid attention to the impact of internship arrangements on student satisfaction, such as payment, timing and task assignment (Nelson, 1952; McCombs and Van Syckle, 1994; Beard, 1998). Alternatively, they might be greatly satisfied with their practical command of technical skills throughout their internship programs (Knechel and Snowball, 1987; Tackett *et al.*, 2001). In recent decades, researchers have tended to relate student satisfaction to improvement of their interpersonal skills (Tackett *et al.*, 2001; Beck and Halim, 2007; Kavanagh and Drennan, 2008). These empirical results give strong support to evaluation of cooperative education programs approached from the angle of student satisfaction. Thus the current study includes three dimensions in the measurement of student satisfaction: the internship schedule, learning effects and socialization effects.

Surveys and analyses on the factors that contribute to effective accounting internships and cooperative education programs have formulated a rich body of

empirical research literature. However, it is challenging to synthesize these contributions for the purpose of deducing a theoretical framework which can guide both academic and professional practices.

Cottell and Millis (1992) prove that all the involved parties – accounting departments, CPA firms and accounting interns – can benefit from cooperative programs based on internships. They emphasize the importance of offering university students the opportunity to work in the CPA firms as interns and this cooperative process contributes to improvements in the learning of the students, in the course design of the university curriculum and the lessening of CPA firm workloads. McCombs and Van Syckle (1994) propose that effective performance of a CAE relies on the organization of accounting departments, the provision of chances and places for accounting-related practice and the active participation of accounting students. Beard (1998) values the contribution that accounting internship and cooperative education programs make to the accounting student, accounting departments and the prospective employers. She specifically recognizes the students' active involvement with the internship programs as a proactive way of learning by doing, instead of learning as passive recipients of information.

Lucas and Tan (2007) found that work placement can foster a student's reflective capacity more effectively than academic studies. Paisey and Paisey (2010) proposed a comprehensive framework to integrate learning and work and they argued that work-based placement learning could bring benefits to both students and employers and contribute to the development of social skills and the ability to cope with uncertainties in a professional context.

Following the key elements of CAE constructed in a vast body of relevant empirical research literature (e.g. Cottell and Millis, 1992; McCombs and Van Syckle, 1994; Beard, 1998; Tackett *et al.*, 2001; Beck and Halim, 2007; Lucas and Tan, 2007; Kavanagh and Drennan, 2008; Paisey and Paisey, 2010; Woodley and Tam, 2011; Woodley *et al.*, 2011), I summarize the above-mentioned analysis and formulate an explanatory framework in order to explain how student satisfaction with CAE programs based on CPA firm internships is forged. From the theoretical perspective, factors with an impact on student satisfaction with the programs should include the students' application of accounting expertise, and the contributions of the CPA firms and the key accounting courses in the university curriculum. Additionally, the current study conjectures that the university curriculum has a significant influence on the other two factors contributing to student satisfaction (see Figure 1).

IV. Methodology

1. Description of subjects

A survey was conducted on 192 accounting interns who had just finished their four-month internships with 14 well-recognized local CPA firms in south China.

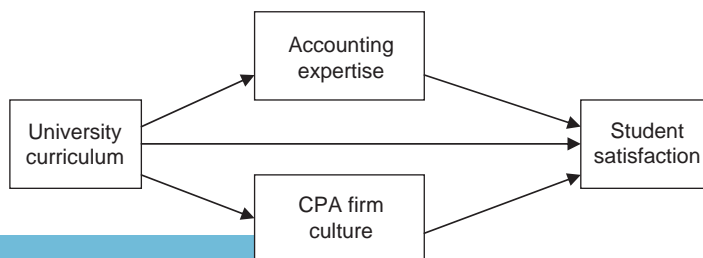


Figure 1.
Theoretical modeling on
student satisfaction with
CPA firm internship

The internships are part of the university curriculum and are credited to the student records after reviews by the university and CPA firm administrative staff.

All of the interns in my survey are junior accounting majors. They were randomly assigned to the 14 local CPA firms with whom the accounting department had established close relationships and had signed bilateral cooperation agreements regarding the internships, exchange of expertise, training programs and future job recruitments (detailed arrangements are available to interested readers from the author). During their internships, the student interns were required to follow the guidance of the CPAs or certified taxation consultants from the host firms in practicing the accounting, auditing and taxation services provided to the firms' clients. All the internships under investigation were scheduled within the peak times from around the year-end to late April, when nearly all CPA firms were busy with statutory audits and taxation services for their clients. The uniform requirement on the listed companies to issue their annual reports and auditor reports within the first quarter in China was noted in scheduling the internships.

Upon completion of the internships, all the interns were to be evaluated and graded by administrative staff of both the university and the CPA firms. The survey questions were distributed among the whole group of 192 students before May Day. The interns were invited to complete the questionnaire anonymously and they were told that their answers would not be counted as any part of grading results. They handed them in shortly after the brief school break. The questionnaire used in this survey was written in Chinese and used a 1-7 Likert scale (the questionnaire is available to interested readers from the author).

2. Pilot study

Two pilot studies were finished before conducting the finalized survey on the subjects considered in the current study. One pilot study was conducted by interviewing the students coming back from newly ended internships. These students helped me identify the major factors that affected their satisfaction with their four-month internship. This resulted in a summary of the latent variables and their different categories for investigation.

The second pilot study was specifically dedicated to the design of my survey questionnaires. The preliminary test of questionnaires comprising 39 items was delivered to 30 selected accounting students from among the previous year's interns when they had just completed their CPA firm internships arranged by the home school. Both gender and location of internship were considered in selecting this pilot study sample. All the surveyed students provided responses on which I based my analysis of discrepancies among them in order to arrive at the most effective questions. As a result, three items were included for the latent variable student satisfaction, three for accounting expertise, three for firm culture and five for university curriculum.

Both pilot studies were prepared and executed one year ahead of the finalized survey leading to the empirical data under investigation. During these two years, there were no material changes to the internship policies either in the accounting department or in the CPA firms.

3. Measures

Student satisfaction with the CPA firm internship. A survey conducted by McCombs and Van Syckle (1994) reports two crucial factors that have an impact on the effects of CPA firm internships for junior and senior university accounting students: the tasks

assigned and the time schedules. Usually, junior and senior students attending the internships are simultaneously under heavy pressure from writing their graduation thesis and making job-seeking appointments. Not being formal employees at the CPA, most student interns are dissatisfied with being assigned regular administrative office work that is not related to the accounting discipline.

Tackett *et al.* (2001) document the fact that accounting students have upgraded their performance in respect of technical skills, moral values, communication and working etiquettes after their internships. Kavanagh and Drennan (2008), based on a review of the employment opportunities for accounting graduates in Australia, conclude that the career development of accounting students not only depends on their accounting knowledge and technical skills, but also importantly relies on their interpersonal communication and team work abilities.

Regarding the same situations confronting the junior and senior accounting students assigned to CPA firm internships in Chinese universities, the current study presents three aspects in the survey questionnaire, measuring student satisfaction with the internship schedules, the internship effects and socialization effects.

Accounting expertise. Thompson (1951) discussed how to make a CPA firm internship program a great benefit to the firm, the student interns and the accounting departments, and found that the relevance of classroom teaching to the accounting practices during the internships is a key determinant. This conclusion was drawn in a western accounting educational background where both the firms and the interns focus on the issue of employment, recruiting the right employees and finding a satisfactory job.

Tackett *et al.* (2001) state that a well-designed internship program, in its process plan, clearly describes what CPA firm services and activities should be practiced by the interns, and when and how they shall practice them. They point out that this plan should be understood and accepted by the interns for the purposes of solving the complexity of certain practices and enhancing the applicability of what they have learned in the university courses.

Although employment is not a key issue prioritized in the CPA firm internships of Chinese universities, the connections between what the accounting students have learned from the university courses and what they practice and achieve during their internships are given full consideration and highlighted in establishing cooperative programs between the accounting departments of universities and the host firms.

Therefore, the survey questionnaire of the current study relates three aspects in measurement of the accounting expertise construct: relevance of classroom teaching to internship, complexity and applicability of classroom teaching in internship.

Firm culture. Wolitzer and Hirshfield (1967) considered the functions of CPA firm internships in educating future accounting professionals. They clarified the educational tasks confronting the CPA tutors in guiding the student interns in the firm activities, particularly those regular procedures and norms which experienced accountants may not be aware of in their daily work, including, for example, time and task management, travelling and dressing conventions. Thus, a host firm should be responsible for properly communicating the firm culture and professional norms to their interns as part of their training during the internship.

When conceptualizing the model of work-integrated learning, Raelin (1997) highlighted the cultural and moral features of the workplace besides considering the technical requirements for the learners. Accounting firms without doubt require higher criteria of professional culture and moral perception.

In the CAE program studied, the accounting department and major local CPA firms both play key roles in the practice-oriented teaching and learning. They cooperate as educating partners mainly for the sake of training in practical accounting skills from the short-term perspective, even though, in the long run, this cooperation will surely also enable the firms to recruit the talent they need.

Students on the internship programs are still in the process of receiving education from the universities. No classroom simulations can provide the exact scenarios for them to understand the CPA firm culture. Thus, during the internships, the firm cultures which they experience provide them with solid impressions of their future career environments.

Drawn from observations of the CAE program under investigation and the cultures of the local host CPA firms, the current study includes three groups of people to represent the culture of a CPA firm. They are leaders or senior partners, CPAs who act as tutors for the student interns in their fieldwork, and the task teams which are engagement oriented during the internship.

Course curriculum. Tackett *et al.* (2001) found that accounting student interns usually overestimate the applicability of what they have learned from their university courses and textbooks. As a frequently occurring example, interns encountering the fieldwork of financial statement analysis tend to simplify the practices by applying what they have memorized about financial ratios and calculation formulas, while being quite ignorant of the client business contexts. The gap between textbook teaching and fieldwork practice depresses many of them.

This stereotypical perception of the differences between textbook and practice exists not only in traditional subjects like financial accounting, cost and management accounting, auditing and taxation, but also in non-accounting subjects such as business management, strategic decisions and organizational behaviors. Elliott and Jacobson (2002) emphasized that accounting students should familiarize themselves with these non-accounting subjects, as well as accounting subjects. Given that in the business-oriented design of accounting curriculums in most Chinese universities or financial and economic institutes, the current courses include traditional subjects of financial accounting, management accounting, auditing and taxation, and non-accounting business courses which are comprehensively categorized as "other."

Table I summarizes the variables and their definitions covered in the current study.

V. Results and discussion

1. Descriptive results

Table II presents the descriptive statistics of all the measurements used in the structured equation model. The first panel includes three measurements of student satisfaction with CAE programs based on CPA firm internships. The remaining three panels list the measurements of these three factors, contributing to the explanation of student satisfaction.

The survey results show the very positive effects produced by CAE programs based on CPA firm internships. The degrees of student satisfaction, measured from the three perspectives of internship schedules, learning effects and socialization effects, are quite satisfactory, with means of 5.32, 5.44 and 5.45, respectively, on the 1-7 scale. Their standard deviations are around 1.000, reflecting the concerted satisfaction of the whole group.

This descriptive evidence presents a preliminary result that the students were satisfied with the CAE program under investigation. Even though this program was

Constructs	Measurements	Explanations
Student satisfaction	Internship schedules	Student satisfaction with the internship schedules
	Learning effects	Student satisfaction with the learning effects
	Socialization effects	Student satisfaction with the socialization effects
Accounting expertise	Relevance	Relevance of classroom teaching with internship
	Complexity	Complexity of classroom teaching in internship
	Applicability	Applicability of classroom teaching in internship
Firm culture	Partners	Directorship of CPA leaders
	CPAs	Guidance of CPAs
	Teams	Functions of teams
University curriculum	Financial accounting	Usefulness of financial accounting courses
	Management accounting	Usefulness of management accounting courses
	Auditing	Usefulness of auditing courses
	Taxation	Usefulness of taxation courses
	Others	Usefulness of other courses in the curriculum

Table I.
Constructs and their
measurements

Measurements	N	Minimum	Maximum	Mean	SD
<i>Measurements for the construct "student satisfaction"</i>					
Internship schedules	192	1	7	5.32	1.115
Learning effects	192	1	7	5.44	1.086
Socialization effects	192	2	7	5.45	0.991
<i>Measurements for the construct "accounting expertise"</i>					
Relevance	192	1	7	5.45	1.214
Complexity	192	1	7	4.12	1.164
Applicability	192	1	7	5.58	1.259
<i>Measurements for the construct "firm culture"</i>					
Partners	192	1	7	2.39	1.778
CPAs	192	1	7	5.72	1.494
Teams	192	1	7	5.70	1.168
<i>Measurements for the construct "university curriculum"</i>					
Financial accounting	192	1	7	5.69	1.340
Management accounting	192	1	7	3.23	1.521
Auditing	192	1	7	5.05	1.702
Taxation	192	1	7	5.36	1.767
Others	192	1	7	4.21	1.911

Table II.
Statistical description
of measurements

officially arranged by the university authorities, the students felt quite comfortable with the internship schedules. Meanwhile, the students came to recognize the importance of improving their extra-curricular academic competencies and social skills by attending the program. It was observed that the cooperative program based on internships was welcomed by the accounting students, serving well the purpose of enhancing their professional competencies and employability skills.

Descriptive statistics on those factors contributing to the explanation of student satisfaction are also presented in Table II.

Regarding the three dimensions of accounting expertise considered during the internships, the students give the highest recognition to the relevance of classroom teaching to the intern practice (5.45), and to the applicability of classroom teaching in the accounting practice (5.58). However, they showed moderate concern for the

complexity of classroom teaching (only 4.12) when they were practicing as interns in the field. The results of the survey presented here affirm the observation of Tackett *et al.* (2001) that the interns usually think highly of the applicability of what they have learned from their university courses and textbooks.

Results on the CPA firm culture seem to be conflicting. The top management represented by the senior partners score lowest (2.39) on the whole questionnaire and both the professional CPAs and engagement teams (scoring 5.72 and 5.70, respectively) are highly appreciated by the student interns. This evidence shows that the senior partners, the CPA firm top management members, have provided CAE with very limited guidance and instructions, and that the professional CPAs played an important role in introducing the firm culture and professional norms to the interns. It is worth noting that the firm culture and professional norms including individual and organizational ethics should be highly prioritized in the whole list of responsibilities of the firms' top management, especially the senior partners.

Concerning the university curriculum, the students attach more significance to the subjects related to the CPA firm internship, such as financial accounting (5.69), auditing (5.05) and taxation (5.36). They evaluate relatively lower courses like management accounting (3.23) and accounting information systems (4.21), which are not directly related to the internships. The scores given to other business courses by the students are very low (3.92). As proposed by Elliott and Jacobson (2002), accounting students should familiarize themselves with more general business subjects.

2. Analyses and discussion

Figure 2 presents the path coefficients among the latent variables and loading factors between the latent variables and measurements. The former illustrate the impact of accounting expertise, the CPA firm culture and the university curriculum on student satisfaction with the CAE program based on internships. The latter depicts the contributions of measurements to the surveyed constructs.

Regarding the direct effects on student satisfaction with these CAE programs, the survey discloses the differences among the three latent variables proposed in the explanatory framework. The firm culture, as a comprehensive indicator of the professional environment in the CPA firms, contributes most positively to student satisfaction with the studied programs (the path coefficient being 1.37). Accounting expertise, indicating what and how the students perceive their accounting knowledge and competence acquired from the university accounting courses, makes a much smaller contribution to student satisfaction with the cooperative education programs (the path coefficient being 0.44). The path coefficient for the university curriculum is -1.06 , implying a negative impact on student satisfaction.

However, from the perspectives of the indirect impact on student satisfaction with the cooperative internship programs, the university curriculum shows an important influence on the other two latent variables, accounting expertise (the path coefficient being 0.90) and the firm culture (the path coefficient being 0.92). Therefore, as can be calculated from Figure 2, the indirect impacts of the university curriculum through the accounting expertise and the firm culture reach 0.36 and 0.65, respectively.

Traditional university curriculums are not quite sufficient in satisfying the requirements of real practice in the accounting profession. Course teaching at universities, by offering a traditional accounting curriculum, plays a moderate role in encouraging the students to accumulate accounting expertise, whereas the students

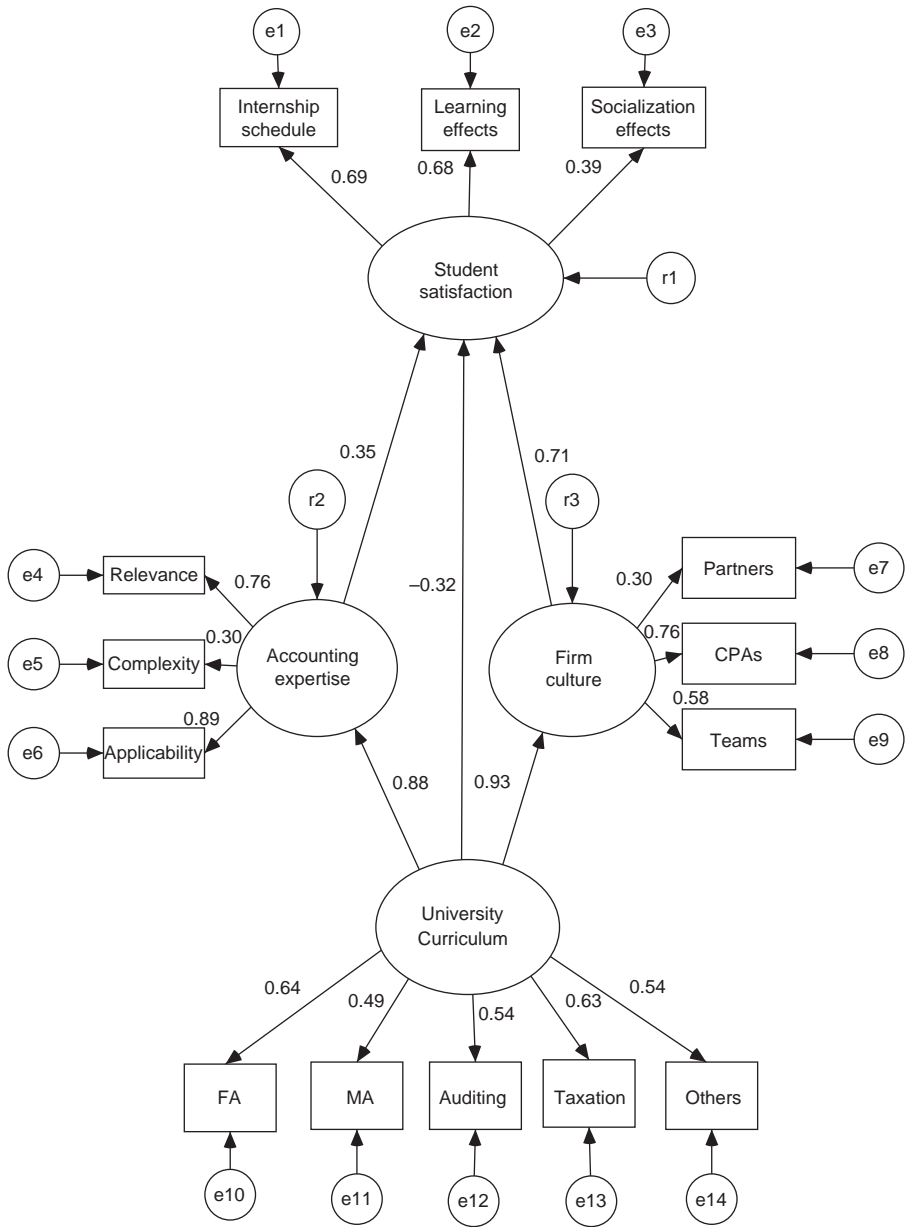


Figure 2. SEM results of student satisfaction analysis

tend to enjoy themselves better in attending the CPA fieldwork practice with the purposes of learning and gaining experience.

As a preliminary conclusion, it can be stated that these cooperative internship programs should be closely related to the CPA practices and the professional environment. The fieldwork practice and the firm culture not only stimulate the interests of the accounting students in the profession, but also prepare them for the

accounting knowledge and skills required in their future CPA practice-related careers. This is further evidence of the significance of the cooperative education programs in the Chinese accounting educational systems.

In the SEM results, both the student satisfaction variable and other explanatory variables are tested with the loading factors between these variables themselves and their respective measurements.

From Figure 2, it can be observed that the performance measurements via internship schedules and learning effects (with loading factors being 0.69 and 0.68, respectively) make greater contributions to student satisfaction with CAE based on the CPA firm internship than the performance measurement via socialization effects (with a loading factor of 0.39). This result proves that the accounting students involved in the cooperative education programs are quite satisfied with the internship arrangements and their learning effects, but to some extent, they grade the socialization effects of these programs relatively lower than the other two factors. As has been extensively accepted (Beck and Halim, 2007; Kavanagh and Drennan, 2008), programs based on CPA firm internships contribute to the training in social skills as well as professional competencies.

Loading factors between the explanatory variables and their measurements are quite illustrative of the student perceptions of how elements relating to the internships contribute to their satisfaction with the surveyed programs.

Among the measurements for the firm culture indicating the professional environment, the CPAs and work teams play important roles in accommodating the student interns during the internships, with loading factors of 0.76 and 0.58, respectively. Unfortunately, in the surveyed programs, the senior partners of the CPA firms are perceived to have weak influence on the students' recognition of the firm culture.

Among the measurements for the accounting expertise, both the relevance and applicability of classroom teaching prove to be important determinants in measuring accounting expertise during the firm internships. Their loading factors are 0.76 and 0.89, respectively. With a loading factor of 0.30, the complexity has a weak impact on the recognition of accounting expertise. This empirical result fits the conclusion of Beck and Halim (2007), who stated that accounting technical skills are of less importance to student interns than a number of other learning outcomes such as personal and interpersonal skills.

According to the loading factors between the university curriculum and their measurements, financial accounting, auditing and taxation subjects are more significant than other courses. This result, by nature, can be explained by the surveyed programs based on internships. The orientations with the taxation services and statutory annual audits explain why these courses are perceived to be more important during the internships.

3. Measurement of reliability and model fit summary

Reliability of measurement. Since seven-degree Likert scales were used in measurement of the latent variables in the current study, the Cronbach's α coefficients were obtained to testify the reliability of the measurement scales. The Cronbach's α coefficients for scaling student satisfaction, accounting expertise, CPA firm culture and university curriculum are 0.713, 0.715, 0.705 and 0.782, respectively. This testing result proves the reasonable acceptance of measurement scales designed for the variables under investigation. Furthermore, the Cronbach's α coefficient for the whole scale is 0.828, which indicates good internal consistency and reliability in the overall design. Additional analysis on the model fit is presented in the following part.

Model fit summary. Based on the explanatory framework depicted in Figure 1, I ran the data of 192 effective responses collected from the student interns on the structured equation model with AMOS 7.0. The model fit indicators are summarized in Table III.

As can be calculated from Table II, the ratio of the χ^2 to the degree of freedom, which is <5 (137/73), satisfies the requirements of the absolute simulation test on the structured equation model.

Regarding the relative simulation test on the structured equation model, GFI and CFI are >0.90 , and the model fit statistics RMSEA is 0.067, indicating a good effect of simulation by the structured equation model constructed in the current study.

VI. Conclusions and implications

The results of the survey presented here confirm the effectiveness of CAE programs based on CPA firm internships. Although work placements officially started in Chinese university accounting education only in the last decade, the students are satisfied with the arrangement and organization of the internships, as they feel comfortable with the internship schedules and perceive the learning and socialization effects of their CPA intern practices very favorably. Therefore, as part of the university curriculum, cooperative programs based on firm internships act well in a practical form to supplement classroom teaching and textbook learning in the university course. The empirical results which reveal the weakness of socialization effects and shed light on the need for improvements in various levels of communication in the workplace have special educational merit.

Factors relating to the accounting expertise of the students, the organization cultures of the host firms, and the university curriculum make different contributions to the student satisfaction with the cooperative programs. The firm culture shaping the workplace environments for the student interns has the greatest impact on student satisfaction; the contribution made by the accounting expertise of the student is important too; the university curriculum makes the least direct contribution to student

$$\chi^2 = 137.339$$

$$\text{Degrees of freedom} = 73 \quad \text{CMIN/df} = 1.881$$

$$\text{Probability level} = 0.000$$

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.067	0.050	0.085	0.053
Independence model	0.207	0.195	0.220	0.000

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	0.133	0.902	0.863	0.636
Saturated model	0.000	1.000		
Independence model	0.587	0.441	0.355	0.382

Baseline comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	0.835	0.798	0.916	0.895	0.914
Saturated model	1.000		1.000		1.000
Independence model	0.000	0.000	0.000	0.000	0.000

Table III.
Model fit summary

satisfaction, but it has a significant influence on both the accounting expertise of the students and the perception of the CPA firm cultures. This conclusion implies that a cooperative program based on firm internships is closely associated with the design of the university accounting curriculum and the selection of quality CPA firms to host the interns.

As observed in the survey, the CPA firm cultures significantly influence student satisfaction and more importantly, their perceptions of the professional environments and norms in their future accounting careers. Thus, selection of the CPA firms for hosting the interns is crucial to the cooperative programs. In particular, consideration should be given to the firms' top management's attitudes to and involvement in the programs. Senior partners or other top management members at the firms need to play a proactive role in mentoring the interns with ethical principles and professional norms.

Both pedagogical and practical implications can be drawn from the findings and conclusions of the current study. As they produce quite positive instructional effects on training the technical and social skills of accounting students, CAE programs based on CPA firm internships should be officially included in the university curriculum.

An effective CAE program requires the involvement of the universities, the students and the CPA firms. In particular, the firm culture greatly contributes to student satisfaction with the program. This finding dovetails a requirement for the cooperative program to include high-quality CPA firm partners. Accounting departments and major local CPA firms both play key roles in the practice-oriented teaching and learning. They cooperate as educating partners for the main sake of training the practical accounting skills in the short-term perspective, even though in the long run, this cooperation will surely enable the firms to recruit the right talents they need.

The survey results imply that the top management of the CPA firms, by giving more of their direction and guidance to the cooperative education process, can improve the student satisfaction with these programs. This also implies that the accounting departments of the universities and the host CPA firms should cooperate more closely in arranging and organizing the internship programs to ensure the best effects of the cooperative education process.

As the accounting profession in China was established not long ago, accounting education is currently still centered around the great demand for practical accounting skills. CAE programs based on CPA firm internships are not practical only in China, but also can be extended into other emerging Asian economies in response to the urgent demand for a quality accounting profession. One concrete implication is that the Chinese Institute of Certified Public Accountants (CICPA) acknowledges the contribution of the cooperative accounting program studied in this investigation in promoting the cooperative education of accounting discipline. As a key member of CAPA, CICPA will share its cooperative education experiences in China with other Asian member countries or regions where accounting practices and regulations are moving toward internationalization.

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Further reading

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Appendix. Questionnaire on student satisfaction (translated from the original Chinese version)

Directions: Upon returning from the 4-month internship-based practices at CPA firms, the students are invited to answer anonymously the following questions relating to the program. Their responses are to be used to improve the educational effects of the designated program, without any implication for their grading of any kind.

- 1.1 . To what extent were you personally satisfied with the overall arrangement jointly run by your home institute and the CPA firm as part of curriculum activities?
- | | | | | | | | |
|-------------------------|--|---|--|---|--|---|-----------------------|
| 1=Extremely Unsatisfied | | | | | | | |
| 1 | | 2 | | 3 | | 4 | 5 |
| | | | | | | | 7=Extremely Satisfied |
| | | 6 | | 7 | | | |
- 1.2 . To what extent were you personally satisfied with the study effects of the joint program arranged by your home institute and the CPA firm?
- | | | | | | | | |
|-------------------------|--|---|--|---|--|---|-----------------------|
| 1=Extremely Unsatisfied | | | | | | | |
| 1 | | 2 | | 3 | | 4 | 5 |
| | | | | | | | 7=Extremely Satisfied |
| | | 6 | | 7 | | | |
- 1.3 . To what extent were you personally satisfied with the improvement of your social skills during the joint program arranged by your home institute and the CPA firm?
- | | | | | | | | |
|-------------------------|--|---|--|---|--|---|-----------------------|
| 1=Extremely Unsatisfied | | | | | | | |
| 1 | | 2 | | 3 | | 4 | 5 |
| | | | | | | | 7=Extremely Satisfied |
| | | 6 | | 7 | | | |
- 1.4 . How much did the relevance of what you learned at your home institute to what you practiced in the workplace matter in the program you participated in?
- | | | | | | | | |
|-------------------------|--|---|--|---|--|---|-----------------------|
| 1=Extremely Unimportant | | | | | | | |
| 1 | | 2 | | 3 | | 4 | 5 |
| | | | | | | | 7=Extremely Important |
| | | 6 | | 7 | | | |

Figure A1.

(continued)

1.5 . How much did the difficulty of task assignments matter in the program you participated in?

1=Extremely Unimportant 7=Extremely Important
1 2 3 4 5 6 7

1.6 . How much did your expertise in accounting and related subjects matter in the program you participated in?

1=Extremely Unimportant 7=Extremely Important
1 2 3 4 5 6 7

1.7 . How helpful was each of the following roles in the CPA firm in the program you participated in?

	1=Not Helpful At All				7=Extremely Helpful		
Partners	1	2	3	4	5	6	7
CPAs	1	2	3	4	5	6	7
Task Teams	1	2	3	4	5	6	7

1.8 . How useful was each of the following courses in the university curriculum in achieving better performance in the program you participated in?

	1=Not Useful At All				7=Extremely Useful		
Financial Accounting	1	2	3	4	5	6	7
Management Accounting	1	2	3	4	5	6	7
Auditing	1	2	3	4	5	6	7
Taxation	1	2	3	4	5	6	7
Others	1	2	3	4	5	6	7

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