A COMPETENCE-BASED EDUCATION AND TRAINING (CBET) APPROACH TO THE DIPLOMA IN ACCOUNTING PROGRAMME IN THE POLYTECHNICS OF MALAYSIA: AN INVESTIGATION AND EVALUATION

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ABSTRACT

A Competence-Based Education and Training (CBET) Approach to the Diploma in Accounting Programme in the Polytechnics of Malaysia: An Investigation and Evaluation

Around the world accounting practitioners and educators have been working together to determine the objectives, content and delivery of future accounting programmes. This project, focusing on Malaysian Polytechnics' Diploma in Accounting programme, proposes an alternative approach to accounting education that meets the current and future needs of Malaysia. Selected literature was reviewed to investigate and evaluate Competence-based Education and Training (CBET). The review considered the characteristics and implications of CBET initiatives, and criticism of earlier and present CBET models. To determine the appropriateness of CBET in a Malaysian context a questionnaire survey and interviews were conducted. Past, present and future performance of graduates of Diploma in Accounting programme were the subject of interviews with employers, academic heads of commerce departments as well as an assistant director of curriculum. The needs and expectations of accounting support staff were established. The desired competences of accounting support staff and the actual competences of accounting support staff as perceived by a variety of employers were identified. Results indicated areas of the programme that need improvement. The project proposes a CBET approach as an alternative to the present traditional programme.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter provides contextual information and a foundation to the topics subsequently discussed and analysed. It is divided into nine sections. The first section summarises relevant changes in accounting education and training provision in the United States of America (USA), Australasia (Australia and New Zealand), Canada and the United Kingdom (UK). It focuses on the various demands for change in accounting education in these countries. It then highlights reasoned responses to these demands for change in accounting education and training. Secondly, it documents pertinent provision of accounting education and training in Malaysia, with concern and comments from accounting educators and practitioners. It cites several studies calling for change in curriculum, teaching and learning practices as well as the contents of the professional programmes in Malaysia.

The third section discusses the Malaysian Diploma in Accounting programme as a semi-professional training programme. The need for the Diploma programme to meet the changing demands of the accounting profession is discussed. Most of the graduates of the Diploma programme provide support services to accountants. As the functions and roles of accountants change, so do functions and roles of the support

staff. The fourth section provides a CBET perspective of accounting education and training. Competence-based education and training (CBET) is explained as an alternative to the traditional Diploma in Accounting programme in the Malaysian polytechnics. The fifth section is the rationale for the project. Accounting practitioners' dissatisfaction with graduates from local institutions is documented. Section six contains the problem of the study. The objectives of the project are identified in section seven. Specific attention is focussed on semi-professional accounting support staff who provide support services to accountants. The eighth section explains the research methodology adopted in the project. The ninth section informs the scope and limitations of the study.

1.2 Accounting Education

Even though the focus of this research is on the education and training needs of the accounting support staff performing their roles at the semi-professional level, the following discussions may provide a description of the change in the business environment that have implications for the accounting profession in general.

The Education Committee of the International Federation of Accountants (IFAC, 1995, p.1) notes:

> "Rapid change is the predominant characteristic of the environment in which professional accountants work. Businesses and other organisations are engaging in more complex arrangements and transactions. Information technology is advancing at a rapid pace. Trade and commerce have become more international. Privatisation has become an increasingly important goal in many

> countries. Many societies have become more litigious. Concern for the environment has grown. Because of these trends, the demand for accountability and professional accountants is high in all cultures and continues to increase."

These changes call for accounting educators to focus on accounting content and teaching methodology. In response to such forecasts, accounting educators must make accounting course more relevant for the future through significant changes in the curriculum proposed over the last decade as well as change the way they teach, or both (Graham, 1993).

The purpose of accounting classes is not to teach accounting, but rather to teach students to be accountants (Bandy, 1990). Changes require accounting educators to re-examine the foundation of any accounting programme. Educators must integrate a modified curriculum with modern teaching methodologies that focus on the curriculum, teaching and learning process as well as the assessment practice for all accounting education and training programmes.

During the 1980s, accounting educators of the United States and Australia produced reports critical of the education and training available for accountants. Recommendations for change were not limited to countries of the west; various reports questioned accounting education practices throughout the world.

Malaysia also needs to respond to change in accounting education. Singh and Mohyiddin (1992, p.5), from the Malaysian perspective, note,

"Accounting education in institutions of higher learning (IHL) in the U.S.A. and Australia has been under strong pressure for change during the 1980's. These pressures resulted in a major review of accounting education in both countries. The reviews produced the work of the Accounting Education Change Commission (AECC) in the U.S.A. (1986) and the "Review of the Accounting Discipline in Higher Education" (The Mathews Report, 1989) by the Department of Employment, Education and Training in Australia."

Needles, Jr. and Power (1990) commenting on a report written by the managing partners of the (then) "Big Eight" accounting firms, outline the capabilities required by the profession to be developed during the education process. Requisite capabilities are communication skills, intellectual skills, and interpersonal skills. "Chalk and talk" needs to be replaced with seminars, simulations, extended written assignments and case studies. Creative use of information technology would facilitate such learning (ibid.).

The Bedford Committee report posits that accounting students use logical reasoning, creative thinking, problem solving, ethical standards, and conduct, and effective communication through interpersonal relations. Needles, Jr. and Power (1990, p.254), further noted:

> "Most of the educational models examined include a statement about the need to develop capabilities for analytical thinking and communication skills in accounting graduates, however, little guidance is provided regarding how these capabilities could be developed and the emphasis of the models is on the subject matter content of the curriculum."

The Federation of Schools of Accountancy Model and the Bedford Committee

Report Model, as discussed in Needles Jr. and Power (1990), share the broad view that accounting should develop and communicate a wide range of information in relation to curriculum models. While the FSA model includes recommended curricula, the Bedford Committee takes a philosophical approach and lists no specific courses.

Williams (1993) found common ground in numerous critiques of universities' accounting education. Table 1.1 on page 6 shows the main features of the new approaches. According to Ponton and Adams (1992), the Accounting Association of Australia and New Zealand (AAANZ), the Australian Society of Accountants (ASA) and the Institute of Chartered Accountants in Australia (ICAA) formed a Task Force for Accounting Education in Australia in 1985. A report was produced in 1988 with a wide range of recommendations for changes. In the same year, the Australian Society of Certified Practising Accountants, the Institute of Chartered Accountants in Australia, and the New Zealand Society of Accountants sought common competence standards for both countries (Birkett, 1992).

Durbin (1993) notes that the Canadian Institute of Chartered Accountants (CICA) through Vision 2000 made the following points:

1. The world and the profession will undergo major changes by the turn of the century, and some of the changes have already begun. It is felt that the profession must adapt to these changes by taking an active rather than reactive role.
2. The profession must never forget that quality service is the hallmark of success.

Table 1.1: A Comparison of the traditional approach and the new approach in accounting education (source: Williams, 1993)

	Traditional Approach	New Approach
1.	Heavy emphasis on technical courses in accounting	Broader emphasis on general education and business and organisational knowledge
2.	Little integration of subject matter – accounting courses taught in isolation	Heavy integration of tax, managerial accounting, financial accounting, systems and auditing
3.	Heavy emphasis on calculating one right answer	Increased emphasis on solving unstructured problems, such as use of cases
4.	Heavy emphasis on teaching rules	Increased emphasis on the learning process - learning to learn
5.	Heavy emphasis on teaching accounting to the Uniform CPA Examination	Recognition of a broader objective
6.	Little attention to communication and interpersonal skills	Increased emphasis throughout accounting curriculum on written presentation and interpersonal skills
7.	Students as passive recipients of knowledge	Students as active participants in learning
8.	Technology used sparingly in non computer courses	Use of technology integrated throughout accounting curriculum
9.	Introductory accounting focused on preparing external financial reports, journal entries, postings, etc.	Introductory accounting focused on role of accounting in society and in organisations; increased focus on using accounting information for decision making

3. There is a need for lifelong learning and mandatory continuing education, a broad-based field of studies, computer literacy, advanced mathematical skills and changes to both student training and the universities and further education syllabus to reflect the changes in society.

A study by Lovell (1992) on reports by The Bedford Committee Report and the Perspective identify the following issues:

1. The fundamental flaw of accounting education is that while it has tended to remain static, the profession has been changing,

2. The current state of most professional accounting education programmes is inadequate to meet the needs of this expanded profession,

3. Accounting programmes should prepare students to become professional accountants, not to be professional accountants,

4. New entrants into the profession cannot be expected to have the range of knowledge and skills of experienced professional accountants that call for continual learning in order to attain and maintain the status of professional accountants,

5. Pre-entry education should lay the base on which life-long learning can be built and this includes three components: skills, knowledge and professional orientation, and;

6. The call for the teaching and learning strategies to move away from rote learning to one which stresses the development of communicative, intellectual, interpersonal and analytic skills. This calls for the awareness of world affairs, of historical perspectives and of the relationship between a profession and society.

According to Lovell (1992) there are important differences between the situation in the USA and the UK with regards to accounting education, but there are also many shared concerns. He further suggests that accounting educators in the USA want more than new and broader subject areas. There must be a re-orientation of curriculum philosophy, objectives and design. He also argues that accounting educators in the USA and the UK want changes but differ on several key issues. They are:

1. There are differences as to what topics are pertinent to students.

2. Many undergraduate programmes "mirror professional curricula" and focus on the vocational aspects of education rather than the liberal arts.

3. There is a call to move away from didactic teaching methods. Concurrently there are complaints that accounting graduates do not posses sufficient understanding of basic technical matters.

4. If social philosophy, ethics, psychology and educational philosophy are critical for accounting majors, professors of accounting must master the same content.

5. Who is going to pay for the research needed to validate and assess a new curriculum for accounting?

Lovell (1992) lists some of the strengths of the UK accounting education models also favoured by USA accounting educators. They are:

1. The undergraduate accounting programmes are broader with more conceptual underpinnings and exposing students to the broader social issues facing the professionals.

2. Internships are required prior to final professional examinations.

There is an opportunity for the UK to build on existing strengths while increasing coherence and intellectual rigour.

Accounting Education in Malaysia has been criticised for drifting "aimlessly" and for failing to be responsive to economic development (Barjoyai, 1992). The curriculum has been characterised as more a product of America and of the United Kingdom than of Malaysia. In response to this criticism, the curricula have taken "multivariate directions". The importance of sharply focusing the accounting curriculum within the country is stressed in the work by the Association of Accounting Academics (AAA) research group (ibid.). The Malaysian Association of Certified Public Accountants (MACPA) has expressed similar discontent towards existing accounting programmes; the curriculum is irrelevant and does not develop the skills and attitude of students. The MACPA wants the curriculum to be sensitive to change in the overall business environment. The accounting curriculum must be

more than a process of memorisation and narrow rules; it must inculcate analytical and conceptual thinking in the students (Singh and Mohyiddin, 1992).

The Malaysian Cabinet Committee on Training Report issued in 1991 (Economic Planning Unit and Ministry of Education, 1991) made three proposals to improve education and training in Malaysia. The first proposal examined the effectiveness and adequacy of the training provided by the public and private sectors in supplying skilled manpower and responding to market demands. The second sought essential feedback on skills requirement and the effectiveness of training. The third sought to improve the education and training curricula. There is a general consensus on how to review a curriculum. It is:

1. To obtain correct information about current practices from the local industry. Such a process links practice and education.

2. To develop a holistic approach.

3. To incorporate automation and technological changes.

4. To require greater involvement by government.

5. To require active participation from professional bodies and employers.

Malaysian academia, practitioners and the government require more than an update of random aspects of accounting education; a complete re-orientation of accounting education is needed (Singh and Mohyiddin, 1992). Barjoyai suggested a long-term solution that requires "researchers in accounting to conduct a nation-wide study on accounting practices in Malaysia. This would determine the state-of-the art practices in Malaysia and the local economic environment" (Barjoyai, 1992).

Mustaffa's (1996) work provides insights into Accounting degree programmes in 5 Malaysian universities and the professional programmes offered by the CPAs (Chartered Public Accountants). The study identifies programmes that meet the demands of the accounting profession. It analysed the entire structure of the accounting programmes in terms of the contribution towards "nation building". The study concludes that the liberal arts, humanities and sciences develop the foundation for accounting students to understand the rapidly evolving environment. Such an accounting curriculum reflects the ideas of the National Education Philosophy (see appendix A). Accounting education curriculum, development of competences, implementation and evaluation should be part of future studies.

Mohd Salleh and Hamzah (1996) suggest that accounting education in Malaysia requires a re-orientation because of the rapid growth of information technology (IT). IT implications and computer applications should be integrated into the accounting curriculum. Students may search databases, extract and save data, apply data onto a spreadsheet, develop financial models, and produce reports incorporating data transferred from the spreadsheet. Rani and Devi (1996) find promising developments in the Malaysian accountancy practice; accounting educators integrate information technology into the curriculum, but more needs to be done. Increase the level of practical application of computer knowledge and extend computer applications by accounting practitioners are first steps.

Table 1.2 on page 13 names various accounting software packages used by industries. One of the requirements stressed by employers for applicants is computer literacy. In their conclusion, Rani and Devi (1996), suggest future studies identify successful implementation of computers in industries and then study these industries

successful implementation of computers in industries and then study these industries as part of a curriculum review.

In terms of real-world computer implications for the accounting profession, Mohd Salleh and Hamzah (1996), indicate that the roles of an accountant are "multidimensional". The traditional accountant's roles can be seen as controller, treasurer, tax specialist, financial analyst, cost accountant, auditor and mostly as a general accountant. The functions of the accountant are classified by industrial domain. The domains are industry, commerce, public practice, and the public sector. Furthermore, computer use can be categorised as a user of a system, as an evaluator, and as a designer or all three. Therefore accountants need computer knowledge and skills.

The Malaysian Institute of Accountants (MIA) is the national accountancy body of Malaysia and was established under the Accountants Act, 1967. Professional accountants are required to obtain a minimum of 100 Continuous Professional Development (CPD) points annually composed of "structured" and "unstructured" points. It has a significant role in the continuous professional development of members. A study by Keng and Chen (1996) found that CPD programmes since June 1989 until September 1995 were mostly on taxation (19.6%); the least covered topics were costing and management accounting (1.8%). Out of the topics covered on taxation, 30.2% were related to core/basic tax courses and 16.3% were related to "annual budget update". In auditing, 55.6% were categorised as "core/basic audit techniques".

Table 1.2: Occupation and Type of Computer Literacy Required by the Industry (source: Rani and Devi, 1996).

Occupation	Type of Computer Literacy Required
Accountant	Accpac, Spreadsheet, Microsoft Word, Excel, Database & Graphics. Hands on experience also an advantage.
Accounts Executive/Officer	Excel, Well versed in Spreadsheet, Computerised Accounting, Accpac an added advantage
Accounts Assistant/Clerk	Computer Knowledge

The same study (ibid.) concludes that continuous accounting education and training is in a "sad" state. The CPD programmes, and post-qualification programmes, became mandatory for Malaysian accounting professionals in 1992. The study also found that the majority of the respondents were dissatisfied with topics because they were "very basic and not relevant in enhancing professional skills, knowledge and competence"(p.9). Other comments related to the usefulness of the CPD courses were that they were "too basic and general, too theoretical and academic in nature, do not cover current practical issues and are not useful in enhancing professional knowledge and skills"(p.9). The reasons usually given for attending the CPD programmes are to acquire CPD points and meet other members.

Singh and Mohyiddin (1992, pp.5-6) reviewed selected international studies on accounting education. From their review, they concluded:

1. Universities do not attract sufficient number of quality students to pursue the study of accounting,

2. The curriculum has lost its relevance, and;

3. Universities are not developing the skills and attributes of students sufficiently.

In terms of curriculum development, they recommend (ibid.):

1. Integration of the accounting curriculum with general and business education,

2. Improving and developing communication and personal skills, and;

3. Shifting focus from preparing students for professional examinations to producing graduates who are successful as accounting professionals.

To remedy the specific shortcomings, they suggested (ibid.):

1. The ousting of the memorisation of narrow rules and replacing it with analytical and conceptual thinking, including the integration of automation and computerisation,

2. Increasing the link between practice and education,

3. The professional accounting bodies in Malaysia need more involvement in the development and revision of the accounting curricula through appointed "board of advisers", and;

4. There should be "standardised" guidelines (see also Chiang (1992) and Mustaffa (1996)) for all local institutions of higher education offering accounting programmes to follow with regards to the direction and the scope as well as the pedagogical approach adopted by the institutions. This will ensure that the interests of students, the profession and the nation are taken into consideration.

Much of the discussion above relates to the provision of accounting education and training programmes at the bachelor degree and advanced diploma levels offered by the local institutes of higher learning (IHLs) as well as the CPD programmes offered by MIA.

Malaysia needs a coherent and systematic approach to change the accounting programmes. Review of the international literature shows the need to improve accounting education and training in Malaysia. The IHLs, the professional bodies and government agencies must work in concert for such change to occur. The "standard" to develop a coherent and systematic "re-orientation" approach as mentioned by Singh and Mohyiddin (1992) is of primary importance.

Tinkering with the present curriculum of accounting education may prove ill-advised for long-term improvement. A curriculum design with equal emphasis on curriculum development, teaching, learning and assessment is required. In addition, the curriculum designers must develop appropriate assessment strategies and implementation processes. Failure to address any one of these matters may cause unnecessary delay and problems.

1.3 Diploma in Accounting Education and Training Programmes

The establishment of the Malaysian Association of Accounting Administrators (MAAA) recognises the two-tiered nature of the accounting profession in Malaysia. MAAA, previously known as the Malaysian Association of Accounting Technicians (MAAT), was established in 1990 under Section 16(4) of the Companies Act under the sponsorship of the Malaysian Institute of Accountants. The level of education and training that is expected before an individual can be considered for membership in the MAAA is the Diploma in Accounting from University of Technology MARA (UiTM)

(previously known as MARA Institute of Technology), Kolej Ugama Sultan Zainal Abidin (KUSZA) or from any of the Malaysian Polytechnics. In addition to these, other qualifications recognised by the government or deemed by the Council to be equivalent, are considered.

A review of the curriculum of the three institutions by the researcher suggests a "miniature of subject based" curriculum provided at the local IHLs offering bachelor degree programmes. Relatively UiTM is the primary provider of accounting programmes at this level in terms of the number of students graduated. With an established tradition, the institution attracts better-prepared entrants from throughout the nation. KUSZA and the Polytechnics are relatively new with relatively smaller numbers of graduates at the semi-professional level.

The Diploma in Accounting programme was first introduced when United Nations Education, Scientific and Cultural Organisation (UNESCO) established the first polytechnic in 1969. The polytechnic was officially handed over to the Ministry of Education of Malaysia in 1974. By 2001 eleven more polytechnics were established and 8 out of 12 polytechnics offered the Diploma in Accounting programmes (see appendix B for courses offered in the polytechnic).

There are other local quasi-government, local quasi-private, and overseas private organisations and associations involved in providing accounting related studies equivalent to the diploma in level. Other provision is mostly in terms of a certificate in bookkeeping. There are several local institutions that act as the centre

for offering some of these courses while some are conducted as correspondence courses. At the certificate level the London Chamber of Commerce and Institute (LCCI) bookkeeping programmes are the most popular and at the technician level the United Kingdom based Association of Accounting Technicians (AAT) programme is the most popular. .

Global economic and business transactions re-orientate accounting education and training as well. The changes in the global economy and business dealings have drastically changed businesses and more demanding services are expected from the accounting profession. These events demand higher qualities of accountants as well as accounting support staff. Accounting educators and trainers must produce support staff capable of adjusting to the industry. Accounting educators must seriously examine the curriculum, including teaching, learning strategies, and assessment methods. Analysis of the work place is essential to understand needed changes. Desired changes need to be identified. Accounting educators must respond to changing needs as well as anticipating change.

Since the inception of the polytechnics traditional methods have been used to teach accounting. Despite the heavy emphasis on change and relevancy, the status quo remains. To accomplish positive change, a more productive relationship among accounting educators, practitioners, professional bodies and the Ministry of Education is needed.

1.3.1 The Diploma in Accounting Programme at the Polytechnics and the Accounting Support Staff - the Focus

The objective of the Diploma in Accounting programme at the Polytechnics in Malaysia is to familiarise students with (TAVED, undated, p.1):

> "Recording, classifying, summarising, and reporting business transactions systematically and to interpret accounting data for making decisions and to produce students who are equipped with a broad knowledge on commerce"

An interpretation of the specific objective of the programme as stated above would suggest that in addition to preparing students with the necessary accounting knowledge, understanding and skills the Diploma in Accounting programme also needs to develop in students related knowledge, understandings and skills to perform their roles.

The structure of the programme may be grouped into four major areas consisting of Accounting Studies, Business Studies, Commercial English and Religious/Moral Studies (see appendix C). The structure clearly illustrates the breadth intended for accounting students. Moreover the programme was structurally "revamped" in 1987 during a major review. In 1991 the programme was again modified to fit into the new semester system. Other "small" changes have been made in the programme since then. However, these changes reflected the traditional approach and were not intended to help accounting students face the changing demands of the work place.

In an effort to make the programme more "relevant", the Technical Education

Department (TED, see appendix D) introduced the Industry Advisory Committee. Members of the committee were selected from both private and public sectors. The members of the committee identify relevant needs for the Polytechnics of Malaysia Curriculum Committee. Based on information provided, appropriate modifications to the curriculum shall be made.

Accounting support staff, customarily, work as assistants to professional accountants in all the main sectors of accountancy. Graduates are trained to take financial and accounting positions either in industry, commerce, public sector, or public accounting. They are employed customarily as accounting support staff. In all four sectors professionally qualified accountants customarily require support staff. Various job titles closely described the functions performed. Most common titles are accounts clerk, account assistant, financial clerk, assistant auditor, assistant accountant, and financial clerk. As a matter of consistency the term "accounting support staff" refers to those who are holders of Diploma in Accounting and any other equivalent qualifications recognised by the Government of Malaysia.

1.4 Accounting Education and Training: a CBET Perspective

The accounting education and training sector are identified in the literature as one of the earliest to adopt the CBET approach. Ramsay (1993) even suggested that accounting is one of the "technical" disciplines that is appropriate for a CBET approach. This can be accounted in reports by Hardern (1995), Birkett (1992a, 1992b, 1993a, 1993b), Johns (1995), Deppe et al. (1991), Wolf (1994) and Hardy and Deppe (1995) illustrate various efforts to adopt CBET to accounting. All of the above

authors documented initiative to adopt a CBET approach at the Bachelor Degree or the professional accounting education and training programmes. Langley (1995) provides an account of the initiative taken by the Association of Accounting Technicians in the United Kingdom to adopt a competence-based education and training scheme. His account provides an example of an initiative to adopt a CBET approach for accounting support staff training and education programme. IFAC (1999) through its Education Committee published, "An Advisory on Education and Training of Technical Accounting Staff".

The competence-based approach in accounting education received momentum from earlier initiatives taken by various stakeholders in the profession. Accounting professionals and professional bodies demanded change in the preparation of accounting professionals. In addition, economic and social changes require a new breed of accounting professionals. The survival of the profession is dependent upon changes in the curriculum. The call for change includes matriculation and graduation requirements. To meet the demand, research conducted in the USA, Australia, New Zealand and the UK focuses on CBET and accounting education and training programmes.

Most research on accounting education and training usually relates to post-qualification programmes or to pre-qualification university degree programmes. The closest example of the CBET approach in technical accounting is the UK Association of Accounting Technicians (AAT), Education and Training Scheme. The International Federation of Accountants (IFAC), highly regarded by the MIA, produced the International Education Guidelines (IEG) for member countries; IEG number 7 in 1987 and later issued Study 2 in 1999 which is a revision of IEG number

7, specifically deals with education and training of "technical" accounting support staff.

1.5 The Rationale of the Study

A growing gap exists between what accounting practitioners do and what accounting educators teach. Entrants into the profession need a more diverse range of skills than required in the past due to changes, increased automation, and computerisation. Accounting educators need to prepare potential practitioners to master the requisite technical knowledge, procedures, legal aspects, appropriate attitudes, flexibility, adaptability and critical thinking skills (Singh and Mohyiddin, 1992). The traditional practice of developing educational and training programmes, based upon assumed but untested needs of industries, will no longer satisfy the expectations of the profession.

This project investigates and evaluates the polytechnics' Diploma in Accounting as an education and training model. This research establishes a better understanding of the Malaysian accounting support staff working environment. A combination of input from polytechnics' officers and accounting practitioners helps to increase understanding. Curriculum specialists and instructors need to know first-hand the needs and demands of the profession. This research illustrates how educators and practitioners can work together to identify and determine needed competences, standards, and assessment procedures of the profession of accounting.

1.6 The Problem of the Study

The problem of this study was to determine the desired process and outcomes of a diploma in accounting curriculum as perceived by selected representatives of the Technical Education Department and Polytechnic officers, support staff, and employers. The second part of the problem was to determine the viability of competence-based education and training in addressing identified weaknesses in the training of accounting support staff in the polytechnics' Diploma in Accounting programme.

1.7 The Objectives of the Research

The objectives of this research are:

1.7.1 To obtain the opinions and comments of Technical Education Department and polytechnics' officers with regards to the following items:

a. the Diploma in Accounting programme
   i. background information
   ii. objectives
   iii. industrial training component
   iv. changes introduced
   v. future
b. graduates
   i. strengths and weaknesses
   ii. employability

1.7.2 To obtain accounting support staff perceptions and opinions with regards to the importance and time spent on:

a. different activities taken from a list of duties and tasks, and;

b. the importance they attach to particular computer skills and applications.

1.7.3 To obtain employers' perceptions on accounting support staff with regard to the:

a. relative importance of a list of competences and sub-competences,
b. strengths and weaknesses of the existing accounting support staff, and;
c. the environment and demands of the work place.

1.8 The Research Methodology

The nature and content of the research problems determine the research methodology adopted. Postal survey questionnaires and interview schedules are used as data gathering instruments. Two sets of survey questionnaires were administered to two groups of respondents. The questionnaires were sent to accounting support staff and their employers. The accounting support staff was divided into two groups, one consisting of a general group and the other of graduates of the Polytechnic Diploma in Accounting programme. The questionnaires were sent and returned via the postal service.

Interviews were also conducted with a group of accounting practitioners representing the employers. Their responses provide details to accompany the postal

survey questionnaires during analysis and interpretations. Another group of respondents interviewed were heads of commerce departments from the polytechnics.

1.9 The Scope and Limitations of the Study

The project was conducted to improve workforce related programmes at the polytechnics in Malaysia generally and specifically the Diploma in Accounting. The researcher chose the area because he has an accounting background and has taught on the programme for several years. Experience with the subject and the polytechnic education and training system contribute towards a better understanding of the area and the context under study.

The data collecting instruments' development was guided by existing literature and earlier work carried out by other individuals. To ensure that the instruments were developed with the local context in mind, they were piloted using fifth semester students from one of the polytechnics as respondents. The final drafts of the instruments were discussed with the supervisor and as well as with colleagues in the Research Methodology seminar class. Despite the attention given to the technical matters involved, participation by respondents was voluntary in nature.

Data were analysed using the Statistical Package for the Social Sciences (SPSS), and the findings are produced in terms of figures and percentages. Despite the figures displayed which tend to show "exactness" it should be noted that throughout the development of the measuring instruments and during analysis, subjective decisions and choices had to be made. This also applies to the tables tabulating the findings that also contain elements of subjective judgements and

choices. In certain cases in the study reports were prepared based, after efforts were made, on limited responses. Any conclusions derived from the findings should be made with the understanding of these constraints as well as the context of the study.

1.10 Conclusion

Accounting education around the world is experiencing pressure for change. It has been argued that business transactions and activities are becoming more complicated which requires better-trained accounting personnel whether at the professional or semi-professional level. Accounting professionals in the USA, Australasia, Canada and the United Kingdom stressed that accounting education and training programmes must change in order to prepare students for the future roles. There is a need to make changes to the curriculum, teaching and learning process as well as the assessment practice. Industries and professional bodies demand accounting graduates to posses adequate accounting knowledge and skills together with other capabilities necessary for successful professional practice. In addition to developing students' accounting knowledge and skills there are also calls to develop students' communication, intellectual, analytical, interpersonal and problem solving skills as well as creative thinking. There is a suggestion to adopt a view that pre-entry education becomes the basis for a life-long learning process in developing the necessary knowledge, skills and professional orientation.

In Malaysia similar concerns are documented. Accounting education and training provisions in Malaysia need to be examined for their effectiveness and adequacy. There are calls by various parties for education and training curriculum

developers to seek input from industries and professionals in curriculum development. Accounting education and training programmes need to contribute to nation building, integrating information technology, business and general education in the curriculum. Teaching and learning practice need to oust memorisation while focusing on developing students' analytical and conceptual thinking.

This project is conducted in order to study the duties performed by accounting support staff and to identify employers' perspective with regard to graduates' competences. The research method including a survey and interview sessions have been briefly discussed. Research methodological issues are elaborated in Chapter 3 of this study. The scope and limitations of this study are discussed in order to provide the reader with the constraints and context of this study.

CHAPTER 2

THE LITERATURE REVIEW

2.1 Introduction

This chapter introduces the CBET concept and highlights its potential as an alternative to the traditional approach to education and training. In order to achieve this the chapter is divided into ten sections. Section one discusses the background to the concept. Section two clarifies the proper definition of the term. Section three explores the philosophy and epistemology of competence based education. CBET models and their major characteristics are discussed in section four and section five identifies essential competences in accounting practice. A working definition of competence is given in section six. Section seven contains discussion related to accounting education and the CBET approach. Section nine highlights CBET in Malaysia. Section ten introduces ideas to carry CBET forward as an alternative education and training approach.

2.2 Competence-Based Education and Training: The Background to a Concept

The idea of competence-based education has been around in the United States for the past thirty years. The impetus for the movement relates to the strong outcry for "relevancy" and "accountability" in education during the 1960s and 1970s

(Binnion and Thomas, 1978; McKenzie et al., 1985; Lankard, 1995). The movement gained earliest acceptance from the teacher education sector before extending into primary, secondary, and vocational education (Tuxworth, 1989; Bowden, 1997). In 1990 the United States Government, under the Carl D. Perkins Vocational and Applied Technology Act, required every state to develop and implement an accountability programme that identifies core performance standards and measures for secondary and post-secondary vocational programmes (Bunn, 1993). Cook (1999) provides account of CBET initiative in nursing education and training.

Competence based education and training approaches used in the United States vary from state to state and from one employment sector to another. A nation wide framework to evaluate occupational preparation for the current and anticipated workforce was needed because productivity growth in the United States slowed to a crawl (Bunn, 1993). Pressure from business leaders led to a number of investigations such as those conducted by the Secretary's Commission on Achieving Necessary Skills (SCANS), Department of Labour, and the Commission on the Skills of the American Workforce (Marks, 1994). The reports resulted in "competency-based" education and training applied to schools and technical and professional education programmes (Lankard, 1995).

In Australia the Colleges of Technical and Further Education (TAFE) adopted the competence-based training system to create better living standards as envisaged in Dawkins and Holding and Dawkins as cited in Stevenson (1992). Dawkins' report called for the creation of vocational competence, adaptability of skills, and a highly skilled and flexible labour force. The Department of Labour Advisory Committee

established the competence-based training system in Australia (Watson, 1991). Through the National Training Board (NTB) competence standards were developed by industries at national level. The Finn Report called for the inclusion of core skills in the national curriculum and recommended that the skills be stated in competence-based terms (Stevenson, 1992).

In the United Kingdom the concept gained momentum in the early 1980s (Tuxworth, 1989). Oates (1989) explained that the origin of the movement was related to a failure of traditional education programmes to meet the needs of both learners and industry. Students graduating from traditional education programmes could not apply skills and knowledge in the context of work (ibid.). Rapid technological change further emphasised the need for "standards of a new kind" (Jessup, 1990a).

Competence-based education and training uses standards that reflect occupational practice. In the United Kingdom, a committee of practitioners, the Industry Lead Bodies, developed these standards. The resulting standards are then used by industrial training organisations or technical education centres to develop vocational and training curricula, learning programmes, delivery programmes, and assessment procedures (Stanton, 1989). In 1989 Graham Debling of the Training Agency's Standards Methodology Unit described the then current changes in vocational and training as a way to develop standards pertaining to competence and was clearly in accord with the White Paper, Employment of the 1990s (Debling, 1989).

Most early literature on competence-based education addresses competence exclusively in relation to employment performance. Performance is basic for development in vocational education and training (FEU 1984; TAG 3, 1988; Herman and Kenyon, 1987; UDACE, 1989; Fletcher 1991). Because of this exclusive context, a clear conceptual understanding of competence is necessary to develop a model which encompasses the "breadth" of work roles as opposed to restriction within narrow task specifications (Debling, 1989; Mansfield, 1989).

Standards based on the needs of employers have long been an objective in reforming vocational education and training (TAG 1, 1988). Competences identify specific abilities that include skills, knowledge and application related to performance in employment (Stuart, 1990). Competence-related standards must be expressed explicitly and transparently to be easily understood by the learners, employers and lecturers (Debling, 1989).

In traditional vocational education and training, assessment may be biased towards the testing of knowledge (Fletcher, 1991). The new competence-based system must be closely related to achievement and future performance in concrete terms (Mitchell, 1989). Assessment is a part of the learning process as opposed to a measurement of success. In this context assessment has a "diagnosis and target setting" role. It is "diagnostic" when the definition of competent is already met, (and appropriate certification can be awarded) or it may indicate the types of learning experiences required to bring about the "targeted" improvement if the "outcome matching" falls short (Stanton, 1989). The introduction of competence-based vocational education shifts the role of lecturers from teaching to tutoring functions (ibid.). In addition to formal presentation, the lecturer must develop techniques to

work with learners. This demand for more flexible learning requires a coherent strategy for staff development to meet the challenges of any competence-based reform of vocational education (Haffenden and Brown, 1989).

Changes associated with competence-based vocational education cause significant repercussions for further education institutions. These institutions now provide essential intermediate components of an open education and training system (Shackleton, 1991). The requirement for effective implementation of competence-based curricula calls for delivery institutions to reassess organisational aims, structures, processes and resources (Haffenden and Brown, 1989). Mission statements act as the norm for institutional strategic planning (Shackleton, 1989).

The traditional approaches to curriculum development are no longer adequate to accommodate changes required by new models of vocational education. Curriculum development has changed focus from teachers and teaching to learners and achievement. Individual learner achievement is the working strategy for a holistic outcome (Shackleton, 1989). Curriculum development should be led by a broad definition of personal competence and as a process rather than as a state that has (or has not) been attained. This approach prevents the tendency to develop too narrow a skills-based curriculum (Haffenden and Brown, 1989).

Since the establishment of the National Vocational Qualifications (NVQs) framework for Vocational Education and Training sector in 1987 in the U.K., CBET exerts its influence on schools and colleges. In 1992, the General National Vocational

Qualification (GNVQ) was established as were levels 4 and 5 NVQs relating to higher education and the professional sector respectively (Ofsted, 1993).

2.3 Definitions of Competence

According to Short (1984) the use of the terms competence, competent and competency interchangeably has triggered some confusion when those words were introduced in the education and training context. Short (ibid) argues the word competent denotes a person who has competence in some particular realm of thought or actions. However the word competency has been used to mean two different things. Firstly, it may represent specified attributes possessed by someone, and it is a concrete category by which a person can be judged. Secondly, it is a quality or state of being which characterises a person as being competent, able, adequate, or sufficient within such category.

The word competence normally refers to the quality or state of being. Confusion arises when the word competency is coupled with the first connotation and is used interchangeably with the word competence; mastering particular things is not the same as possessing certain qualities (also see Tuxworth, 1989; Ashworth and Saxton, 1990; Hyland, 1994). Confusion also occurs when, as explained by Short (1984; also see Tuxworth 1989), the terms competence and competency are used to equate to performance which has only the first connotation of meaning mentioned above. This happens when the term competence is equated to passing tests without qualitative criteria. Ambiguous terms thwart free and objective inquiry if teachers forget the careful thought processes that pupils acquire, over time, to deserve the

ascription competent. Competence can only be ascribed to someone and not prescribed (Short, 1984).

Researchers Haffenden and Brown (1989) found a vast gap between the use of the term and the "proper" meaning. They grouped responses into five categories as follows:

1. In terms of role competence is viewed in terms of skill development and proficiency or as performance and speed. There are two types of observable role definitions, firstly, they are the ability to operate appropriately and independently within a limited area of skills, undertaking part of the full role, and; secondly, a range of "levels" of worker: craft level, supervisory level, etc., or the performance of a matured adult worker,

2. In terms of criteria competence is viewed in pass-fail terms. It is whether one can or cannot do it.

3. In terms of support competence is viewed in terms of the three levels of support provided. The first level of support is described as when the worker cannot do the work and requires supervision, second level is achieved when the worker can partly do the work and is supervised periodically, and; the third level is described as the worker could do the work unsupervised,

4. In terms of task competence is viewed as the ability to perform work to employer standards for specified tasks; and,

5. In terms of competence the view is more than "can do" statements. The goal is to produce personal competence rather than occupational competence. This view requires the incorporation of learning skills and independently updating skills when the environment changes. It also views competence as can do vs. will do. Competence goes beyond a technical assessment of whether a person is able to carry out a particular task but able to respond and perform in roles as a whole. The role may require the individual to show or teach others, and it is not only limited to supervisors but also expected from all workers. Under the term competence staff is expected to influence change of the skills of the workforce as a whole.

The focal point is the ability to demonstrate skills, knowledge and attitudes required in the work place. The role of education is to achieve meaningful and successful life roles.

2.4 Exploration of CBET Philosophy and Epistemology

Norris's (1991) account of the competence movement during the post-war period identifies traits underpinning the CBET concept. Three different traditions have been attributed to CBET development. Tuxworth (1989) affirms two of these CBET traditions by deriving elements of competence. According to Norris (1991), the first tradition of the CBET approach grew out of the behaviourist tradition. The model identifies the role, duties and tasks required by a competent worker. Behavioural psychology and analytical techniques categorised roles and broke them down to smaller sub-tasks. Detailed specifications developed from job and task

analysis provide precise definitions of competent. Theoretical knowledge and understanding assume a secondary role to performance during assessment (Eraut, 1994). Barnett (1994) highlights the limitation of this tradition in the development of operational competence.

Hyland (1994) notes the influence of Snedden and Proser on American Public School Systems, which favours utilitarian training resulting in individual efficiency in the world of work. Melton (1994) associated CBET to behaviourists' curriculum and instruction tradition propagated by Tyler, Eisner, Popham and Macdonald-Ross. The apex of the behaviourist tradition was when it was adopted by teacher education (Tuxworth, 1989). Stevenson (1992) and Burke (1995) linked the present day "competency movement" to the behavioural objective tradition propagated by Mager. The behaviourist outlook goes back to classical behaviourist such as Pavlov and Skinner who built upon the proponents of the Scientific Efficiency Management Principles such as Bobbit and Charter (Hyland, 1994).

The generic competent tradition, the second identified approach by Norris (Norris, 1991), has strong influence in the Management Development Schemes. It uses psychometric analysis to identify the overarching or enabling qualities (attributes or capabilities) related to excellent job performance. Tuxworth (1989) refers to the qualities as "soft skills", Elkin (1990) differentiated between "micro-competences" and "macro-competences", known as "generic competences" by Jessup (1991). Various terms were used parallel to the term generic competent, for example Hyland (1993) introduces "holistic" competence, Eraut (1994) refers to these competences as "meta-cognition", Cheetham and Chivers (1996) introduce the concept of "meta-

competence", and Winterton et al. (2000) categorise competences as cognitive, personal and functional competence. The generic competence approach however was more concerned with the development of mid-level personnel rather than the novice. Winter (1992) developed programmes for the social care sector using the generic approach.

Barnett (1994) discusses the limitations of "operational competence" and "academic competence" and stresses the importance of "life-world becoming". Barnett considers earlier concepts such as "tacit knowing" by Michael Polanyi, knowing "without a knowing subject" by Popper, "knowledge-in-use" by Schon, "non-propositional knowledge" by Hamlyn and "traditions in knowledge" by Feyerabend when proposing "life world becoming".

The third competence tradition highlighted by Norris (1991) parallels the discussion about the limitation of "academic competence" by Barnett (1994). This cognitive construct of competence resides mainly in the academic setting. This tradition tends to equate "what a person can do with what they are observed to do in a performance context". The relationship between the depth of understanding and long-term performance is also examined (Eraut, 1994).

Later work by CBET proponents' distance themselves from early traditional behaviourists. Hager and Gonczi (1991) explain the benefit of using a holistic approach of CBET model for the profession as, "the competency systems can be applied to the professions if a holistic, non-behaviourist approach to competency standards is accepted". In Britain, Burke (1995) acknowledges similarities between the present competence movement and the earlier "educational objectives" by Smith

and Tyler but does not agree to associate the CBET model of 1990s as progenies of the work by Bobbit and Mager.

2.5 Models of CBET and Their Major Characteristics

In the late 1980s and early 1990s the CBET movement launched a worldwide campaign to implement its tradition. The following accounts provide some of the characteristics of CBET models. It was claimed by Tuxworth (1989) that many of the characteristics of CBET models are found in traditional curricula. The crucial difference is that "these innovations have been grafted on to existing subject based curricula without being committed to stated outcomes in terms of competence, or to ab-initio work in defining the elements of competence" (p.15).

Candy and Harris (1990) delineate the features of CBET after a review of the earlier literature. Their findings are as follows:

1. Pre-specification of individual competences is attained, first.
2. Modularisation of the curriculum, with each component building on the cumulative attainment of the preceding modules,
3. Individualisation of instruction, so that learners are free to progress at their own rate, and;
4. Identification of precise standards of performance achieved and demonstrated by learners before progressing.

Watson (1991) studied three competence-based vocational education models implemented at Holland College, Canada, Northeast Metro Technical College, USA,

and Richmond College of Technical and Further Education, Australia. From this study, the following major characteristics of the approach are listed:

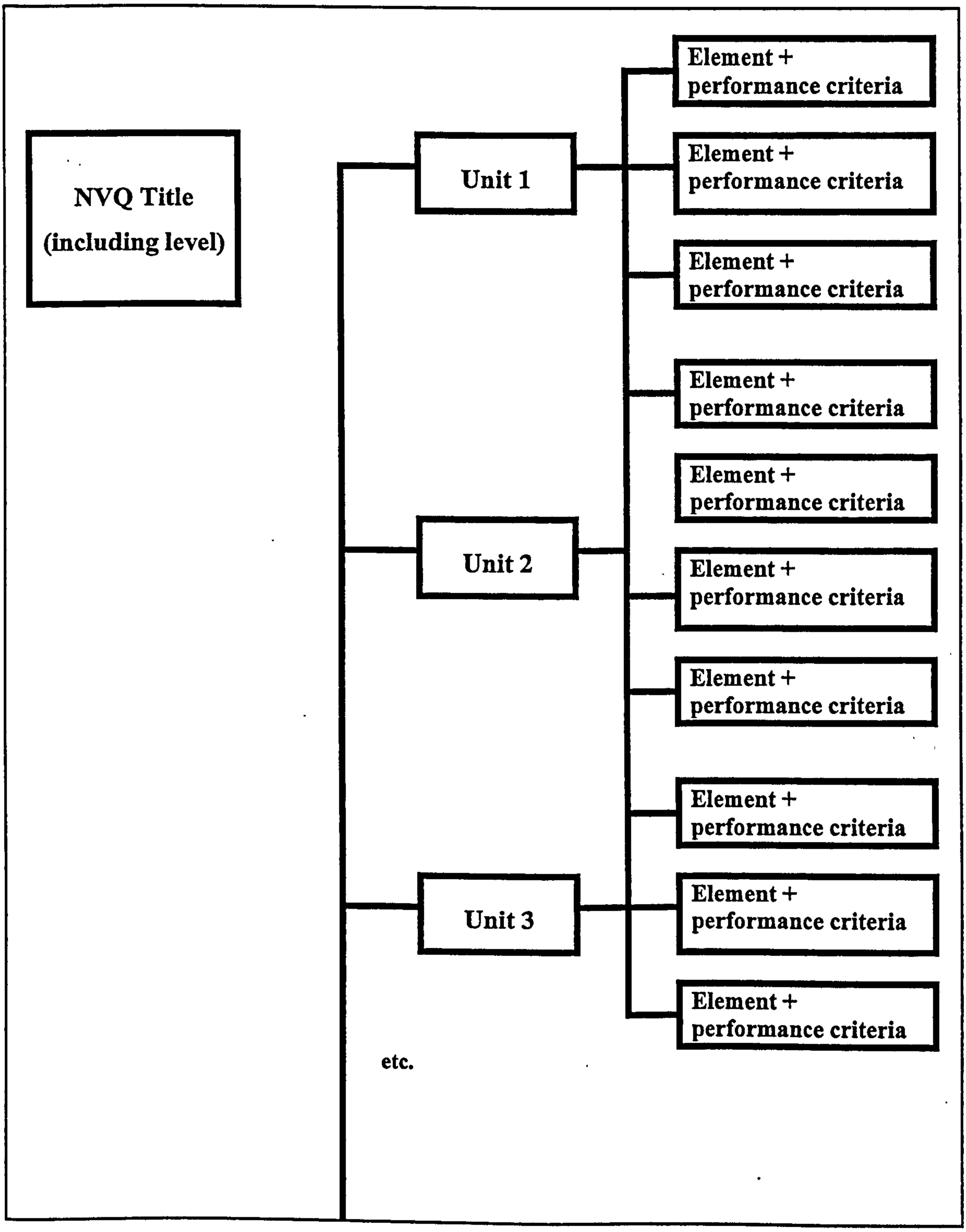
1. Role-relevant competencies that include identified and stated standards,
2. Competencies are specified prior to instruction,
3. Criterion-references measure the achievement of competencies,
4. A system exists for documenting the competencies achieved by each student,
5. Individualised materials and methods are used in instruction,
6. Learning is flexible, and;
7. Learning is guided by feedback.

Figure 2.1 on page 39 refers to the NCVQ model (NCVQ, 1991). The agreed statement of competence in each occupational sphere should be derived from an analysis of functions within the area of competence to which it relates. The "performance criteria" identify the performance necessary for competence and "range statements" express circumstances in which the competence must be applied. It may detail differences in physical location, employment contexts or equipment used.

Various methods developed through the decades identify the competence, standards and criteria for a particular occupational competence model, and are a salient feature of the CBET movement. Various methods also include the DACUM (Developing a Curriculum) approach, introspection process, task analysis, critical incident technique, Delphi technique (Finch and Crunkilton, 1989), function analysis (Mitchell, 1989), and human resource development strategies (Pearn and Kandola, 1988).

Figure 2.1: The NCVQ Competence-Based Model

(source: NCVQ, 1991)



The CBET protagonists use various techniques to help identify the various components of human potential that are crucial to a competent performance. Each claims that his technique is best to achieve desired objectives. Despite the introduction of various techniques this area has been under constant criticism from the antagonists. Most of the methodology has been criticised for being too narrow and too mechanical to handle the complex nature of individuals. It is argued that any education and training programmes that uses such simplistic concepts limits contributions to human development. Some (Hyland 1994; Barnett 1994) have criticised protagonists for focusing on the work and neglecting the human context of the equation.

2.6 Competences Identified as Essential by Accounting Practitioners

Needles, Jr. and Powers (1990) compare 17 accounting education models published by seven organisations from 1970 to 1990. They conclude that little substantive change occurred in the objectives and structure of accounting education programmes despite considerable dissatisfaction. These models emphasise the content of accounting education rather than implement strategies to achieve the desired outcomes.

Criticisms of accounting education have inspired different accounting models and are categorised as follows (ibid.):

1. The criticisms of accounting education have not been directed at the knowledge obtained by accounting

graduates but rather to what the graduates are able to do with the knowledge.

2. The managing partners of the largest public accounting firms focus on "capabilities needed by the profession developed in the educational process" and identify them as communication skills, intellectual skills, and interpersonal skills.

3. The Bedford Committee's recommendation to the American Accounting Association stressed logical reasoning; a capacity for creative thinking and problem solving; an appreciation of ethical standards and conduct; and a facility with the methods of effective communication and interpersonal relations.

4. There is a shift in emphasis in accounting education from the learning process to educational outcomes.

5. The above shift requires accounting faculty to develop their teaching skills, implement new teaching methods, to de-emphasise the procedural complexities, and expand attention to substantive issues. At present accounting classes are dominated by lecture and problem solving discussions.

6. New approaches to teaching will reduce the attention given to the procedural complexities because these can be acquired in practice as the need arises. Less

attention should be given to teaching the content of the Uniform CPA Examination.

7. It is relatively easy to evaluate students' knowledge and ability to do complex computations and analysis, but it is more difficult to evaluate students' communication abilities, comprehension of technology, analytical capabilities and the skills gained through small group activities.

Novin and Pearson (1989), Novin et al. (1991), Bhamornsiri and Guinn (1991), and Deppe et al. (1991) determine the common body of knowledge for related subjects. The difference between their work and that of Needles, Jr. and Guinn is they start with an outward looking scope rather than going back to the same model. They start by highlighting the comments on the 28 recommendations made by the Bedford Committee's report. Many relate to more than just technical accounting knowledge. The outcome of their work is a list of necessary skills and characteristics recommended by the practitioners. They also allocate class time to various areas of study in the accounting programme and reduce instruction time consistent with the strengths and weaknesses of entry-level accountants in public practice. They focus on accounting educators and how they teach accounting subjects. They encourage the integration of knowledge from courses with practice. They also recommend that students be more responsible for their own education.

The work by Novin et al. (1991) identifies the desired knowledge and skills needed in management accounting. In addition to their recommendations for the

inclusion of elective courses to remedy identified weaknesses, they also supported the Certified Management Accountants' call to focus on problem solving and thinking skills. Faculty will have to rethink course designs and activities. Communication skills, writing, listening, verbal, and overall management skills are important skills. In another part of their survey, those skills are identified as the weaknesses observed in entry-level accountants. Their findings also stress future accounting practitioners should understand the microcomputer related software. Responding practitioners indicate willingness to forgo some of the concepts of accounting to make time for the development of computer skills.

Deppe et al. (1991) identify competences needed for successful professional accountants, and the educational processes to acquire these competences. They reviewed the various reports issued by committees appointed to improve accounting education. According to them, the Perspectives documented the changing environment facing the accounting profession that includes advancing technology, proliferating regulations, increasing globalisation, and complexity of transactions. The outcome of their work is a list of competences that are urgently necessary for the successful practice of accounting. Consequently, they call for newly trained accountants to have communication skills, intellectual skills and interpersonal skills. In addition, the job candidate is expected to bring along general knowledge, organisational and business knowledge, accounting and auditing knowledge. The traditional accounting curricula consistently miss these five categories of knowledge needed for successful accounting practice.

Another report that Deppe et al. (1991) referred to was the Bedford Committee Report. According to them the thrust of the report's recommendation transcended the technical subject matter to include the development of analysis, problem solving, communication and synthesis. They also highlight the work by Shoenthal to identify the differences in competences in newly licensed accountants in the United States and Great Britain. The list of competences was developed from literature published in the United States, Great Britain and by the International Federation of Accountants (IFAC). The respondents indicated "lack of competence" to "full competence" using a Likert-type scale.

Novin and Pearson (1989) produced ten skills and ten characteristics important for public accounting practice. The ten skills are thinking, problem solving, listening, writing, reading, speaking, microcomputer, social, management and marketing. Four skills stood out in the survey, and they are thinking skills, problem solving skills, listening skills and writing skills. The ten desired characteristics are common sense, ethics, motivation, professionalism, confidence, appearance, personality, assertiveness, leadership and intelligence. Common sense and ethics are deemed as particularly vital.

Deppe et al. (1991) produced an expanded set of competences. This expanded set is considered more relevant to the modern practice of accounting. The new set of competences are grouped into seven categories consisting of communication skills, information development and distribution skills, decision making skills, knowledge of accounting, auditing and tax, knowledge of business and the environment,

professionalism and leadership development. There are another 27 sub-competences that can be grouped under the above seven categories.

The work by Bhamornsiri and Guinn (1991) views the importance of the various competences for promotion to partners in public accounting firms. Pertinent to this project are five progression capabilities in private practice of accounting. The five capabilities are technical competence, communication skills, interpersonal skills, administrative skills and development of practice. They concluded that the importance ascribed to each skill tends to increase from lower to higher promotion levels suggesting that individuals who become partners are expected to demonstrate progressively higher levels of competence in all of these skills. Technical skills can be regarded as "fully" developed before a staff reaches the manager level position.

In addition to the technical accounting, auditing and tax skills and knowledge, there are various other essential competences. Some are personal, interpersonal, context skills and knowledge. Accounting educators need strategies to develop these competences in students. How these competences can be developed through accounting education and training programmes with time and resource constraints is the main challenge. General statements of competences need to be translated into practical pedagogical format and practices and help accounting lecturers apply them. In this respect the discussion continues with an analysis of the latest developments in accounting programme models to develop needed competences.

2.7 Accounting Education and The CBET Approach

There are several competence-based accounting education and training programmes available. Hardern (1995) models Boyatzi's conception of competence through two approaches. The first focus determines personal attributes (e.g. communication, analytical and social skills) associated with a competent accountant. The second approach identifies procedures to achieve a complete profile of a competent accountant; "what the person should be able to do"(p.17). Other Competence-based accounting education and training models can be found in Birkett (1992a, 1992b, 1993a, 1993b), Brown and McCartney (1995), Johns (1995), and Hardy and Deppe (1995). All these deal with accounting education and training at the bachelor degree programme. However a few issues are related to the semi-professional accounting education and training programmes.

A more relevant discussion can be found in Langley (1995) who describes the renewal of the Education and Training Scheme for the United Kingdom Association of Accounting Technicians (AAT). This AAT's education and training scheme has been described as a competence-based approach. Even though the AAT addresses itself as a "professional" association, responsibilities of its graduates represent the work of accounting support staff. They exhibit a high degree of similarities with the responsibilities assumed by other non-professional accounting programmes graduates.

The renewal process undertaken by AAT sought to secure confidence in the assessment process whilst ensuring that the skills and understandings assessed are

vocationally relevant. Before the renewal process, AAT determined that the current education scheme:

1. Was founded on a traditional approach to professional accounting education rather than on any analysis of technician work,
2. Provided unreliable evidence of specific competence since the overall passing marks of 40% for a combination of "broad" syllabus, and;
3. Neglected the importance of computerised accounting.

AAT found support for change in the technical and vocational sectors introduced by the NCVQ and advocated use of the competence-based approach. The Industry Lead Group from the Accounting sector started the competence-based programme by developing the required standard. Consultation sessions with employers, professional bodies and accounting staff determined employment-led standards. Further consultations with employers and colleges developed standards to be merged in the new education and training scheme. During the development process, two main concerns were identified. The first was related to the position of knowledge and understanding as well as other "tacit" personal and contextual matters to be stated in the competence statements. Competence statements should explicitly identify knowledge and understanding critical to performance. The second concern is related to qualities incompatible with "judging performance only" assessment.

To address the problems identified above, the AAT introduced validity, reliability and practicality in developing assessment procedures. Clear statements of needed abilities and skills provide clear evidence of validity. Consistency ensures

reliability of the assessment. Cost-effectiveness was also considered in assessment procedures. To maintain a highly valid, reliable and practical assessment practice, the AAT produced criteria for assessment. The criteria included:

1. The knowledge and understanding required to underpin competent performance, and;
2. The extent to which the assessment could be carried out in the work place.

AAT identified several factors that may limit assessment in the work place:

1. Many of the students would not have access to some of the functions on which standard tasks were based, and this would apply especially at the later stages when competences involved less routine matters, and;
2. The difficulty in assessing ability to respond to new situations and understanding contextual matters.

The AAT concluded work place assessment can have a high degree of validity but the range may not be adequately reliable or practical. This is because the sole method of providing evidence of competence is not adequate. "Devolved assessments" and "central assessment" are required. According to the AAT, devolved assessment requires evidence to carry out practical tasks as defined by the standards. The central assessment was deemed appropriate because it assesses underpinning knowledge and understanding, the interrelationship of separate competences and

aspects such as transferability to new contexts. Central assessments confirm ability to carry out basic practical processes.

Accounts provided by Langley (1995) demonstrate that the AAT education and training scheme exhibits characteristics of CBET models. The major departure from the earlier CBET model is that AAT recognised the importance of underpinning knowledge and assessment in the teaching and learning processes. It also acknowledged the limitation of "observable" performance procedures by introducing additional assessment principles and procedures. The introduction of central assessment demonstrated innovations and creativity required by colleges and examining bodies. In addition to adopting the teaching and learning practice, definitive statement of abilities and knowledge not found in traditional syllabuses are required. The importance of understanding "why" as well as "how" is a major determinant in designing assessment instruments. In the early stages, concerns were frequently voiced but were increasingly recognised and accepted as problems (Langley, 1995).

2.8 CBET in Malaysia

The Cabinet Committee Report on Training (Economic Planning Unit and Ministry of Education, 1991) contained three major recommendations. The report suggested the need to review constantly the courses and the curriculum according to labour market needs. The second recommendation by the committee is for a total competency-based technical/vocational education approach to be used to develop the

curricula. The report also suggested involving the private sector in the planning and development of courses and curriculum.

In response to such recommendations, the country saw a new approach to the design of training under the auspices of the Ministry of Human Resource in December 1992. The basic thrust of the change is to reinforce the adoption of competency-based education/learning (CBE/L) in the development of the National Occupational Skill Standards (NOSS) (Leong, 1995). Two major challenges identified were:

1. To adopt a model of CBE/L most appropriate for the Malaysian context, and;

2. To develop the requisite support systems for the CBE/L to be fully operationalised.

As the main training agency in Malaysia, NVTC undertook an extensive programme of staff training and development in collaboration with Humber College in Canada and Ohio State University in the United States. The outcome was the adoption of an adapted model of the CBE/L propagated by Humber College for training in Malaysia (see appendix E). To ensure that the newly introduced systems had the requisite support, the Designing/Developing a Curriculum (DACUM) approach in the process of developing NOSS, competency-based learning guides and modules was adopted (Leong, 1995). The national skill testing and certification programme had to be made compatible with the principles of the CBE/L. Following recommendations made by a special task force, the new "Accreditation System" was introduced in 1993 (ibid.).

The NVTC became the sole "Awarding Body" for accrediting organisations. It established occupational skill testing centres to award the Malaysian Skill Certificates. The assessment and verification of skills complied with the requirements of NOSS approved by the NVTC (ibid.).

According to Leong (1995) DACUM is based on the following premises:

1. Involving people in industries and maintaining a strong link with the relevant industries,

2. The standards developed were more rigorous and comprehensive in its contents, particularly for instructional design and development and for assessment and certification purposes, and;

3. Reduced NOSS development time to only 5 months as compared to a longer time period taken in the previous process.

NOSS was developed in two stages. During the first stage, "job analysis" identified components and skills associated. The outcome was a DACUM chart outlining the duties of each occupation along one side and individual tasks needed to accomplish each. The second stage is "task analysis" whereby all the tasks are analysed further to determine terminal performance objectives, procedural sub-tasks, enabling requirements, and safety issues, as well as tools, equipment and materials required for the specific task (ibid.).

A complete set of NOSS will consist of (ibid.):

1. Occupational title and definition based on the Malaysian Dictionary of Occupational Classification, and the International Labour Organisation, International Standard Classification of Occupation,

2. Job duties (8 to 12 duties) and tasks (6 to 30 tasks for each duty) that are outlined in the form of DACUM charts, and;

4. Task profiles that specify the performance objectives and standards expected by the world of work.

Also in response to the CCRT recommendation to improve public training institutes, TED is considering the Canadian, Humber Community College DACUM strategy and incorporated industry in curriculum development (Ahmad, 1991 as cited in Khair, 1997).

Despite the proposed action by the Cabinet Committee for the public technical and vocational education, the country witnessed a dramatic reversal and TED refocused its priorities. In 1992 in the effort to rewrite the TED agenda, the director of TED stated TVE would have its main focus in building cognitive ability. Less emphasis was placed on narrow hands-on skill components. This dramatic change was an attempt to adjust to Malaysia's industrialisation programme that requires a different level of work force. The workers are expected to be flexible and mentally competent to change with technological requirements and should be easily retrained (ibid.).

2.9 CBET: The Way Forward

The required steps are not simple and clear. What is required is a long-term solution that benefits all the parties involved. The initial step is to acknowledge there is no "one" solution. Decisions, choices, concession, and compromise need to be made to "satisfy" all the competing pressures. To minimise the negative impact in terms of the potential development of the learner is the highest priority. The literature is replete with "polarised" arguments and counter arguments. Some of the authors' ideas and hypotheses should be understood.

Barnett (1994) had no problem with the term "competence" but was concerned with its use. Short (1984) agreed contributors made an important contribution from an "illuminating" discussion of the nature of the term. He stressed that the term is normative bound by the context. Alternative models begin with a broader definition of "competence". Barnett (1994) citing Jurgen Habermas, stressed, "life-world becoming" competence. They argue that the life is greater than corporate and academic competence. The following paragraphs mention some of the salient features of the model (see also Table 2.1 on page 56 and Table 2.2 on page 57).

The life-world competent concept is not only about "know how" and "know that" but strives for "reflective knowing". It is more sensitive than the other two concepts because it embraces knowing and enquiry. The other two concepts are interested in limited knowledge by definition. The life-world accepts knowing as partial and seeks more. All forms of knowledge are acceptable and none given special status. The model operates in open-ended situations as opposed to pragmatic definitions or definitional constraints. Both types of competences should be used

along with aesthetic sensitivities, collective will-formation, action-based understanding and value choices. Dialogue and argument are the focus to this model and must undergo constant renewal (ibid.).

In terms of transferability, the model assumes that the underlying question is less operational skills (as with meta-operation) and more a state of mind. Transferability involves one of comparing, contrasting, exchanging, reviewing and experimenting across the manifold domains of one's own human projects. It is not strictly a notion of the individual but involves collaborating with others. In addition "meta-critique" is an internal dialogue that is explained as a continuing and parallel array of consultancy reports and self-commissioned. The model also proposes "meta-learning" as opposed to experiential learning. Individuals continuously renew their cognitive state through learning and critical examination. Table 2.1 on page 56 depicts searching collaboratively for wisdom. This model calls for "better argumental dialogical communication". In relation to teaching and learning situations this concept encourages everyone to communicate as well as learn from each other (ibid.).

In Figure 2.2 on page 60, Hodkinson (1992) proposes an "interactive" model of competence based on work by Mead. This model introduces culture, history and interactions with others and the concept of learning. Learning is the "use and development of schemas" and is an interaction between the learner and the learned. A schema is a mental representation of a set of related categories. New encounters require a "repertoire of schemas to make sense of it". The process of learning is a dialectical process where our beliefs and existing understanding described as schemas

Table 2.1: Beyond Competence

(source: Barnett, 1994)

		Operational Competence	Academic Competence	Life-world becoming
1.	**Epistemology**	Know how	Know that	Reflective knowing
2.	**Situations**	Defined pragmatically	Defined by intellectual field	Open definition (with use of multiple approaches
3.	**Focus**	Outcomes	Propositions	Dialogue and argument as such
4.	**Transferability**	Metaoperations	Metacognition	Metacritique
5.	**Learning**	Experiential	Propositional	Metalearning
6.	**Communication**	Strategic	Disciplinary	Dialogical
7.	**Evaluation**	Economic	Truthfulness	Consensus
8.	**Value Orientation**	Economic Survival	Relative strength of discipline	The "common good" (defined consensually)
9.	**Boundary conditions**	Organisation norms	Norms of intellectual field	Practicalities of discourse
10.	**Critique**	For better practical effectiveness	For better cognitive understanding	For better practical understanding

Table 2.2: Experience Encourage for Students

(source: Barnett, 1994)

1. Systematic reflection on one's own actions (action being interpreted to include one's own thinking),
2. Reinterpretations of the presenting "situations'; a curriculum in not a set of impositions on the student but is a set of possibilities and practical hopes in part framed by the student,
3. Genuinely open dialogue, with the student being encouraged to develop his or her dialogical competence,
4. Adherence to the rules of rational discourse, yet a mutual recognition that the rules are conventions and themselves should be interrogated from time to time,
5. A willingness to develop arguments for the appraisal of the other participants on the course,
6. An openness to possible forms of analysis, perspective and arguments, a determination not to be hedged in by any particular "method" but to embrace every possible perspective and approach,
7. The development and potentially continuous expression of a sceptical outlook,
8. Attention (by the students) to and maintenance of the character of the dialogue, being sensitive to the claims of others who wish to enter the dialogue and encouraging them to do so,
9. A continuing reappraisal of one's own learning (aided by peer interaction),
10. Testing the implications of and (where appropriate) the validity of the arguments in pragmatic situations, where tests of validity include ethical evaluations, and;
11. Exploring the implications for our social, political, economic and other institutions of the arguments held to have (some) validity.

filters experience and the schemas themselves are changed through contact with new experiences (ibid.).

As shown in Figure 2.2, competence is one of three closely related components. Perception, role, and situation determine competence. A change in performance requires change in schema that requires the involvement of a complex intellectual process. Changing any of the components changes others in unpredictable ways. The three components are intimately related to culture and context.

Developing competence is an intellectual process that may change the way the world is viewed. Underlying the model, referring to Schon, is how professionals deal with new situations. This involves previous experiences. "Intelligent practice" is adopted from an earlier work by Ryle and stresses the ability to learn from one performance, so that the next performance will be different, rather than a replication (ibid.).

Hodkinson's model requires a mixture of context specific knowledge, skills with generalised abilities, and strategies to tackle the unknown (Hodkinson, 1992). Under this model teaching and learning are not taken for granted but are central to the development of intelligent practice. Teaching and learning are seen as consisting of a mixture of academic styles of learning and the innovations. It is accompanied by tutorials giving insights into learners' understanding and ability to theorise. As a reminder Hodkinson (1992) states this model is not a "panacea" but part of the learning and assessment process.

Hyland (1994) introduces two alternatives of CBET models. The first model is proposed by Eraut with incremental and career-long development focuses of knowledge and skills. The five incremental stages of occupational development are: novice, advanced beginner, competent, proficient and advanced. The first is used in nurse education and police officers training. This notion of stage is associated with "generic competence" described by Norris (1991). The competence approach favours empirical investigations to establish competences, which discriminate between average and expert performers. According to Eraut (1995), this model is used more as a focus on mid-career professionals than trainers and more on selection than training.

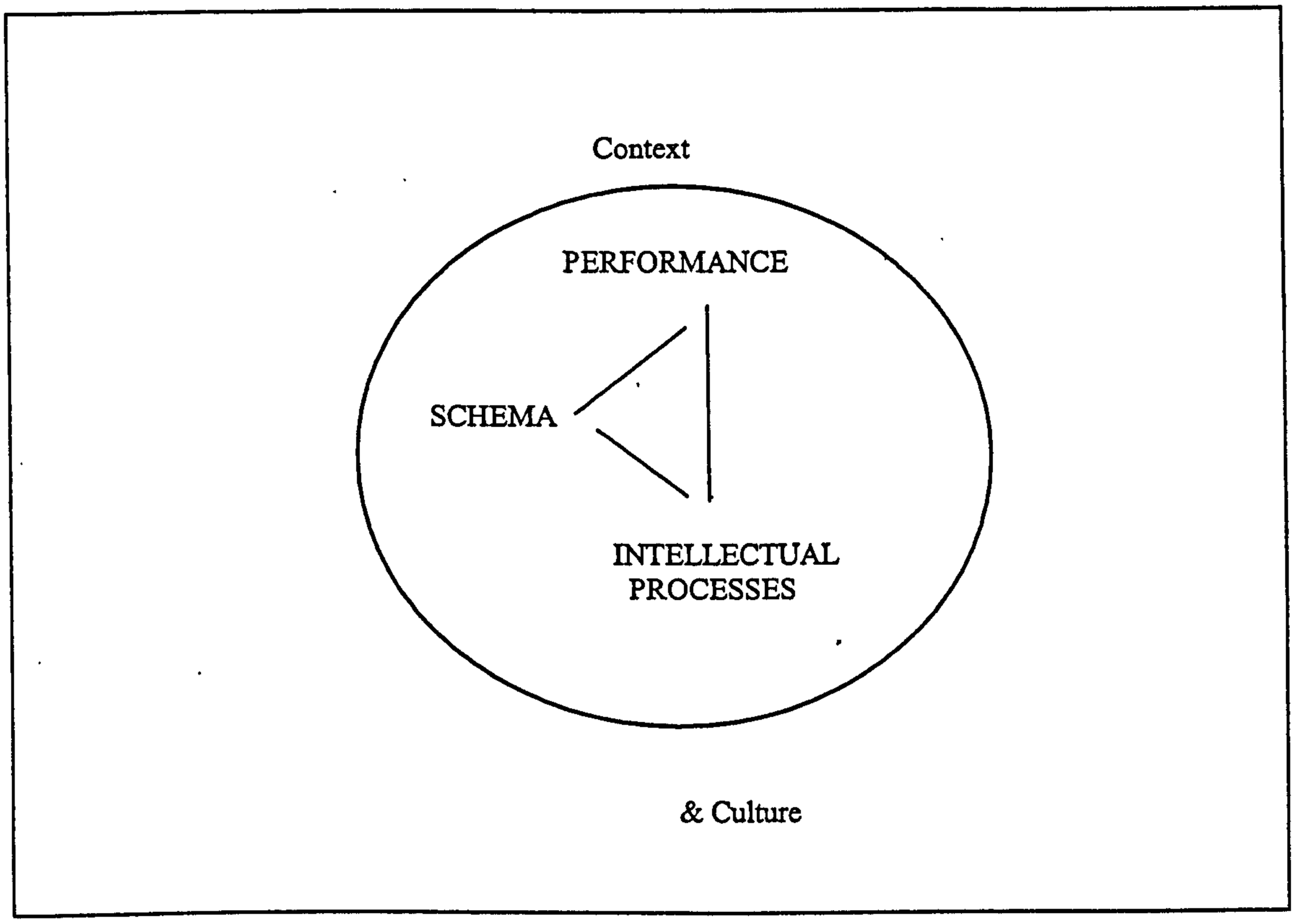
Next is the "experiential" model of professional development that is associated with Argyris and Schon (Hyland, 1994). This is similar to a model by Hodkinson. This work draws on the concept of developing "expertise". Hyland (1994) cited from an earlier work by Chi et al. that listed characteristics of "expert" professionals:

1. Have a considerable amount of domain-specific knowledge,
2. Perceive meaningful patterns in their professional activity,
3. Faster and more economical in judgement and decision-making than novices, and;
5. Have strong self-monitoring skills.

This model has a strong underpinning of professional principles and practices and acknowledges the importance of using a wide range of assessment techniques. According to Hyland (1994), the model has been applied by Challis et al. for an undergraduate medical training course; Winter (1992) in social workplaces emphasis

Figure 2.2: An Interactive Model of Competence

(source: Hodkinson, 1992)



on "critical thinking" as well as "core assessment criteria" emphasising knowledge, principles and values of professionals. Wood and Power (1987) encourage use of "elaborative procedures" to probe the knowledge structure and cognitive strategies of children, novices and experts.

Eraut (1989) at the University of Sussex locates various stages and components of education and training experiences for the student teachers. The framework illustrates education as the continuous professional development of the student teachers. In the first part he introduces a three dimensional Model of Job Performance consisting of the performance domain, activities during a performance period and developing a knowledge base. In the second part he adopts Dreyfus and Dreyfus' work that indicate readiness to go from initial education and to training in the work place. The term "qualifying line" indicates skill acquisition and development is an incremental process, and the learner continues to develop skills until an expert. Concurrently new roles and skills are added.

van Loon (1998) provides an account of introducing a CBET in general education in Australia. Williams and Tay (1999) discuss a CBET approach to polytechnic in Singapore. WHO (2001) contains European Strategy for Nursing and Midwifery Education adopting CBET. Lachiver et al. (2001) highlight effort to implementing competency-based curriculum in electrical and computer engineering education in Canada. Earnest and de Melo, S.J. (2001) describe the salient features of a CBET engineering curricula in Indian Polytechnics. Gonczi (2000) provides a review of international research on CBET.

2.10 The Notion of CBET - A Working Definition

Most recent literature on competence-based education addresses employment performance. This forms the basis for current development in vocational education and training (FEU 1984, TAG 3, 1988, Herman and Kenyon, 1987, UDACE, 1989, Fletcher 1991). Because of this exclusive context, a clear conceptual understanding of competence is necessary to develop a model which encompasses the "breadth" of work roles as opposed to restriction within narrow task specifications (Debling, 1989, Mansfield, 1989).

It is clear that the Technical Vocational Education (TVE, now Technical Education Department, TED) in Malaysia is not about developing specific narrow job related skills. According to Khair (1997, p.211) the position taken by TED in the face of uncertainties is to set the focus "towards the strengthening of mind and building cognitive ability".

The statement above suggests that employers in Malaysia emphasise all-round proficiency rather than mere technical qualifications. In terms of the competences that should be emphasised, he cites Lee and Singh who state that "many occupations do call for certain occupation-specific competence, (but) emphasis must be placed on the ability to think and to solve problems". "Social and learning competencies should be emphasised in addition to technical competencies" (ibid., p.209).

In the 1990s TED made clear the priority of achieving greater economic and human resource development. Despite the heavy emphasis on producing "skilled"

workers by the Cabinet Committee on Training (Economic Planning Unit and Ministry of Education, 1991), TED believes that it has a long-term human resource development role. Subsequent papers by Abdullah clarifying TED's vision and role are cited by Khair (1997, p.203) with the following comments,

> "For several years, the function of the Ministry is to provide education first; hence the name of the division that oversee TVE is Technical and Vocational Education. The word training is not included for it is felt that other agencies and private sectors best provide the training component. In order to balance these demands, TVE will have its main focus in the future towards the strengthening of the mind and building cognitive ability, giving less emphasis on the narrow hands-on skill components. This is to adjust to Malaysia's industrialisation programme which is moving towards high order skill and precision industries which requires a different level of work force who must be flexible and mentally competent to change with technological requirements and can be retrained easily".

The statement clearly refers to secondary vocational systems and engineering courses as well as technical and vocational programmes. The mission is no longer one of developing narrow job skills but should include the "strengthening of mind and building of the cognitive ability", as well as flexibility and adaptability in the employment market.

In terms of the educational goals, the issues facing the curriculum developers at TED is to determine, as discussed by Khair (1997), "how" best to identify various subjects necessary for inclusion and "what" should be emphasised. He stressed the option between the "expected and the feasible". Another issue faced by TED is how to appropriately translate the "buzz" words, communication and language skills, problem-solving skills, creativity and initiative, into concrete and practical terms.

There are wide-ranging interpretations of these words and they are difficult to translate into educational and training practices. However these are the words that are used by employers to express their "measure of skills - the competence" required for future employment (ibid.).

What is shown by the discussion above is a tremendous challenge to curriculum developers. This requires them to identify and employ a systematic approach that can work satisfactorily in delivering a TVE system within the Malaysian political, economic and social context. The problem is to find a balance between achieving the educational mission and fulfilling employers' expectations. The meaning of the term "competence" will determine the outlook and the characteristics of the actions taken. At this juncture it is appropriate to discuss "competence" and its implications for education and training.

The focus of this project includes skills, knowledge, understanding and performance in the work place. Also included is "generic", "macro", "soft", "meta", "high-order" or "life-world" competence used in the literature related to CBET. In terms of CBET, the project reflects the education and training systems and is associated with the broadest meaning of the term. The focus is on the whole person and life in general. Thus the polytechnics' curriculum should be technically related to employment and to developing the youth of Malaysia. The broad usage of the term must realistically reflect the limited time to prepare students. This requires a life-long learning initiative for students. The education and training offered by polytechnics should be looked upon as a continuum from formal education to beyond their studies

at the polytechnics. Employers as well as professional boards must understand this process. With this understanding it is possible to achieve the benefit of CBET.

Thus the first step is to determine how individuals in the accounting environment view these skills, knowledge and attributes. Educators studying CBET as an alternative must be careful not to be trapped by adopting too narrow a definition. Accounting practitioners in Malaysia can give direction on how to improve accounting programmes. The outcome may determine whether CBET should be introduced in the polytechnics in Malaysia.

2.11 A CBET Diploma in Accounting Approach in the Polytechnics of Malaysia – A Theoretical Framework

This study proposes a framework for a CBET approach to the Diploma in Accounting programme in the polytechnics of Malaysia based on the literature review. First, the premise underlying the framework that the Diploma in Accounting programme should be based on the duties and task performed by its graduates. A large body of literature shows that accounting educators need to develop accounting curriculum based on genuine work place activities in order to make the programme relevant. Second, the Diploma in Accounting programme should integrate the development of accounting knowledge and skills and extended competences across the curriculum during the teaching and learning process. The literature review indicates that accounting professionals expect accounting programmes to develop these competences in their programmes. The contribution of this study is that it specifies the components accounting educators in Malaysia can employ to develop an

appropriate CBET Diploma in Accounting programme. Specifically, each component requires input that reflects the perceptions of the various individuals. Further, extended competences involving complex sub-competences require accounting educators to explicitly identify them in the curriculum document.

This study hopes to contribute to accounting educators theoretical knowledge and understanding by integrating the various input into an interrelated framework. The findings would contribute in developing relevant Diploma in Accounting programme and effective teaching and learning practices for accounting educators in the polytechnics of Malaysia.

2.12 Conclusion

This chapter provides an account of the extent of CBET development and applications. Understanding of the nature, applications and implications of CBET is an essential to implementation in Malaysia. To assist in developing an approach appropriate for the Diploma in Accounting programme in the polytechnics of Malaysia, literature review, data on accounting practice in Malaysia and the existing Diploma in Accounting programme must be integrated. An integrated model that ties together a range of theoretical frameworks that underpin this study is proposed. This will be discussed in the following chapters.

The rest of this study is organised as follows. Chapter 3 elaborates on the method used to gather input from three different groups of respondents, Chapter 4 analyse data obtained from interview sessions with TED personnel, Chapter 5

identifies duties and tasks performed by accounting support staff, Chapter 6 explores employers' perceptions with regard to an extended list of competences and Chapter 7 provides the discussions, conclusions and recommendations.

CHAPTER 3

RESEARCH METHOD

3.1 Introduction

The objectives and content of the problem in this research determine the appropriate research method. Cohen and Manion (1994) describe research method as the various approaches adopted in educational research to gather data that can be used to make inference and interpretation, for explanation and prediction. According to Robson (1993) the appropriateness of a method depends on the nature of the problem to be investigated. In this project data were collected to understand employers' needs, demands, and expectations and identify "gaps" between employers' needs and existing accounting programmes. These "gaps" have directed this research. This chapter consisting of seven sections explains the methods and procedures used in this research in order to achieve the intended results. Section 3.1 is the introduction. Section 3.2 conceptualises and provides the objectives of the fieldwork. Section 3.3 discusses the development of the data gathering instruments. It is divided into five sub-sections with each section explaining the rationale for developing a separate set of instruments. Section 3.4 describes the respondents. This section discusses the characteristics of focus groups as respondents. Section 3.5 highlights three main criteria for developing the scales used in the project. Section 3.6 is divided into five sub-sections. Each section provides rationale related to data analysis and tabulations of results. Section 3.7 discusses validity and reliability issues.

3.2 The Field-Work – Conceptualisation

This research project adopts a descriptive approach. Gay (1996, p.248) defines descriptive research as, "... the collection of data in order to test hypotheses or to answer questions concerning the current status of the subject of the study". Descriptive research is used when a researcher is concerned with the assessment of attitudes, opinions, demographic information, conditions and procedures (ibid.). Descriptive research can be used to "look at individuals, groups, institutions, methods and materials in order to describe, compare, contrast, classify, analyse and interpret the entities and the events that constitute their various fields of enquiry" (Cohen and Manion, 1994, p.67). In this research the researcher intends to determine the process and outcomes of the Malaysian Polytechnics' Diploma in Accounting programme as perceived by selected representatives of the Malaysian TED personnel. This research also determines to report about accounting support staff duties and tasks in order to develop Malaysian accounting support staff work profile. Another objective of the research is to solicit perceptions of selected representatives of employers with regard to accounting support staff competences.

Gay (1996) distinguishes types of descriptive research according to how data are collected whether through self-report or observation. Survey research, developmental research, follow-up and sociometric studies were regarded as self-report research. Questionnaires and interviews were regarded as the two methods of data collection under survey research. In this study a self-report survey approach was adopted employing postal questionnaires and interviews to gather data from subjects of this study.

The survey methodology is adopted since it is well suited to descriptive studies and in studies to explore aspects of a situation (Robson, 1994). This method can help to develop profiles and generate statistics of a chosen sample that may be generalized to the population. Martella et al. (1999) suggest that mailed surveys are appropriate when sampling large numbers of individuals dispersed over a large geographical area. Survey yields data that are easily collected, managed and analysed (ibid.). Gay (1996) suggests that surveys can be used to obtain a variety of information such as attitudes, opinions, characteristics, and demographic information cheaply and quickly.

According to Gay (1996) one of the limitations of a survey is that it does not permit the researcher to ask follow up questions or to clarify ambiguities of quantified data tabulated from the surveys. To obviate these problems, structured focus interviews were scheduled. The focus interviews were conducted with individuals sharing a common experience or position (ibid.). In this research interviews were conducted involving predetermined groups of respondents. Scheduled focus interviews were necessary in this research in order to clarify and to support findings from postal questionnaires administered. According to Schloss and Smith (1999) in depth interviews are useful in obtaining large amounts of information quickly. McBurney (1998) encouraged face-to-face interviews because it establishes rapport between interviewer and interviewee. Face-to-face interviews provide opportunities for interviewers to probe for more complete answers. Graziano and Raulin (2000) recommended, even when using a survey instrument, to follow up with a standardised set of questions and a standardized method of recording the answers. To facilitate the development of the survey instrument as well as the standardised questions for the

focus interviews, the problem of the study was analysed and divided into items based on specific research objectives.

The objectives for the fieldwork which were derived from the objectives of the research are:

1. To obtain data on the selected operations of the Diploma in Accounting programme in the Polytechnics of Malaysia in terms of programme and graduates,

2. To establish a work profile of assistants to accountants working in accounting, auditing, taxation, or finance in the private and public sector, and;

3. To obtain descriptors from accounting practitioners of attributes of successful assistants to accountants.

Thus the data from the postal questionnaires collected from Malaysian Polytechnics' Heads of Departments, TED personnel, practitioners and employers were tabulated. In addition interview data collected employing focus interviews involving employers' representatives were analysed and interpreted. These two processes yielded the information necessary to fulfil the objectives of the fieldwork. The end results were three data bases: (1) The first data base depicts the present and future operations of the Diploma in Accounting programme; (2) The second data base shows the collective perceptions of assistants to accountants work in accounting, auditing, or taxation in the private and public sector, and; (3) The third database compiles attributes of successful accounting practitioners as perceived by accounting practitioners.

Individual perceptions may not determine duties and tasks performed by accounting support staff nor change accounting education and training programmes. But if a group of respondents consistently identify a specific weakness, it is difficult for a programme to ignore such concerns. Such data may help accounting educators change the structure, content, teaching, learning, and assessment approaches used.

3.3 Developing the Data Gathering Instruments

Fraenkel and Wallen (2000) describe four modes of data collection in a survey research as follows:

i. by administering the survey instrument live to a group
ii. by mail,
iii. by telephone, and;
iv. by face-to-face interviews.

Direct administration of data gathering instrument live to respondents is appropriate if the researcher has access to all of the respondents at the same time in a same place (ibid.). According to Robson (1994) postal or telephone survey is appropriate if respondents are dispersed over a geographical area. Gay (1996) encourages face-to-face interviews if in-depth data is required. Two categories of data gathering instruments used in this research are postal questionnaires and face-to-face interviews. Postal questionnaires enable the researcher to reach respondents scattered in several parts of Malaysia while focused interviews were conducted involving a predetermined groups of Malaysian Polytechnics' Heads of Department, TED personnel and employers' representatives. The advantage of postal questionnaires is that it is inexpensive and it permits the researcher to have access to respondents that might be

hard to reach in person or by telephone. However disadvantages of mail surveys are that there is less opportunity to encourage the co-operation of the respondents and thus there is a tendency to produce low response rates (Fraenkel and Wallen, 2000).

3.3.1 Survey Questionnaires Development

Two sets of questionnaires were developed and administered (see appendix H and I for copies of the questionnaires). They were specifically developed for different groups of selected respondents. The groups are:

1. Assistants to the accountants in the Accounting, Auditing, Taxation or Finance Departments, and;
2. Supervisors (or their equivalent) in the Accounting, Auditing, Taxation or Finance Departments,

Guided by the original objectives and assisted by the initial literature review, several key questions were developed to determine the work profile of accounting support staff and the expectations of employers on them. The questions identified critical areas and gave direction to the actual questionnaire and interview schedules development. In order to determine accounting support staff work profile a set of key questions developed were distributed to sixty fifth semester accounting students in industrial training. The set of key questions requested information about the duties and tasks performed by accounting support staff in their organisations. Together with the set of questions sent to the sixty students was a set of questions to be distributed to their supervisors. The purpose of the separate set of questionnaire was for supervisors

to determine competences regarded as essential by employers to accounting support staff. The list of duties and tasks as well as the list of employers' perceptions of essential competences of accounting support staff produced from the preliminary survey was not sufficient to develop the set of questionnaires. However the list of duties, tasks and employers' expectations produced from the preliminary survey was used by the researcher as a guide to identify appropriate materials through further search of accounting literature.

3.3.2 Rationale for the Development and Use of the Employees' Questionnaire Set

In order to achieve the second objective of the fieldwork a questionnaire (see appendix H) was developed. The purpose of the questionnaire is to establish a work profile of assistants to accountants working in accounting; auditing, taxation, or finance in the private and public sector. The first step in developing the profile of the duties and tasks of the accounting supporting staff was to find out what they do in the work place. The preliminary survey conducted involving sixty fifth-semester polytechnic students provided a readily available list of duties and tasks. However further search of the accounting literature indicated that information material for training accounting technicians produced by the Association of Accounting Technicians Education and Training Scheme (AAT, undated) contains an extended list of duties and tasks performed by accounting support staff. The researcher considered the extended list of duties and tasks identified as appropriate to be adopted in the questionnaires. The AAT specified a course that met the requirements for the National Vocational Qualification level 2 to 4. The AAT list of duties and tasks was

more comprehensive than the list of duties and task obtained from the preliminary survey. The most suitable materials were incorporated into the questionnaire.

The employees' questionnaire set contains three sections. The first section gathers demographic data. Demographic data provides background information of the respondents involved in the research. Questions related to employees' perceptions with regard to the importance and the time spent on a list of duties and tasks were included in the second section. The outcome is a profile of work performed, plus how they perceived work, and the time spend performing it. The third section contains questions soliciting accounting support staff perceptions of the importance and time spend on computer applications in their workplace.

The list of duties and tasks in section two of the questionnaire adopted from the AAT accounting technicians training material contains a list of 23 duties and 69 tasks. The questionnaire required respondents to document duties and tasks performed. The responses identified duties and tasks commonly performed by accounting support staff. Responses to section two of the questionnaire will be used to develop work place profile of accounting support staff. Space was provided at the end of the section for respondents to include tasks and duties not listed. The list of duties and the tasks included in questionnaire to be administered to a group of accounting support staff is shown in table 3.1 on page 76 as follows:

Table 3.1: A List of Duties and Tasks for Developing Accounting Support Staff Work Place Profile (source: AAT, undated)

No.	Duties and Tasks
1	Duty: Data Processing and Using Spreadsheet Tasks: 1. Inputing information from source documentation into a computer system. 2. Locating and retrieving recorded details of requested item from a computer. 3. Generating and printing standard reports on a computer system. 4. Producing spreadsheets for the analysis of numerical information.
2	Duty: Recording and Accounting for Cash Transactions Tasks: 1. Recording and banking monies received. 2. Making and recording payments. 3. Maintaining petty cash transactions. 4. Accounting for cash and bank transactions.
3	Duty: Recording and Accounting for Credit Transactions Tasks: 1. Processing documents relating to goods and services supplies on credit. 2. Processing documents relating to goods and services received on credit. 3. Accounting for goods and services supplied on credit. 4. Accounting for goods and services received on credit.
4	Duty: Recording for Payroll Transactions Tasks: 1. Making authorise payment to employees. 2. Making authorise payments, claims and returns to external agencies.
5	Duty: Preparing Financial Accounts Tasks: 1. Recording income and expenditure. 2. Preparing accounts from incomplete records. 3. Preparing the extended trial balance.
6	Duty: Preparing Reports and Return Tasks: 1. Preparing periodic performance reports. 2. Preparing reports and return for outside agencies.
7	Duty: Preparing VAT Return 1. Preparing value added tax returns.

8	Duty: Recording Capital Transactions 1. Maintaining records and accounts relating to capital transactions.
9	Duty: Recording Cost Information Tasks: 1. Operating and maintaining a system of accounting for material costs. 2. Operating and maintaing a system of accounting for labour costs. 3. Operating and maintaining a system of accounting for expenses. 4. Operating and maintaining a system for the appointment and absorbtion of indirect costs (overheads).
10	Duty: Operating a Budgetary Control System Tasks: 1. Preparing forecasts of income and expenditure. 2. Preparing draft budget proposals. 3. Monitoring the actual performance of responsibility centres against budgets.
11	Duty: Preparing Information for Cost Analysis and Control Tasks: 1. Preparing and presenting standard cost reports. 2. Analysing accounting information. 3. Collecting, analysing and disseminating information about external costs.
12	Duty: Preparing Information for the Appraisal of Activities and Projects Tasks: 1. Preparing cost estimates. 2. Evaluating proposed current activities. 3. Appraising long-term projects.
13	Duty: Drafting Financial Statements (Accounting Practice/Industry and Commerce) Tasks: 1. Drafting limited company final accounts. 2. Drafting sole trader and partnership final accounts.
14	Duty: Drafting Financial Statements (Central Government) Tasks: 1. Drafting limited company final accounts. 2. Drafting public body final accounts (Central/State Government)
15	Duty: Drafting Financial Statements (Local Government) Tasks: 1. Drafting limited company final accounts. 2. Drafting local authority financial statements.

16	Duty: Managing Accounting System Tasks: 1. Supervising an accounts section. 2. Improving the effectiveness of an accounting system.
17	Duty: Managing a Cash Management and Credit Control System Tasks: 1. Monitoring and control cash receipts and payments. 2. Managing cash balances. 3. Arranging the granting of credit. 4. Monitoring and control the collection of debts.
18	Duty: Implementing Auditing Procedures Tasks: 1. Planning a systems audit. 2. Conducting a systems audit. 3. Preparing a Draft Audit Report. 4. Conducting a computer audit.
19	Duty: Preparing Taxation Computation Tasks: 1. Calculating income from employment. 2. Adjusting accounting profits and losses for trades and professions. 3. Preparing computations of property and investment income. 4. Preparing capital gains tax computations. 5. Preparing capital allowance computations. 6. Preparing personal tax returns. 7. Preparing computations and returns of advance corporation tax and income tax payable or recoverable by a company. 8. Preparing corporation tax computations and returns.
20	Duty: Information Technology and Its Environment Tasks: 1. Maintaining an established storage system. 2. Organising own files into storage areas for future use. 3. Storing, retrieving and supplying information for a specific purpose. 4. Obtaining non-routine information from a computerised Information Management System.
21	Duty: Contribute to the Effectiveness of the Work Flow Tasks: 1. Planning and organising own work schedule. 2. Obtaining and organising information in support of own work. 3. Obtaining and maintaining physical resources tgo carry own work..

22	Duty: Create and Maintain Effective Working Relationships Tasks: 1. Establishing and maintaining working relationships with other member of staff. 2. Receiving and assisting visitors.
23	Duty: Monitor and Maintain a Healthy, Safe and Secure Work Place Tasks: 1. Monitoring and maintaining the security of the work place.

Section three of the employees' questionnaire solicited information on computer applications by accounting support staff. The work by Rebele et al. (1991) found that computer technology has implications for accounting education as reflected in the works of Waller and Gallun, Cronan and Fries, Bean and Medewitz, Edmonds, Guinn, Kocakulah and Wade and Salimi. Barjoyai (1992) found that graduates believed computer subjects across the accounting curriculum contributed to their understanding and applications of computers to accounting. The review of accounting education literature by Rebele et al. (1991) indicated that Graham, Yang, and Edmonds investigated the use of accounting software in accounting workplace. Their studies provide as input to questions in section three. They identified skills, software and usage as three categories of computer applications. The list of computer skills that was included in the questionnaire were keyboarding, programming, software, and computer communicating. Software categories identified and included in the questionnaire were accounting packages, spreadsheet, word processing and database. Questions on computer usage in the questionnaire were administrating, planning, analysing, audit database, working paper and statistical sampling applications.

Information provided by the respondents in section three of the questionnaire also helped to determine time spent on computers in the work place. The purpose of asking the respondents to indicate the amount of time they spend using computers in their work is to determine the extend computers are used. It is hope that the information gain from these questions in the questionnaire will indicate the importance of various computer skills, applications and use to an accounting support staff.

3.3.3 Rationale for the Development and Use of the Employers' Questionnaire Set

In order to achieve the third objective of the fieldwork a second questionnaire was developed. This intention of developing a second questionnaire was to obtain descriptors from accounting practitioners of attributes of successful assistants to accountants. The basis of developing the second questionnaire was a work by Deppe et al (1991) that identify a list of competences necessary for the successful practice of accounting. They argue that the world's economy is experiencing major changes and require accounting practitioners to also change. They found similar concerns in other professional areas such as management and information systems. In their work they identified seven categories of competences with twenty-seven sub-competences important for successful accounting practice. Results from the preliminary survey suggest a similar concern for immediate and future performance of staff. This highlights the relevance of the work by Deppe at al. (1991) in enhancing accounting education in Malaysia. However, in order to make the list relevant to this research an additional area of competence was developed and added to the extended list produced by Deppe et al. (991). The modified list of 8 categories of competences and 28 sub-competences were used as question items in the actual questionnaire. The competences ranged from technical accounting skills to cognitive abilities.

The employers' set of questionnaire contains four sections. Section one collected demographic data while section two solicited information with regard to respondents' duties. The purpose of both sections is to provide background information about the respondents. Respondents' perceptions of the importance of a

list of 8 major competences for accounting support staff is included in section three. Section four requires the respondents to indicate the strengths and weaknesses of accounting support staff in terms of the list of 27 sub-competences. Table 3.2 on page 83 contains a modified list of 8 categories of competences and their corresponding 28 sub-competences adopted from an earlier work by Deppe et al. (1991).

Competence category number 4 and sub-competence number 12 are additions made to the list of the competences produced by Deppe et al. (1991). Another adjustment made to the original list of sub-competences was to remove sub-competence number 13 from its original group number 5 to become a sub-competence of category number 4. The above modifications were considered necessary in order to make the list more relevant to the respondents participating in this research. At this juncture the list of the competences and sub-competences was made more useful. If one knows the perceived importance of various competences by novice and experienced practitioners the material becomes more relevant and provides priority areas of competences to develop when confronting limited resources. This aspect of information could be used by accounting educators in the polytechnics to enhance the present Diploma in Accounting programme. The Diploma in Accounting curriculum not only focus on developing technical accounting knowledge and skills but also developed individual capabilities. Education and training programme at the polytechnics could become the basis for life-long career and personal development.

Table 3.2: Eight Categories of Competences and 28 Sub-Competences.
(source: Deppe et al., 1991)

No.	Categories of Competences	Sub-Competences
1	Communication Skills	1. Present views in writing.
		2. Present views through oral presentations.
		3. Read, critique and judge the value and contribution of written work.
		4. Listen effectively.
		5. Understand interpersonal and group dynamics.
2	Information Development and Distribution Skills	6. Understand the role of information technology in solving business and accounting problems.
		7. Understand the system development life cycle to plan, design, implement, and evaluate an information system.
		8. Effectively apply fundamental programming skills to typical business problems.
3	Decision Making Skills	9. Solve diverse and unstructured problems in unfamiliar setting.
		10. Induce general conditions from specific situations.
		11. Select and assign priorities within restricted resources.
4	Technical Accounting Skills	12. Perform accountancy skills required of the profession.
		13. Know methods of gathering, summarising, and analysing financial data.
5	Knowledge of Accounting	14. Posses a knowledge of the purpose and elements of financial statements.
		15. Understand the fundamentals of accounting, auditing, and tax.
		16. Apply decision rules embodied in the accounting model.
6	Knowledge of Business and the Environment	17. Understand the economic, social, and cultural forces in the world.
		18. Know how typical business organisation work is managed.
		19. Posses a knowledge of financial markets and funding institutions.

7	Professionalism	20.Identify ethical issues and apply own values to them.
		21.Motivate to continue lifelong learning.
		22.Deal effectively with imposed pressure.
8	Leadership	23.Work effectively with diverse groups of people.
		24.Organise and delegate.
		25.Motivate other people.
		26.Resolve conflict.
		27.Understand methods of creating and managing change within an organisation.
		28.Use data, exercise judgements, evaluate risks, and solve real-world problems.

Practitioners' responses indicated the perceived importance of eight competences. They also rated levels of achievement for all twenty-eight sub-competences listed. Such information indicated how well the present programme prepared graduates. The findings also could point out deficiencies in the present accounting programme and provide direction for improvement. These competences encompass abilities considered important for those in the accounting profession. They were not only judged important for entering the profession but also for progression and advancement. Finally the analysis facilitated a better pre-professional accounting programme. The role of accounting education should not be limited to preparing the students for the first day of work but should also equip them with the necessary abilities to climb the corporate ladder.

In addition to sending the developed questionnaire to a general group of employers the questionnaires were also sent to supervisors specifically in-charge of polytechnic graduates working in the accounting environment. Differences and similarities of perceptions between the two groups of employers are documented. This exercise will help accounting educators at the Malaysian polytechnics to determine the level of performance of their graduates as compared to graduates of other institutions. Any discrepancies detected would suggest remedial actions needed to be taken by the polytechnics.

3.3.4 Interview Schedules Development

Interviews supported the self-completion questionnaire and helped validate the data. Three different sets of interview schedules were developed and administered

(see appendix F, G, and J for copies of the interview schedules) to three different groups of respondents. The three set of interview schedules used in focus interviews were:

1. The first interview schedule (see appendix F) was developed and used to interview an officer of the Malaysian Curriculum Development Unit, TED;

2. The second interview schedule (see appendix G) was developed and used to interview Heads of Commerce Departments from three different Malaysian polytechnics; and,

3. The third interview schedule (see appendix H) was developed and used to interview representatives of the employers.

3.3.5 Rationale for the Development and Use of the Interview Schedules

The purpose of the interview was to identify those items considered integral to job performance as perceived by each of the three groups. The information obtained from the interviews combined with the written responses in the postal questionnaires clarified ambiguities and gaps in the data obtained from the postal questionnaires. The individuals chosen to participate were twelve accounting practitioners, a Malaysian TED staff, and three academic administrators of the Diploma in Accounting programme. The total number of interviewees was sixteen. The questions were tailored to each group interviewed. For example, with the practitioners, questions focused on their expectations of newly hired employees straight out of accounting programs. Concurrently, questions for administrators of

accounting programs concentrated on perceived expectations of the accounting programme. The focus of all the questions was to validate perceptions and clarify ambiguous data gathered by the postal questionnaires.

The first respondent interviewed was an Assistant Director of the Curriculum Development Unit, Technical Education Department (TED), Ministry of Education, Malaysia. The interview schedule (see appendix F) contains 14 questions divided into 4 categories as follows:

1. Roles of TED, the philosophy of establishing the commerce section in the polytechnic and how the decision was reached to offer a Diploma in Accounting programme comprised question 1 to question 3,

2. Planning and development of the Diploma in Accounting curriculum are represented by question 4 to question 7,

3. Changes introduced in the programme are addressed by question 8 to question 12, and;

4. Future of the Diploma in Accounting programme is included in question 13 and 14 of the interview schedule.

The second set of interviews was with three Heads of Commerce Departments responsible for the administration of the Diploma in Accounting programme (see appendix G). They were from Politeknik Ungku Omar, Politeknik Sultan Haji Ahmad Shah and Polilteknik Sultan Abdul Halim Mu'adzam Shah. Their knowledge and understanding of the national and local context provided insight into opportunities and constraints faced by the programme. Even though the Heads of Department are

mostly involved in administration at the institutional level, they are also involved in discussions about changes in the structure and content of the programme.

The interview schedule consisted of 26 questions divided into 6 categories that include:

1. Objectives of the Diploma programme are represented by question 1 to question 4,

2. Concerns about the Diploma programme are included in question 5 to question 9,

3. Graduates' employability constituted question 10 to question 14,

4. Industrial training issues are included in question 15 to question 19,

5. Favourable changes expected in the Diploma programme consisted of question 20 to question 23, and;

6. Collaboration with professional bodies and the objectives and future of such a co-operation are represented by question 24 to question 26.

The third group interviewed was twelve supervisors where nine were managers of which five were practising accountants, and three were senior account supervisors. They represent audit firms, services, manufacturing, and government entities. Choosing interviewees from different working sectors identified similarities and differences in practice and environment. The scheduled interview contained nineteen questions divided into six major categories (see appendix J). The categories used were intended to obtain job-related information and employers' expectations and

perceptions made up the 19 questions. The break down of the interview schedule is as follows:

1. Respondents background information consisting of question 1 to question 4,

2. Respondents' supervision responsibilities are represented by question 5 to question 8,

3. Respondents' expectations of graduates are covered by question 9 to question 11,

4. Career routes and training opportunities are included in question 12 to question 14,

5. Respondents' perceptions of graduates qualifications, strengths and weaknesses consisting of question 15 to question 18, and;

6. The last question has been devoted to obtain information about changes in duties and tasks of accounting support staff.

The collected data from all of the interviews were analysed and discussed to determine where all respondents held common opinions about accounting and accountants as well as where the respondents did not agree. This information was then compared to the findings from the questionnaire.

3.4 The Respondents

To identify duties and tasks performed in the accounting work environment, three categories of respondents were identified. Robson (1993), Gay (1996), and Martella et al. (1999) categorised sampling techniques as probability and non-

probability sampling. Sampling procedure facilitates the selection of appropriate respondents. When the sample in a research is taken as representative of the population it is called probability sampling. If it is not possible to specify the probability that any person will be included in the sample then it is non-probability sampling. Martella et al. (1999) stress the importance of the researcher to consider how important is it for the sample to be representative of the population of interest. Gay (1996) discusses the need for the researcher to exercise expert judgement to a representative.

In order to determine the appropriate respondents for the postal questionnaire survey and the interview sessions the researcher is required to select samples that is believed to be representative of a given population. The researcher used the objectives of the research as guidelines to determine the population. To obtain data on the selected operations of the Diploma in Accounting programme in the Polytechnics of Malaysia require interview sessions with a group of individuals possessing the necessary information. Focus interviews were considered appropriate for a group of personnel from the polytechnics and the TED, Malaysia. Three heads of commerce departments and an assistant director of the curriculum unit at TED, Malaysia acted as the sample. This group of respondents represent the first category of respondents as shown in table 3.3 on page 92.

In order to establish a profile of accounting support staff work in accounting, auditing, taxation, or finance in the private and public sector information need to be obtained from the target group. In this research two different records were used to obtain the list of respondents. Referring to table 3.3 on page 91, the first group of

respondents of category 2 was obtained from the industrial placement units of the polytechnics while the second group of respondents for category 2 was obtained from the records of polytechnics' alumni. In both cases the selection of the respondents were limited to the available records. The industrial placement units provided the records of organisations providing industrial placement places for the polytechnics' students. Alumni records provided the names and employment addresses of graduates recorded during the graduation ceremonies.

Table 3.3 on page 92 shows three categories of respondents involved in this research. Each category of respondents provides specific information about the demands and expectations of the workplace. The first category of respondents was included to obtain information specific to the Diploma in Accounting offered and in general to explore the history of the commerce departments established in the polytechnics. Gay (1996) considers focus interview as appropriate when interviewer may have a predetermined set of general questions or issues which she wishes to explore with several interviewees. Focus interview involves a small number of respondents who have something of interest in common. In this research an interview was carried out with an officer from the Curriculum Development Unit, TED, Ministry of Education, Malaysia. The second focus group of the first category were Heads of the Commerce Departments of the three polytechnics involved in administering and implementing decisions of TED. This group of respondents was involved in the revision and updating of the structure and content of the Diploma in Accounting curriculum. They possessed important information obtained from students and employers. Interview sessions solicited information from these respondents.

Table 3.3: The Category of Respondents

Category 1 - focus interview was used	Group 1:	Assistant Director, Curriculum Development Unit, Technical Education Department, Ministry of Education, Malaysia.
	Group 2:	Heads of Commerce Department from three different polytechnics - interviews.
Category 2 - purposive sampling technique was used to determine the respondents	Group 1:	Assistants to the accountants in the Accounting, Auditing, Taxation or Finance Departments - postal questionnaire; and,
	Group 2:	Polytechnic graduates working as assistants to the accountants in the Accounting, Auditing, Taxation or Finance Departments postal questionnaire.
Category 3 – purposive sampling technique was used to determine respondents for Group 1 and 2 and for Group 3 respondents focus interview was used.	Group 1:	Accountants, Managers, Officers or Supervisors in the Accounting, Auditing, Taxation or Finance Departments - postal questionnaire,
	Group 2:	Supervisors (or their equivalent) of the graduates of the Diploma in Accounting programme - postal questionnaire, and;
	Group 3:	Supervisors (or their equivalent) of the graduates of the Diploma in Accounting programme - interviews.

Information from both the Ministry and the polytechnics permit a better perspective of the operations of the Diploma in Accounting programme.

The first group of the second category of respondents provided accounting support staff work-related information. They were graduates of other education and training institutions. One hundred and eighty five respondents were chosen from the list of names provided by the industrial training units of Politeknik Ungku Omar, Ipoh, Politeknik Sultan Haji Ahmad Shah, Kuantan, Politeknik Sultan Abdul Halim Mu'adzam Shah, Jitra, Politeknik Kota Bharu, Kota Bharu and Politeknik Port Dickson, Seremban. Three of the polytechnics are on the west coast while two are on the east coast of peninsular Malaysia. The second group of the second category were respondents who successfully completed the Diploma in Accounting programme and were working as accounting support staff in any of the four sectors. One hundred and thirty respondents were obtained from the five polytechnics involved in this research. The number of respondents involved in this research was limited to the lists of names available. In this research the researcher chooses the sample on the basis of the typicality of the respondents. In this way through purpose sampling the researcher build up a sample that is satisfactory to his specific needs (Cohen and Manion, 1994).

Purposive sampling was also used to determine respondents in Category 3. Wiersma (2000) suggests purposive sampling when a researcher does not have access to an entire group. The first group of the third category of respondents were a sample of accountants, managers, officers or supervisors working in accounting and financial sectors and all were familiar with duties and tasks of the target group in order to obtain descriptors from accounting practitioners of attributes of successful accounting

practitioners. A list of one hundred and eighty five respondents was identified and is considered to represent the employers. The respondents know accounting and non-accounting attributes related to performance. They identify attributes necessary professional advancement. Their names and addresses were obtained from the five polytechnics involved in this research. The employers chosen were those who accepted fifth semester Diploma in Accounting students for industrial training. The lists obtained from the polytechnics were further categorised into Public Accounting Firms, Manufacturing firms, Service Firms and Government Agencies. Such categorisation ensures representations of all sectors. A set of survey questionnaire was used to gather information from this group. The second group of one hundred and thirty respondents is accounting or financial staff from four different sectors listed above. Names and addresses of these employers were obtained from graduates during graduation ceremonies of the named polytechnics. Since the lists dated from several years ago, some addresses were out-dated. In addition to the stated criteria, the second group supervised polytechnic graduates. The first group of respondents provided responses about a general group of accounting supporting staff. The second group provided responses about polytechnic graduates. The questionnaire given to the second group was similar to the questionnaire given to the first group but with specific instructions to base all answers on polytechnic graduates.

Out of a list of one hundred and thirty respondents identified above a group of twelve respondents representing a third group of the third category of respondents were chosen to provide work-related information within the organisations and assessed work requirements and performance of the polytechnics' graduates working as accounting support staff. Information from this group was obtained through

interview sessions. The focus interviews obtained suggestions and comments complementing responses obtained from the questionnaires.

3.5 The Procedures

The first set of questionnaires, labelled as "Set A: Accounting Supervisors", was sent to supervisors, officers or managers that provided workplace training to the polytechnics' Diploma in Accountancy fifth-semester students and those employing graduates of the Diploma in Accounting programme. The list of the respondents and survey participants was obtained from polytechnics involved in the project. One hundred and eighty five employers were chosen from the list of employers categorised as group 1, and one hundred and thirty employers were obtained from group 2 of the third category of respondents.

The second set of questionnaires was sent to employees working as assistant to the accountants through their employers. The first group consisting of one hundred and eighty five employees employed in organizations providing the industrial placement to the polytechnics students and the second group of one hundred and thirty employees were polytechnics' Diploma in Accounting graduates working as accountants' assistant. Researcher requested the accounting supporting staff to return completed questionnaires to their supervisors. Both sets of questionnaires were mailed to the researcher in postage pre-paid envelopes.

In addition, a group of twelve employers were selected from employers employing polytechnics' graduates for interview sessions. Empolyers selected are

those who are familiar with the graduates of the Diploma in Accounting programme working as accounting support staff as well as willing to participate in the study. Employers must also be familiar with the duties and tasks of an accounting support staff. Respondents' willingness to participate, time and financial resource constraints limit the number of employers interviewed. The second interviewee was an officer of TED, Malaysia. The third group of interviewees were three Heads of Commerce Departments from Politeknik Ungku Omar, Ipoh, Politeknik Sultan Haji Ahmad Shah, Kuantan and Politeknik Sultan Abdul Halim Mu'adzam Shah, Jitra. Before the individuals were approached, permission to do so was sought from the Director of TED. Permission was also required to administer the fieldwork from one of the polytechnics. Each group of respondents was interviewed using a standard interview schedule. The questions were open-ended and a set of standard prompts was developed for the interviews. The interview sessions began with the introduction of the research background and the purpose of the interviews. Each respondent was provided a copy of the questionnaire during the interview. Permission was obtained from the interviewees to tape-record the sessions.

3.6 The Data Collection and Measurement

The collected data were organised, summarised, and analysed. Engelhart (1972) describes these steps as intermediate steps between collection and interpretation of data. The steps required compatibility among the instruments produced and data collected which made analysis and interpretation easier. The involvement of computer technology required appropriate actions during those steps to ensure smooth transfer of data among the stages.

3.6.1 The Development of the Questions and Scales

The development of the scales used in the project was guided by three main criteria: firstly, the nature of the inquiry which seeks opinions and perceptions, secondly the type of data organisation and summarisation, and; thirdly, by the analysis to be performed. Close-ended type of items facilitated responses. Fraenkel and Wallen (2000) stated that closed-ended questions are easy to use, score, and code for analysis on a computer. All the first sections in the two sets of questionnaires required respondents to tick appropriate boxes. A five-point Likert scales is used in this research. According to Robson (1993) the summated rating approach is very widely used in educational research. Added advantage of summated rating approach is that they are easy to develop. Summated rating scale is composed of multiple items that are designed to measure the same idea or the same construct which helps the researcher to make finer distinctions among the respondents (Johnson and Christensen, 2000). The technique to use closed-ended and then ask for additional responses in an open-ended question is known as semi-closed-ended question. This question provides the typical response categories to the question but respondents are free to provide answers that may not fit the response choices (Creswell, 2002).

Space was provided so respondents could add information if choices were inadequate. In the last sections of the questionnaires, open-ended questions were employed that required respondents to write suggestions and comments. Open-ended questions allow for more individualised responses. However, they are much more difficult to analyse and interpret (Fraenkel and Wallen, 2000).

3.6.2 The Development of the Coding Frame

To apply statistical tests on data, they had to be coded. Numerical value codes were assigned to each answer collected. The scales developed and used in the project were "terms" which required numerical codes to obtain the "score" for the items introduced. According to Robson (1993) codes are symbols, usually numbers, which are used to identify particular responses, or types of responses, in questionnaire or similar instruments. As recommended (Oppenheim, 1992 and Robson, 1993) the codes were developed prior to the actual process of keying the data into the computer. The questionnaires were pre-coded. All questions in same section have the same coding frame, and different coding frames were used to suit various scales. Codes are used to assist in the organisation, qualification and analysis of data. In the first sections of the questionnaires different sets of scales were developed to obtain "background profile" of the responding groups. Terms used in these sections had numerical values that provided categories for each group of responses. They did not produce scores. The rest of the questionnaires produced individual scores as well as group scores. The pre-coded five-point Likert scales required respondents to choose numerical values corresponding to their choice by circling or ticking.

The terms "never", "rarely", "sometimes", "often" and "always" with coded numerical values 1, 2, 3, 4 and 5 were used in section two of questionnaire Set A. The terms "not relevant", "slightly relevant", "relevant", "very relevant", and "essential" with the coded numerical values 1, 2, 3, 4 and 5 were employed in section three of questionnaire Set A. The terms "very weak", "weak", "average", "strong" and "very

strong" with coded numerical values 1, 2, 3, 4 and 5 were used in section four of the questionnaire Set A.

In sections two and three of questionnaire Set B two sets of five-point Likert scales were adopted. The first set of terms is "not important", "fairly important", "important", "very important" and "extremely important". The second set of scale is "0 - 5 hours", "6 - 10 hours", "11 - 15 hours", "16 - 20 hours" and " > 20 hours". Scales with coded numerical values of 1, 2, 3, 4 and 5 were used.

A word of caution needs to be included here about the application of the numerical values to "subjective" measures. However, Oppenheim (1992) suggests that coalition of considerable subjective responses helps to form collective images, profiles, representations, perceptions and stereotypes thus represent some kind of objectified subjectivity. This can represent to what is "out there" as part of perceptual attribute.

3.6.3 Summarising and Organising the Data

The amount of data had to be statistically analysed before meaning could be determined. The process of organising, summarising, analysing and interpreting data was made possible with the application of appropriate statistical methods. Descriptive statistics were employed due to the nature of variables involved. Engelhart (1972) listed the means, medians, standard deviations, and coefficients of correlation as descriptive statistics. Included under the same category were counts and percentages, distributions of test scores, tables and graphs.

The Statistical Package for Social Science (SPSS) by Microsoft for Windows release 10.0 was used in analysing the data. Responses from the questionnaires were first transferred manually to matrix tables similar to data sheets available when inputting data into the computer. This step reduced the bundles of questionnaires and facilitated transfer of data from paper to electronic data sheet. Each cell was assigned to a case and a variable. Vertical columns constituted the variables and the horizontal columns represented the case, subject or respondent. All responses to a set of questionnaire were kept in a "bank data set" and could be retrieved for statistical analysis.

The type of statistical analysis performed on the data were "summarise frequencies" and "descriptive" statistical analysis. This helped to produce frequency tables. In the "frequencies dialog box" all the variables in the data set for which frequencies can be calculated were displayed. To produce the desired statistics, the "Statistics button" at the bottom of the box was activated. A "Statistics Dialog Box" appeared with a list of various percentiles and measures of central tendency, dispersion and distribution. The type of statistics was chosen from the box. Several statistical analyses were performed simultaneously and were produced and shown in the "output window".

3.6.4 The Statistical Analysis of the Data

Best and Kahn (1986) categorised statistical treatment suitable for any type of data in the following ways:

2. Parametric data. Data of this type are measured data, and parametric statistical tests assume that the measures are normally or nearly normally distributed. Parametric tests are applied to both interval-and ratio-scaled data.

3. Non-parametric data. Data of this type are either counted or ranked. Non-parametric tests, sometimes known as distribution-free tests, do not rest upon the more stringent assumption of normally distributed populations.

The data accumulated in the project fit the second description above. The statistics performed on the data produced frequency, percentage, mean and the standard deviation. For this project, the trend and pattern that emerged from the data analysed are considered to be more important than the production of the statistics. The frequency provided the category count (Roberts, 1992a). The category of each group is expressed in terms of the portion of the group to the total group responding. The outcome of the procedure is displayed in terms of percentages.

Another descriptive statistical analysis used is the "measure of variability" (Robson, 1993). The statistics included range, inter-quartile range, variance, standard deviation, and standard error. In the project only the standard deviation of the data gathered were calculated and displayed in the text of the discussion. The standard deviation provided "a measure of the extent to which the scores are scattered about the arithmetic mean. The greater the scatter of scores about the mean, the greater the standard deviation" (Johnson, 1977). To highlight points related to the objectives of

the fieldwork, the output of the statistical analysis is rank ordered to detect trend or pattern. Consequently, the mass of data is represented by statistics. In several instances in the project, the summarising of the mass of data was simplified by using tables. Even though the figures show neatness and exactness, the real life phenomena are far from such experience. The purpose of the tables is to simplify and highlight some of the major issues under discussion and to assist understanding. At the same time such simplified figures do not express real life issues that are mostly qualitative in nature but give directions for better understanding. Such data show directions and trends rather than absolute.

The numerical values used and the scores produced provide a representation of the "measure" of the objects of rating. The important step then is to identify the patterns and trends that emerge from the ranking of the figures produced. Readers should be aware of the danger of a "spurious air of accuracy" and should not be misled into regarding the results as hard data (Oppenheim, 1992).

3.6.5 Analysis of interview data

The questions developed for the two groups involved in the interview sessions were derived from the outcome of the preliminary survey of a group of chosen respondents. They were related to questions in the actual postal questionnaires. The questions obtained additional information from the respondents about issues included in the questionnaire. The two different research approaches complemented each other. According to Cohen and Manion (1994) triangulation of data collection techniques in the social sciences attempts to map out, or explain more fully, the

richness and complexity of human behaviour by studying it from more than one standpoint.

To facilitate analysis the questions were grouped according to specific categories. Robson (1993) cited Kerlinger describes the process of translation of question responses according to specific categories for the purpose of analysis as the process of coding and scoring. During coding and scoring process a researcher may subject interviewee's response to content analysis and submit it to one of the available scoring procedures (Robson, 1993). In this research the researcher developed several questions to represent a specific category of research interest. In each category there was one major theme and several sub-themes. The interview sessions used structured open-ended questions. To facilitate the analysis process, the interview sessions were tape-recorded and transcribed.

3.7 The Validity and Reliability Issues

The issues of validity and reliability need to be addressed in any research of this nature. Roberts (1992b) indicated the availability of various "correlation" calculations when quantitative data are produced. When the outcomes produce data that is qualitative in nature, the literature still requires the application of rigorous and systematic approach.

Reliability is defined as "the degree of consistency" that the instrument or procedure demonstrates: Whatever it is measuring, it does so consistently (Best and Kahn, 1986). In this research measuring consistency is achieved by providing each

group of respondents with the same set of questionnaire containing similar instructions and question items. However, reliability is considered a necessary but not a sufficient condition for validity. Wiersma (2000) defines validity as the extent to which an instrument measures what it is supposed to measure. The development of question items in the questionnaire was guided by the responses of a preliminary survey outcome. The procedure followed thus help to ensure the validity of the instruments developed. Validity of interpretation was enhanced by the multiple methods of data collection. Focus interviews data was used to extend the interpretation of findings originated from the postal questionnaire data thus contributed to the validity of the research findings. However, various constraints as discussed in the scope and limitations section of Chapter 1 must be taken into consideration when reading the research findings.

3.8 Conclusion

The sections discussed in this chapter provided a description of the various matters related to the research method of the project. After the introduction to the chapter in section 3.1, is the conceptualisation of the fieldwork in section 3.2 that describes the nature of the research as descriptive research adopting a survey approach. Section 3.3 stresses that the objectives and the nature of the research guides the development of the survey questionnaires and interview schedules as data gathering instruments. Development of two sets of postal questionnaires and three sets of interview schedules were discussed. Three categories of respondents representing TED personnel, accounting support staff and employers employing accounting support staff were identified and the sampling techniques used to select

respondents were explained in section 3.4. Purposive sampling technique was used to identify respondents for the questionnaire survey and focus interview was adopted for interview sessions. Section 3.5 contains elaboration of the procedures followed in conducting the research. This section discussed administration of the questionnaire and interview sessions. There are five sub-sections in section 3.6. The sub-sections discussed the development of the five-point Likert scales, numerical codes, organisation of data and the various descriptive statistical analysis of the data and the analysis of the interview data. Section 3.7 highlights the reliability and validity issues. Reliability of the data gathered was enhanced through the use of standard questionnaires and interview schedules for similar group of respondents while validity was ensured through the use of pre-survey outcome as guidance for question items development as well as the use of multiple data collecting methods. In this study research data are collected through postal questionnaire survey and face-to-face interview sessions.

CHAPTER 4

POLYTECHNICS' DIPLOMA IN ACCOUNTING PROGRAMME: AN OFFICER OF TECHNICAL EDUCATION DEPARTMENT AND THE HEADS OF COMMERCE DEPARTMENTS' PERCEPTIONS

4.1 Introduction

This chapter contains two main parts. The first part consists of information obtained from an interview with an officer of the Curriculum Development Unit, TED. The second part contains interview data gather from Heads of Commerce Departments (HODs). Three heads of departments were involved in the interview sessions using an interview schedule developed earlier (see appendix F).

4.2 The Technical and Vocational Education Division: An Interview with an Assistant Director

Section 4.2 is divided into six sub-sections. It contains interview response with an Assistant Director of the Business Curriculum Section of TED. Each sub-section, as discussed in sub-section 3.3.5 of Chapter 3, addresses a specific topic of the interview.

4.2.1 TED Commerce Curriculum Section: Its Principles of Activities

The implementation of activities at TED (previously TAVED) is based on the demand of industries. TED provides technical and vocational education by developing and offering an articulated curriculum for secondary schools, community colleges and polytechnics. The Business Curriculum Section of TED is responsible for producing the necessary manpower in Business, Management, Marketing, Insurance, Finance and Accounting. To achieve this, the section is responsible for curriculum, infrastructure, teaching staff and staff development programmes.

4.2.2 Creating the Commerce Department at PUO

In 1969 the government established a commerce department for the first polytechnic, Politkenik Ungku Omar in Ipoh to support economic development through education. The purpose in establishing the polytechnics was to produce a work force to meet commercial needs. The accounting course was established to provide industries with sub-professional accounting support staff. The role of the polytechnics is to provide education and training for individuals who were not admitted to other institutions of higher learning.

Another reason for setting up polytechnics was to increase the number of the *Bumiputra* (indigenous) citizens in business as business executives. The Ministry of Education educates and trains such executives. Between 1969 and 2001, a total of 12 polytechnics were established and eight out twelve polytechnics offer courses in commerce.

4.2.3 The Diploma in Accounting: The Concept Behind its Introduction

Accounting is introduced (and accounting subjects) in the Polytechnics as a medium of communication in the business world. Therefore, all commerce students take accounting subjects. The demand for these graduates is big despite the large number of institutions offering accounting education and training. By 2020, 60,000 graduates in accounting are needed to meet anticipated needs (Fong, 1991). For example, in government offices, accountants and accounting support staff develop and maintain financial records and reports. Most of the posts for Diploma in Accounting graduates are as accounts officers.

4.2.4 The Diploma in Accounting: The Initial Curriculum Development

When the first polytechnic was established, UNESCO helped develop the curriculum. The assistance continued until the polytechnic was handed over to the government in 1974. A few individuals from local institutions were also involved in developing the accounting curriculum for the polytechnic.

The development of the curriculum was based on the needs of industries and advice and suggestions from professional bodies. Members of the committee were from professional accounting bodies and institutions such as banks, manufacturing entities and other commercial representatives. The committee produced a draft of a curriculum that was submitted to the Central Curriculum Committee (CCC), Ministry of Education, for evaluation. The CCC has the authority to make any modifications or

suggestions consistent with government policies on education and training. CCC must approve future changes and development of the curriculum. Any new curriculum must be evaluated and approved by the committee before use.

4.2.5 The Diploma in Accounting: The Reviewing Exercises

The CCC states that the curriculum of the polytechnics needs to be reviewed every five years. A review was undertaken in 1987 and again when the academic calendar moved to the semester system in 1990. An advisory Committee was formed to review every course offered at the polytechnics. The committees were composed of representatives from local universities, professional bodies and teaching staff of the polytechnics. The representatives from the local universities were academicians while practitioners represented professional bodies.

Despite the guideline set by the CCC for the curriculum to be reviewed every five years, the current practice is to review the curriculum every two years. During the review, representatives from industries indicate appropriateness of the curriculum.

TED is aware of the changing needs of the industry and is prepared to make the curriculum relevant to present and future needs of the profession. It has identified computerisation as essential and includes computerised accounting in the curriculum. Computer laboratories with standard equipment and facilities were needed. TED made available accounting laboratories with standard facilities that includes computer hardware and software. "Workplace simulations" are provided to enhance teaching and learning.

As facilitator of the curriculum review, TED appointed a polytechnic to host the review. The host invites all for meetings, and they are conducted at TED or at some other location. Members of the committee are provided with the curriculum and are asked to bring comments and suggestions to the meeting. Matters discussed are related to content, staff, and equipment.

4.2.6 The Diploma in Accounting: Its Future

To fulfil industrial and professional demands, an interviewee suggested that the objectives of the polytechnics should parallel the objectives of programmes offered by the polytechnics. TED acknowledges and encourages students to pursue their studies at a higher level but objectives of the polytechnics will not be changed. The strategy to improve the programme requires enhancing all accounting programme components. The importance of other subject areas was also recognised. Meetings to discuss and review non-accounting components of the Diploma curriculum were held. A committee to identify equipment and facilities was also established.

TED is planning to develop a "local area network" of computerised accounting facilities for each polytechnic as installed in banks, insurance companies and private offices. This is described as follows,

> "Like in Shah Alam, we will begin with accounting labs together with labs for other business subjects which we hope will enable us to produce really confident graduates in accounting and also in business subjects. For example there will be facilities to conduct seminars, presentations, exhibitions and also rooms for office automation. There will be facilities available for our students to do

> advertising, resource centres for the teaching staff and this will need more provisions in the future (TED Officer)."

An "active learning strategy" has been proposed that allows students to use the facilities to increase their confidence. Currently there are eight polytechnics offering the programme throughout the country. Another strategy to enhance the programme is well-trained accounting lecturers. There is a shortage of accounting staff in polytechnics and secondary schools. In the secondary schools mathematics teachers are required to teach accounting. TED has specified that in the polytechnics, accounting lecturers shall be university graduates in accounting.

To further enhance the programme the teaching and learning process must be improved. Teaching and learning currently concentrate on the lecturing mode with little effort to incorporate other strategies. Efforts to actively involve students in their own learning must be implemented. The commerce sections have requested ten laboratories for students, and this will become the norm of practice in the future.

Qualifications of teaching staff also need improvement. Currently, to teach in a polytechnic, one must have either a certificate or a Diploma in Education. This has been the guiding principle of recruitment practised by the Ministry of Education. However several years ago due to an acute shortage of teaching staff, staff members were confirmed in their jobs without teaching qualifications. This was the only time that the exemptions were permitted.

TED realises the importance of proper training in teaching and learning methodologies, and this area needs attention. Teaching staff should be able to present subject content effectively to assist learning. They are required to be equipped with different teaching and learning techniques, and this includes the use of simulation laboratories to provide students with the necessary experiences. To increase staff effectiveness the teaching staff members are encouraged to go through a period of "industrial attachment" which provides them the opportunities to update knowledge and expertise. Some of them are given scholarships to further their studies.

Discussions about co-operation among the polytechnics and the accounting professional bodies have been going on for some time. The idea is to introduce professional accounting programmes at polytechnics. This will be in addition to the Diploma in Accounting programme. The discussions are still at the preliminary stage.

4.3 The Diploma in Accounting Programme: Interview with Heads of Commerce Departments

Interviews with three Heads of Commerce Departments (HODs) are divided into 8 sub-sections. Each sub-section provides discussions related to a theme as discussed in sub-section 3.3.5 of Chapter 3.

4.3.1 The Objective

The three HODs were in agreement about the objectives of the accounting programme. After completing the programme, students progress to a higher level of education or pursue professional qualifications. The following comment was made,

> "At that time the objective was more to train middle level technicians to fill the posts of accounting technicians. It was not so much as to produce accountants but if there were students who were interested to go further, they could always do so, but the main objective at that time was to produce middle-level accounting technicians (HOD 3)."

However there were different opinions as to whether there was any secondary objective to be achieved by the programme. HOD 2 was unable to suggest any explicit secondary objective while another respondent suggested that the secondary objective was to develop a healthy attitude towards accounting among the students. The third HOD indicated that there was no other explicit secondary objective associated with the programme except that students progress in their studies locally or overseas.

With regards to the explicit objective of producing "accounting technicians" or accounting support staff, the first HOD confessed to the limited effort that could be done in terms of providing the "professional" components of the programme. The expression was,

> "The main objective is to produce qualified personnel, not accountants, who really know about accounting. In terms of professional qualifications, however, they must go further to get the qualifications (HOD 1)."

HOD 3 held that the objective of the programme was achieved when it was recognised by professional accounting bodies. Graduates wishing to achieve professional qualifications are awarded exemptions from taking some parts of the professional programmes. This is because professional bodies were involved in the

development and review of the Diploma in Accounting programme. The third HOD also believed that the programme successfully achieved its objective based on the feedback received from industries. The respondent also predicted that shortage of accounting support staff would continue because students continue to progress to professional level by enrolling in professional courses and taking professional examinations. As people are promoted a shortage will become obvious.

About 30% of students immediately pursuing "full-fledged" professional qualifications upon completion of the Diploma programme suggests that the secondary objective is being achieved. The third HOD reasoned that rapid economic development and globalisation of businesses increase demand for graduates with higher qualifications. The observation from the respondent was as follows,

> "As the country progresses, students go for more higher education. Students did not only come to be trained as middle-level technicians, but later they are using this programme as a stepping stone to become full-fledged certified accountants. With this increase in technology and educational opportunities we are now moving toward a more progressive society. More and more of our students go for the secondary objective (HOD 3)."

All HODs suggest that the objective of the programme will continue well into the future. The first two HODs do not see the need for change in the objective. The third HOD concluded, as the society becomes progressive demands of the students will change.

4.3.2 The HODs' Concerns

Respondents identified hindrances to achieving the objective of the programme. The first HOD noted that graduates were weak in English. Presently the programme is conducted in the national language, Bahasa Malaysia, and there is pressure to gradually introduce English as the medium of instruction and communication. This will help graduates improve their command of English.

The second HOD cited a gap between skills and knowledge taught at the polytechnics and those demanded by industries. Currently there is no mechanism to gather information on the latest requirements of industries. Such shortcomings reflect on the students' ability to perform.

The third HOD noted the shortage of qualified accounting lecturers to teach the programme. The shortage of teaching staff limits intake to a single group and makes it impossible to meet the demands of industries. Qualified accounting lecturers not only teach accounting subjects but also are asked to teach new subjects introduced into the programme. Thus available accounting staff cannot teach new accounting students, and polytechnics cannot increase student intake.

In terms of comments received from graduates, two HODs worried about their ability to communicate effectively in English. HOD 1 and HOD 2 agree that command of English is a priority. Insufficient computer hardware, software facilities, and the gap between what is taught and the reality of the work place were also noted. Topics were taught as separate components and did not provide synthesis of the

issues. This dichotomy caused difficulties at the work place and identified weaknesses in teaching. HOD 3 made very few comments and all were positive:

In terms of feedback received from employers, HOD 1 mentioned that employers always raise the problem of English usage. Graduates have adequate accounting knowledge but are unable to communicate effectively in English. As a remedy, one polytechnic is considering to offer a course with an external examination. The medium of instruction and evaluation is in English that will encourage students to use English. HOD 2 and HOD 3 raised the same matter. The second HOD stated that graduates were trainable and obedient but were not able to perform analytical skills. Polytechnic lecturers were urged to introduce specific teaching and learning strategies to develop students' ability to analyse issues and topics.

The first HOD offered no suggestions to enhance the programme. The second HOD on the other hand felt that the curriculum could be improved by following suggestions of employers and practitioners. Such suggestions could be considered at the two-year curriculum review. Another suggestion from HOD 2 was teaching skills and industrial attachment, professional courses, seminars, working part time work in industries, and consultation work could improve knowledge development.

The third HOD urged increased funding to enhance the programme. Extra funds could upgrade computer hardware and software. Polytechnics need the most sophisticated hardware that is used in the industries. HOD 3 stressed the importance

of introducing advanced accounting programmes in the polytechnics to fulfil the demand for a higher level of education and training in accounting.

4.3.3 Graduates' Employability

The first HOD indicates that 60% of the Diploma in Accounting graduates obtain employment while between 20% - 30% furthered their studies either locally or abroad. The majority secured employment suitable with their qualifications, but a few were involved in clerical jobs, which required lower qualifications. Either employers did not recognise the qualifications, or graduates did not apply for jobs requiring diploma level qualifications.

The second HOD indicated that around 30% of the graduates from the polytechnics pursued studies to a higher level. Nine out of thirty graduates continued their studies. Six enrolled in local universities while three went abroad. The majority of graduates worked in areas related to their studies while some obtained work below their level of training and education. Five to six percent of graduates were employed in areas with lower qualifications. Sometimes new graduates accept any job offers while waiting for a suitable job. Some found better paying jobs not directly related to their qualifications. Some graduates were reluctant to accept better job offers away from their hometowns.

The graduates of the third polytechnic were all employed in areas equivalent to their qualifications. HOD 3 further continues,

> "I would say it is very good, 100% employment. I don't have any graduate who is unemployed. Presently those

who do not go for further studies are 100% employed (HOD 3)."

According to HOD 3 the present acute shortage of graduates with such qualifications provides ample places of employment. Most of the graduates join audit firms while some work at banks or manufacturing entities. These jobs require qualifications equivalent to those graduates'. Those in the audit firms receive lower initial salary while continuing with professional courses. Employers finance their studies, and they are given encouragement and support in terms of fully paid leaves during the examinations months. After successfully completing their professional examinations, they receive substantial increase in salary.

4.3.4 Graduates' Strengths and Weaknesses

HOD 1 and HOD 3 suggest that the industrial training component of the programme permits students to observe real accounting work. It is compulsory for every student to complete successfully a six-month attachment with industries. Experience obtained during industrial training enables students to be better trained for employment training. Another associated strength is graduates' ability to adjust to work quickly.

Graduates' continuing their education is an indication of graduates' strength according to HOD 3. MACPA or ACCA of the United Kingdom exempts graduates from taking examinations at the foundation level. The exemption indicates recognition of professional accountants of the Diploma in Accounting graduates.

In terms of graduates' weaknesses, the first HOD worried about communication skills in English while the second HOD worried about the graduates' ability to think analytically. The third HOD considered low students involvement and participation in class activities as a weakness because graduates enter the profession with the same behaviour. Students' rural backgrounds are passive compared to the more aggressive urban characteristics of the profession. HOD 3 argued that students need to adapt to the demand of the work place.

4.3.5 The Industrial Training Component of the Programme

All HODs regarded the industrial training component as very important and contributed positively to students' preparation for work. HOD 1 commented, "industrial training helps students understand more what they have studied in the polytechnic and provides opportunity to apply what they learnt".

The second HOD perceived it as a way to let students experience the real demands of the work place. This helped students relate to what they have studied for four semesters and motivate them to work harder. The third HOD felt that industrial training provides first hand information about new developments in the work place.

The first HOD identified inadequate supervision from industry as the major weakness in industrial training. Supervision is necessary and a memorandum of understanding between employers and the polytechnics provides a reference used to train students. The lecturers also use the reference when supervising students. The

second HOD considered the limited number of audit firms available for training affected the effectiveness of the component. Audit firms are regarded as better places for student training because there is more exposure to financial record keeping and reporting. As placement in audit firms is limited some students are attached to other, business organisations.

The third HOD cited two major problems associated with this component. The first was failure of employers to expose students to appropriate jobs. Some employers have worked with the polytechnic for the past 25 years and understand the level of training that should be given to students. They are given a copy of the curriculum, so that they know the extent of students' preparedness and the need for training. The second is when employers are reluctant to give students challenging jobs. Students were given simple clerical duties that are not challenging. This usually happens with some newly appointed organisations. Employers are contacted when this happens. If the practice continues the students are moved to other organisations.

4.3.6 Changes Made to the Programme

According to the HODs in 1987 the polytechnics undertook a major review of the curriculum. The Diploma in Accounting programme experienced some changes as a result of the review process. In 1990, the changes made were due to the introduction of the semester system replacing the term system. The outcome of the review was a newly structured Diploma in Accounting programme. The change in structure shortened the duration of the programme by three months as compared to the initial 36 months.

According to the second HOD, only small changes have been made since then. In the Cost and Management accounting syllabus a new topic on Activity Based Costing was introduced. In Taxation a new topic on Property and Industry Tax was introduced to replace the topic on Development Tax. Another change indicated by HOD 2 is that students are required to do their industrial training in the fourth semester rather than the fifth semester as before. Another exercise to revamp the programme was conducted in 1995. The third HOD mentioned that the existing curriculum has been distributed to all involved in the review process for comments. New curriculum structure and subjects' code number were introduced as a result of the review exercise.

All the HODs highlighted the need to introduce more computerised accounting subjects. HOD 3 argued that the changes are necessary due to the introduction of computer technology in the work place. In addition, the second HOD suggests the need to introduce new accounting software packages. It is necessary to acquire the latest computer hardware and software.

4.3.7 Present and Future Roles of Accounting Professionals in the Diploma in Accounting Programme Review

All the HODs forecast that the roles of professional accounting bodies will expand in the future. The involvement of these professionals can be traced since the introduction of the Diploma in Accounting programme. Their involvement has been significant in the development of the curriculum.

Since then the professionals have been constantly involved in the reviewing process. They are frequently consulted through the establishment of the industrial advisory committee. The professionals are among the members of the committee. The existence of professionals on the committee improves the relationship between polytechnics and industries.

The three HODs highlight that the staff are encouraged to invite professionals to participate and observe their teaching and learning activities. Polytechnics allocate funds for the purpose of inviting guest speakers or for students to visit industries. Dialogues and seminars held by professional bodies and private accounting practitioners help promote understanding of each other's expectations and needs. The HODs felt that the relationship is strengthened by frequent contacts, and co-operation should be encouraged.

According to the HODs in the future mutual training should be organised. The idea of "time sharing privatisation" has been put forward regarding this matter. Professional accounting bodies and polytechnics jointly provide short term training programmes for private business organisations. It has been highlighted that through co-operation, polytechnic teaching staff have the opportunity to enhance their knowledge and expertise.

There is also a suggestion from HOD 3 to organise a twinning programme between polytechnics and professional bodies. The polytechnic staff can teach Professional courses while professional bodies do the examinations. This co-

operation enhances the public and industrial recognition of the Diploma in Accounting programme as well as the graduates.

4.3.8 The Future of the Diploma in Accounting Programme

The direction of economic development and the state of the country in the twenty-first century was mentioned by the HODs as guiding principles for polytechnics' operations. To become an industrialised nation by 2020 TED and the polytechnics must expand and improve the courses offered. Due to industrialisation, there is a need for strong financial support services based on rapidly advancing information technology. This creates a need for trained people. The challenge is to produce graduates with the necessary knowledge and skills for such a technological culture.

The HODs also highlighted that while the Diploma in Accounting programme's objective should be maintained, polytechnics need to introduce advanced courses. The respondents see the polytechnics aiding the country into the new century.

4.4 Summary

It can be summarised from sub-section 4.2.1. that the existence of the Commerce Curriculum Section of the Technical and Vocational Education Division (TAVED), Ministry of Education Malaysia is the outcome of a policy to provide the country with the necessary work force at the sub-professional level. Moreover the

effort by the government to establish the polytechnics is an act of creating the place for indigenous people to pursue education and training in technical and commercial areas.

Section 4.2.2 highlights the establishment of the commerce department in the polytechnic as an indicator of the government's effort to help produce business people and business executives. It is also considered as an indication of the policy to increase the number of Bumiputra (indigenous) business executives.

In section 4.2.3, the objective of the Diploma in Accounting programme parallels the objective of the first polytechnic established in 1969 which is to produce a sub-professional accounting work force. The expansion to six polytechnics indicates that the objective of producing sub-professional level of work force continues and is relevant to the need of the country.

Section 4.2.4 documented that the Diploma in Accounting curriculum was established with the help of UNESCO. UNESCO assisted the curriculum committee that consisted of representatives from the Ministry of Education, Professional Accounting Bodies, academicians from higher education institutions and the Public Works Department. The final draft of the curriculum was approved by the CCC. Since then the curriculum has undergone three major review process in 1987, 1990 and 1995.

In section 4.2.5, the curriculum is identified as "industry driven" with the intention of producing graduates who meet the demands of the industries. A Course

Advisory Committee consisting of members of the professional bodies and practitioners was established to ensure input from the industry.

Section 4.2.6 describes suggestions to enhance the programme. To achieve the objectives of the programme, content, staff, facilities and education-industry partnership need to be improved.

Section 4.3.1 delineates the primary objective of the programme to produce middle-level accounting staff. However, the respondents agree that the programme helps students pursue further academic or professional qualifications. They agreed that the programme achieved its objective.

Section 4.3.2 relates to students' communication skills in English, analytical skills, inadequate teaching staff and obsolete computer facilities. Comments from the HODs, the graduates and the employers stress the need to improve students' ability to communicate in English. This was identified as the cause of lower graduate recruitment by large business organisations and lower self-esteem of graduates. Employers also commented on the low analytical skills of the graduates. Teaching and learning skills need to be enhanced. Despite the importance of the computerised accounting knowledge and skills stressed by the respondents, they are still waiting for funding to upgrade computer facilities. Plans have been made by the Commerce Curriculum Section to establish accounting laboratories to enhance innovative teaching and learning methodologies. This is necessary to enhance students' knowledge, skills and understanding.

Staff shortages were also discussed. The polytechnics due to the shortage of teaching staff cannot meet the increasing demand by industries for sub-professional accounting staff. Future staff recruited to teach at the polytechnics need teaching qualifications even though the policy was relaxed during a period of acute staff shortage. The emphasis is to encourage staff to enhance their teaching and learning methodologies, knowledge, and skills. In addition to lectures, innovative teaching and learning need to be introduced. This includes the use of accounting laboratories with work place simulation facilities. Seminars and guest speakers are encouraged to be used by the teaching staff in order to introduce first-hand information from industries.

In section 4.3.3, it is shown that an average of 70% of the graduates secure employment after their studies while 30% continue their studies. Those who further their studies did so at local universities or abroad. Most of those who choose to further their studies continued in the same discipline. Of the 70% gaining employment most of them work in areas related to their studies and required an equivalent level of qualification. There are a few who did not work in areas related to their studies or employment requiring lower level of qualification. These were related to students' self-esteem due to weak communication in English. They prefer clerical jobs that do not require them to communicate in English.

Section 4.3.4 highlights the industrial training component as an advantage to the graduates. During the six-month training period students are exposed to the demands and environment of the work place. The training improves students' self-confidence and ability to adapt to working conditions. It was also suggested that students should be able to relate to work what they have been taught. They are also

able to grasp first hand knowledge and skills direct from the training places. The experiences were described as contributing positively to students' attitudes towards their studies. The other strength is exemption given to graduates from taking foundation level examinations when pursuing their professional accounting courses whether taken locally or abroad.

There are several weaknesses mentioned by the respondents. The first is that graduates are weak in English. This weakness causes them difficulty in the work place. The work culture in the work place demands graduates possess ability to communicate in English. Commercial English subjects and use of English as a medium of communication in the programme have been identified as crucial. Graduates' analytical abilities are significantly lower than employers' expectations. Students' lack of motivation is seen as the result of students' rural background.

In section 4.3.5, the industrial training component is an important component of the programme. The experiences from the industrial attachment improve students' abilities to relate classroom learning to duties and tasks. They have also improved attitudes towards their studies. Some obtain the latest information about accounting procedures. The problems associated with the industrial training component relate to the limited suitable training places. Auditing firms are the most appropriate place for student training. Due to the limited places available some students are required to do their training in other business organisations. Some employers do not provide appropriate training. Some are reluctant to let students handle more challenging duties and tasks.

Section 4.3.7 shows the need to strengthen the present relationship with private practitioners and professional accounting bodies. At present private practitioners and professional bodies are involved in curriculum review. More avenues for co-operation have been identified which includes developing twining programmes, private sector time sharing, teaching staff attending industrial attachment, teaching staff taking professional courses and organising more dialogues and meetings.

The discussion in section 4.3.8 suggests a continuous and greater demand for polytechnics to provide education and training in technologies and commerce to serve Malaysia's industrialisation process. The Diploma in Accounting programme is in greater demand and relevant to the country's development. The respondents also believe that polytechnics should produce graduates that can actively participate in economic development. The respondents also suggest TAVED introduce advanced programmes in polytechnics.

4.5 Conclusion

This chapter helps to provide background and operational information at the TED and polytechnics levels. The information obtained from Assistant Director of TED highlights the effort by Malaysian government through the Ministry of Education Malaysia to provide the country with the necessary work force at the sub-professional level. There are economic as well as political reasons for the initiative by the government to establish the polytechnics. The objective of the Diploma in Accounting programme offered in the polytechnics parallels the objective of the

government establishing the polytechnics. Even though the Assistant Director of TED indicates that programmes offered in the polytechnics were related to Malaysian industrial demands the information obtains from Heads of Commerce Departments of the polytechnics highlights shortcomings in its implementation. Various efforts mentioned by respondents during the interviews including the establishment of the industrial advisory committee did not help to overcome identified shortcomings. It can be concluded that there is a need to develop a theoretical framework that could guide TED officers and accounting educators in developing and implementing effective accounting programme. This study intends to develop an approach in order to help TED personnel and accounting educators strengthen accounting programme in the polytechnics of Malaysia.

CHAPTER 5

ACCOUNTING SUPPORT STAFF WORK PLACE PROFILE: EMPLOYEES' AND EMPLOYERS' PERCEPTIONS

5.1 Introduction

This chapter consists of two main parts. The first part (sections 5.2 to 5.5) analyses responses of employees working as accounting support staff. It presents a detailed analysis of responses given by technical accounting support staff working in the public, manufacturing, services and government accounting sectors. It contains employees' (see appendix K for respondents' demographic profile) perceptions on importance and time spent on duties and tasks. It establishes a profile of the roles, work and duties involved. Understanding how to read the reported data is the concern in this chapter.

Interviews with employers (see appendix L for respondents' demographic profile) are reported in the second part of this chapter (sections 5.6 and 5.11) and provide a detailed account of employers' expectations and demands of accounting support staff. While the interviews were far ranging, the focus of this chapter is on duties and tasks expected of new accounting support staff. Employers' expectations of new employees are aslo reported.

5.2 Accounting Support Staff Duties in Terms of Importance and Time Spent:

Employees' Perceptions

Table 5.1 on page 132 presents employees' perceptions of performed duties and the time spent on each. It shows the mean scores for all the respondents as a group and by sectors. Column 1 contains numbering for easy identification. Column 2 documents variable numbers as they are included in the questionnaire. Column 3 describes a list of 24 duties. Duties are listed by the rank order of the mean scores arranged in a descending order. Column 4 reports the overall mean scores in terms of importance with a range of 1.0 as minimum and 5.0 as maximum scores. Column 5 contains the overall mean scores in terms of time spent in hours per week on each duty. Column 6 to Column 9 reports mean scores of the four sectors involved in the study. The tabular data are rather comprehensive, and in this chapter, recorded. In the final chapter, specific data are analysed and conclusions drawn.

The first sixteen duties in table 5.1 have mean scores of at least 3.000, which are categorised as "important" while the remaining seven groups of duties are categorised as "fairly important". The last two groups of duties received no response and could be considered as not performed by the respondents in the survey. Another explanation is that there is no respondent representing the particular organisations.

Looking at the public accounting sector's column (PAF, column 6) in table 5.1, the respondents list the first duty as "very important" and ten duties as

Table 4.1: Mean Scores of a Group of Duties by Sectors

(1) No.	(2) Variable	(3) Description of duties	(4) Overall mean scores in terms of Importance, n = 37	(5) Overall mean scores in terms of Time Spent, n = 37	(6) P.A.F. mean scores in terms of Importance, n = 15	(7) Retailing/ Service industry mean scores in terms of Importance, n = 15	(8) Manufact-uring firms mean scores in terms of Importance, n = 4	(9) Government agencies mean scores in terms of Importance, n = 3
1.	100	Drafting Limited Company Final Accounts	3.880	2.760	4.077	3.571	3.750	4.000
2.	104	Drafting Sole Trader and Partnership Final Accounts	3.708	2.708	3.643	3.714	4.000/1.000	0.000
3.	118	Managing Accounting System	3.652	2.569	3.000	3.500	4.000/1.225	3.000
4.	178	Creating and Maintaining Effective Working Relationships	3.635	2.243	3.667	3.467	4.125	3.667
5.	172	Contribute to the effectiveness of the Work Flow	3.567	2.041	3.533	3.133	4.165	4.333
6.	48	Preparing Financial Accounts	3.528	2.422	3.014	3.246	4.000/1.278	4.110
7.	14	Processing Data and Using Spreadsheets	3.447	2.007	3.423	3.150	4.063	3.750
8.	128	Managing a Cash Management and Credit Control System	3.434	2.221	3.292	3.067	4.250	4.083
9.	24	Recording and Accounting for Cash Transactions	3.433	1.963	2.731	3.283	4.250	4.750
10.	182	Monitoring and Maintaining a Healthy, Safe and Secure Workplace	3.278	2.200	3.714	2.867	3.500	3.000/2.000
11.	156	Preparing Taxation Computation	3.171	2.281	2.868	3.043	3.345	3.293
12.	54	Preparing Reports and Returns	3.151	2.328	2.875	3.385	3.875	3.000/1.000
13.	34	Recording and Accounting for Credit Transactions	3.076	2.129	2.769	2.804	3.750	3.917
14.	80	Operating a Budgetary Control System	3.052	2.302	2.696	3.047	2.833	3.333
15.	40	Recording for Payroll Transactions	3.049	2.000	3.227	2.538	3.375	3.833
16.	62	Recording Capital Transactions	3.029	2.091	2.923	2.929	2.750	3.000/1.000
17.	138	Implementing Auditing Procedures	2.877	2.188	3.288	2.083	3.125	3.167
18.	88	Preparing Information for Cost Analysis and Control	2.823	2.211	2.667	2.738	3.665	2.667/0.577
19.	96	Preparing Information for the Appraisal of Activities and Projects	2.820	2.202	2.637	2.890	2.998	2.667/0.577
20.	72	Recording Cost Information	2.812	2.121	2.733	2.661	3.3313	2.667/0.577
21.	164	Information Technology and its Environment	2.751	1.970	2.833	2.143	2.875	3.417
22.	58	Preparing VAT Returns	2.296	2.154	2.300	2.812	2.250	3.500
23.	108	Drafting Federal Government Final Accounts	0.000	0.000	0.000	0.000	0.000	0.000
24.	112	Drafting Local Government Final Accounts	0.000	0.000	0.000	0.000	0.000	0.000

Key: 1.000 = not important, 2.000 = fairly important, 3.000 = important, 4.000 = very important, 5.000 = extremely important

"important". Duties numbers 2 to 8 followed by duties numbers 10, 15 and 17, which are considered as "important" by the respondents. Eleven duties numbers 9, 11 to 14, 62, and 18 to 22 are regarded as "fairly important". The last two duties are not performed by the respondents.

The service accounting respondents perceived the first nine listed duties as "important" followed by duties numbers 11, 12 and 14, which are also considered as "important" by the service sector respondents. Duties numbers 10, 13 and 15 to 22 are regarded as "fairly important". The last two duties are not performed by the respondents.

Eight duties out of 24 duties are categorised as "very important" by respondents from the manufacturing sector. Duties with mean scores equal to or greater than four but less than five fall into "very important" category. The eight duties categorised as "very important" by the respondents are major duties performed by them. Nine duties are categorised as "important" and five duties are categorised as 'fairly important". The last two duties are not performed by the respondents.

For the government sector, out of 24 duties five duties are considered as "very important" with mean scores greater than 4.000, thirteen duties are considered as "important" with mean scores greater than 3.000 and five were considered as "fairly important" with mean scores of below 3.000 but greater than 2.000. Duties numbers 2, 23 and 24 are not performed by the respondents in the government sector.

Responses highlight the differences in the duties and tasks performed in each sector. Accounting educators should take into account such differences when developing accounting education programme curriculum and instructions.

5.3 Results of Selected Sub-Groups of Respondents' Perceptions

Table 5.2 on page 135 provides further analysis of data presented in Table 5.1. This analysis is important because it contains perceptions of respondents closest to the target group that may benefit from the present research. Column 4 represents responses from respondents with five years or less working experience, column 5 represents responses from respondents holding equal to or less than diploma in accounting qualifications and responses from graduates of the polytechnics are represented in column 6. Column 7 contains averages of columns 4,5 and 6. Columns 4,5,6 and 7 highlight duties expected to be performed by students graduating from the polytechnic accounting programme. Findings from Table 5.2 help accounting educators in the polytechnics to identify knowledge and skills necessary to be included in the curriculum and instructions.

The overall mean scores of respondents with less than 5 years of working experience (column 4) were higher than the total group (column 7). This sub-group attaches more "importance" to all duties listed. This sub-group perceived the first fifteen duties as "important" and the next seven duties as "fairly important". This sub-group also gave higher mean scores than the other respondents (columns 5 and 6).

Table 5.2: Selected Sub-Groups Perceptions in terms of Importance by:

a. working experience,
b. accounting qualifications,
c. graduates of the Polytechnics, and;
d. average of mean scores of columns 4,5 and 6.

(1) No.	(2) Var.	(3) Duties	(4) Ranking in terms of Importance by respondents with number of years working <= 5, n = 30	(5) Ranking in terms of importance by respondents with highest Accounting Qualification <=Diploma, n = 26	(6) Ranking in terms of importance by respondents with Polytechnic Pre-Employment Education, n = 7	(7) Mean scores of columns 4,5 and 6
1.	100	Drafting Limited Company Final Accounts	3.857	3.733	3.500	**3.697**
2.	104	Drafting Sole Trader and Partnership Final Accounts	3.700	3.533	3.714	**3.649**
3.	48	Preparing Financial Accounts	3.363	3.283	4.144	**3.597**
4.	14	Processing Data and Using Spreadsheets	3.431	3.394	3.857	**3.561**
5.	24	Recording and Accounting for Cash Transactions	3.353	3.288	3.750	**3.464**
6.	178	Creating and Maintaining Effective Working Relationships	3.717	3.423	3.214	**3.451**
7.	54	Preparing Reports and Returns	3.385	3.152	3.214	**3.250**
8.	118	Managing Accounting System	3.433	3.077	3.214	**3.241**
9.	182	Monitoring and Maintaining a Healthy, Safe and Secure Workplace	3.483	3.000	3.143	**3.209**
10.	34	Recording and Accounting for Credit Transactions	3.080	2.860	3.571	**3.170**
11.	172	Contribute to the effectiveness of the Work Flow	3.478	3.295	2.714	**3.162**
12.	156	Preparing Taxation Computation	3.085	2.882	3.466	**3.144**
13.	128	Managing a Cash Management and Credit Control System	3.438	3.200	2.786	**3.141**
14.	80	Operating a Budgetary Control System	3.153	2.902	3.055	**3.037**
15.	40	Recording for Payroll Transactions	3.140	2.957	3.000	**3.032**
16.	62	Recording Capital Transactions	2.929	2.800	3.143	**2.957**
17.	72	Recording Cost Information	2.846	2.729	2.708	**2.761**
18.	88	Preparing Information for Cost Analysis and Control	2.962	2.555	2.667	**2.728**
19.	96	Preparing Information for the Appraisal of Activities and Projects	2.921	2.546	2.612	**2.693**
20.	164	Information Technology and its Environment	2.602	2.380	2.536	**2.506**
21.	138	Implementing Auditing Procedures	2.788	2.359	2.250	**2.466**
22.	58	Preparing VAT Returns	2.364	2.250	2.000	**2.205**
23.	108	Drafting Federal Government Final Accounts	0.000	0.000	0.000	**0.000**
24.	112	Drafting Local Government Final Accounts	0.000	0.000	0.000	**0.000**

Key: 1.000 = not important, 2.000 = fairly important, 3.000 = important, 4.000 = very important, 5.000 = extremely important

The mean scores of respondents with accounting qualifications equal to or less than diploma level (column 5) were lower than the overall group scores (column 7). This sub-group categorised the first eleven duties as "important" while the next eleven were perceived as "fairly important". Respondents' qualifications seem to influence perceptions. Polytechnic graduates (column 6) rated the first 16 duties as "important" with exceptions of duties 11 and 13 that are rated as "fairly important". Duty number 3, "preparing financial accounts", was considered "very important". When compared to the other two sub-groups (columns 4 and 5), the results are mixed with instances of higher and lower mean scores. There are cases where the mean scores are perceived as "important" across the first three columns but are categorised as "fairly important" by the polytechnics' sub-group. Seven duties were considered as "fairly important".

From table 5.2, as represented in column 7, a list of duties relevant to the target group is identified. Even though there are differences in perceptions detected for duty no. 10 and beyond in columns 4,5 and 6, however, column 7, which contains overall results, helps to determine the relevant knowledge and skills in a polytechnic accounting programme. Respondents who had less than five years of working experience (column 4) and the polytechnic graduates (column 6) registered higher scores on less complex duties such as preparing financial accounts, processing data and using spreadsheets, recording and accounting for cash transactions, recording, and accounting for credit transactions.

5.4 Rank Order of Tasks Performed by the Respondents

Respondents' perceptions of duties discussed earlier in Table 5.2 (Column 7) are rank-ordered in this section. As indicated in table 5.3 on page 138, some of the duties were represented by only one task while others were represented by two or more tasks. The duties are numbered for easy reference. Variable numbers, mean scores and standard deviations are also listed. Following these are the ranking of tasks, variable numbers, variable descriptions, mean scores and standard deviations. The standard deviation is useful when more than one task has the same mean score. The mean score with the lowest standard deviation will be ranked first. Lower standard deviation indicates lesser disagreement between respondents with regard to the importance of the task. The first column shows tasks ranking according to mean scores.

The information provided in table 5.3 presents an insight into individual duties. A smaller focus area enhances respondents' perceptions. As an example, the mean score for variable 14 listed as duty number 4, contains four tasks. The task identified as variable 6 is ranked first followed by tasks identified as variables 10, 8 and 12. Mean score for "producing spreadsheets for the analysis of numerical information", variable 12, is 3.229 and ranks fourth. Duty number 4 is made up of four smaller tasks. Two of the tasks have higher mean scores than the group mean score while the other two tasks have lower mean score but not much lower. This result could be useful in understanding the level of responsibilities given to the respondents.

Table 5.3: Ranking of Tasks in Terms of Their Importance by Using Mean Scores:

No. 1: Var. 100, mean 3.880, std. dev. .927

Ranking	Variable	Description	Mean	Std.Dev.
1.	98	Drafting Limited Company final accounts	3.880	.927

No. 2: Var. 104, mean 3.708, std. dev. 1.197

Ranking	Variable	Description	Mean	Std.Dev.
1.	102	Drafting Sole Trader and Partnership final accounts	3.708	1.197

No. 3: Var. 118, mean 3.652, std. dev. 0.412

Ranking	Variable	Description	Mean	Std.Dev.
1.	114	Supervising an accounts section	3.943	
2.	116	Improving the effectiveness of an accounting system	3.361	1.175

No. 4: Var. 178, mean 3.635, std. dev. 0.440

Ranking	Variable	Description	Mean	Std.Dev.
1.	174	Establishing and maintaining working relationships with other members of staff	3.946	1.246
2.	176	Receiving and assisting visitors	3.324	1.156

No. 5: Var. 172, mean 3.567, std. dev. 0.188

Ranking	Variable	Description	Mean	Std.Dev.
1.	166	Planning and Organising Own Work Schedule	3.730	1.305
2.	168	Obtaining and organising information in support of own work	3.611	1.271
3.	170	Obtaining and maintaining physical resources to carry out own work	3.361	1.268

No. 6: Var.48, mean 3.528, std. dev. 0.139

Ranking	Variable	Description	Mean	Std.Dev.
1.	42	Recording income and expenditure	3.667	1.267
2.	46	Preparing the extended trial balance	3.529	1.237
3.	44	Preparing income from incomplete records	3.389	1.202

No. 7: Var. 14, mean 3.447, std. dev. 0.179

Ranking	Variable	Description	Mean	Std.Dev.
1.	6	Inputting information from source documentation into a computer system	3.600	1.241
2.	10	Generating and printing standard reports on a computer system	3.588	1.328
3.	8	Locating and retrieving recorded details of requested item from a computer	3.371	1.165
4.	12	Producing spreadsheets for the analysis of numerical information	3.229	1.190

No. 8: Var. 128, mean 3.434, std. dev. 0.127

Ranking	Variable	Description	Mean	Std.Dev.
1.	120	Monitoring and control cash receipts and payments	3.455	1.252
2.	122	Managing cash balances	3.588	1.282
3.	126	Monitoring and control the collection of debts	3.412	1.234
4.	124	Arranging the granting of credit	3.281	1.224

No. 9: Var. 24, mean 3.433, std. dev. 0.142

Ranking	Variable	Description	Mean	Std.Dev.
1.	16	Recording and banking monies received	3.429	1.520
2.	18	Making and recording payments	3.412	1.459
3.	22	Accounting for cash and bank transactions	3.618	1.415
4.	20	Maintaining petty cash transactions	3.273	1.353

No. 10: Var.182, mean 3.278, std. dev. 1.446

Ranking	Variable	Description	Mean	Std.Dev.
1.	180	Monitoring and maintaining the security of the workplace	3.278	1.446

No. 11: Var. 156, mean 3.171, std. dev. 0.131

Ranking	Variable	Description	Mean	Std.Dev.
1.	148	Preparing capital allowance computations	3.333	1.137
2.	140	Calculating income from employment	3.281	1.198
3.	142	Adjusting accounting profits and losses for trades and professions	3.250	1.047
4.	150	Preparing personal tax returns	3.250	1.107
5.	144	Preparing of property and investment income	3.188	1.256
6.	152	Preparing computations and returns of advance corporation tax and income tax payable or recoverable by a company	3.031	1.257
7.	154	Preparing corporation tax computations and returns	3.031	1.332
8.	146	Preparing capital gains tax computations	3.000	1.250

No. 12: Var.54, mean 3.1515, std. dev. 0.172

Ranking	Variable	Description	Mean	Std.Dev.
1.	50	Preparing periodic performance reports	3.273	1.306
2.	52	Preparing reports and returns for outside agencies	3.030	1.357

No. 13: Var.34, mean 3.076, std. dev. 0.061

Ranking	Variable	Description	Mean	Std.Dev.
1.	32	Accounting for goods and services received on credit	3.094	1.376
2.	30	Accounting for goods and services supplied on credit	3.063	1.318
3.	28	Processing documents relating to goods and services received on credit	3.000	1.392
4.	26	Processing documents relating to goods and services supplied on credit	3.147	1.417

No. 14: Var. 80, mean 3.052, std. dev. 0.095

Ranking	Variable	Description	Mean	Std.Dev.
1.	78	Monitoring the actual performance of responsibility centres against budgets	3.031	1.231
2.	74	Preparing forecasts of income and expenditures	3.156	1.167
3.	76	Preparing draft budget proposals	2.969	1.231

No. 15: Var.40, mean 3.049std. dev. 0.069

Ranking	Variable	Description	Mean	Std.Dev.
1.	38	Making authorised payments, claims and returns to external agencies	3.000	1.366
2.	36	Making authorised payment to employees	3.097	1.469

No. 16: Var. 62, mean 3.029, std. dev. 1.087

Ranking	Variable	Description	Mean	Std.Dev.
1.	60	Maintaining records and accounts relating to capital transactions	3.029	1.087

No. 17: Var. 138, mean 2.877, std. dev. 0.154

Ranking	Variable	Description	Mean	Std.Dev.
1.	134	Preparing a draft audit report	3.032	1.224
2.	132	Conducting a systems audit	2.935	1.340
3.	130	Planing a systems audit	2.875	1.338
4.	136	Conducting a computer audit	2.667	1.249

No.18: Var. 72, mean 2.812, std. dev. 0.095

Ranking	Variable	Description	Mean	Std.Dev.
1.	68	Operating and maintaining a system of accounting for expenses	2.938	1.390
2.	70	Operating and maintaining a system for the appointment and absorption of indirect costs (overheads)	2.813	1.203
3.	64	Operating and maintaining a system of accounting for material costs	2.788	1.166
4.	66	Operating and maintaining a system of accounting for labour costs	2.710	1.160

No. 19: Var.88, mean 2.823, std. dev. 0.208

Ranking	Variable	Description	Mean	Std.Dev.
1.	84	Analysing accounting information	3.063	1.268
2.	86	Collecting, analysing and disseminating information about external costs	2.719	1.224
3.	82	Preparing and presenting standard cost reports	2.688	1.256

No. 20: Var. 96, mean 2.820, std. dev. 0.055

Ranking	Variable	Description	Mean	Std.Dev.
1.	92	Evaluating proposed current activities	2.867	1.137
2.	90	Preparing cost estimates	2.833	1.147
3.	94	Appraising long-term projects	2.759	1.123

No. 21: Var. 164, mean 2.751, std. dev. 0.0143

Ranking	Variable	Description	Mean	Std.Dev.
1.	160	Organising own files into storage areas for future use	2.848	1.202
2.	158	Maintaining an established storage system	2.818	1.236
3.	162	Obtaining non-routine information from a computerised Information Management System	2.586	1.119

No. 22: Var. 58, mean 2.296, std. dev. 1.031

Ranking	Variable	Description	Mean	Std.Dev.
1.	56	Preparing Value Added Tax Returns	2.296	1.031

5.5 Respondents' Perceptions on Computer Literacy and Skills

This section represents respondents' perceptions of computer literacy and skills needed for work as shown in table 5.4a, b, and c on page 143. Table 5.4a lists the respondents' perceptions of the importance of computer skills. Reading from left to the right, column 1 shows the rankings of the variables. Column 2 indicates computer literacy and skills variable numbers as printed in the questionnaire; column 3 describes the variables; column 4 indicates the mean scores of importance attached to computer applications in the workplace; column 5 documents the standard deviations; column 6 indicates the ranking in terms of importance. Table 5.4b and 5.4c highlight software applications and types of work performed using computers. Reading from left to the right, column 1 shows the rankings of the variables. Column 2 indicates computer literacy and skills variable numbers as printed in the questionnaire; column 3 describes the variables; column 4 indicates the mean scores of importance attached to computer applications in the workplace; column 5 documents the standard deviations; column 6 indicates the mean scores of time spend on the listed variables; column 7 reports the standard deviation; and column 8 highlights the ranking for the time spent on each variable.

The skill components of computer applications in the work place are the subject of the findings in table 5.4a. Skill to use the software is ranked first. Keyboarding was the next skill categorised as "important' followed by computer communicating. These two skills are not specifically related to accounting. They are "important" in performing daily duties. Thus the effort to develop these skills should

be one of the objectives of an accounting programme. Programming skill was considered as "fairly important". However, the results in terms of the time spent are suspicious, and it is not easy to provide an explanation.

Of the various software applications required in the work place, as shown in table 5.4b, respondents rank spreadsheet applications as the first priority with a mean score of 3.719. Word processing and spreadsheet applications are categorised as "important". Database applications are "fairly important" and ranked last.

In terms of the time spent on the three components, table 5.4b shows the mean scores. They are in the 6 to 10 hours category. Even though the first two components were categorised as "important", and the third as "fairly important", the mean score suggest that they occupied about the same amount of the respondents' time.

The use of computers in the work place, reading from left to the right, is provided in table 5.4c. The use of computers to analyse data ranked first with a mean score of 3.129 and is categorised as "important". Administrative use is another "important" purpose of the computer with a mean score of 3.125. Audit database and planning are categorised as "fairly important". Regardless of purpose, computers are used 6 to 10 hours per week that means a quarter of an accounting support staff's working time is spent on the computer.

Table 5.4a: No. 2: Var. 192/193 Perceptions on Computer Skills

(1) Ranking in terms of Importance	(2) Variable	(3) Description	(4) Mean*	(5) Std.Dev.	(6) Ranking in terms of importance
1.	188/189	Software Applications	3.344	1.335	1
2.	184/185	Keyboarding	3.324	1.199	2
3.	190/191	Computer Communicating	3.065	1.436	3
4.	186/187	Programming	2.645	1.427	4

Key: *1 = Not Important, 2 = Fairly Important, 3 = Important, 4 = Very Important, 5 = Extremely Important

Table 5.4b: No. 1: Var. 200/201 Perceptions on Software Applications

(1) Ranking in terms of Importance	(2) Variable	(3) Description	(4) Mean*	(5) Std.Dev.	(6) Mean**	(7) Std.Dev.	(8) Ranking in terms of Time Spent
1.	194/195	Spreadsheets Applications	3.719	1.023	2.839	1.319	1
2.	196/197	Word Processing Applications	3.469	.915	2.742	1.210	2
3.	198/199	Database Applications	2.719	1.224	2.355	1.355	3

Key:*1 = Not Important, 2 = Fairly Important, 3 = Important, 4 = Very Important, 5 = Extremely Important
: **1 = 0 - 5 hours, 2 = 6 - 10 hours, 3 = 11 - 15 hours, 4 = 16 - 20 hours, 5 = more than 20 hours

Table 5.4c: No. 3: Var. 212/213 Computer Usage

Ranking in terms of Importance	Variable	Description	Mean*	Std.Dev.	Mean**	Std.Dev.	Ranking in terms of Time Spent
1.	206/207	Analysing	3.129	1.147	2.226	1.175	2
2.	202/203	Administrating	3.125	1.129	2.125	1.129	3
3.	208/209	Audit Database	2.963	1.400	2.333	1.359	1
4.	204/205	Planning	2.933	1.258	2.033	1.217	4

Key*:1 = Not Important, 2 = Fairly Important, 3 = Important, 4 = Very Important, 5 = Extremely Important
:** 1 = 0 - 5 hours, 2 = 6 - 10 hours, 3 = 11 - 15 hours, 4 = 16 - 20 hours, 5 = more than 20 hours

5.6 Skills Expected and Duties Assigned to New Accounting Support Staff

This section reports individual interviews and complements the survey questionnaire. Twelve employers were interviewed. The demographic profiles of the interviewees are provided in appendix M. Interview sessions focused on skills expected from graduates of accounting education and training programmes. It also helped to explain why certain duties and tasks are assigned.

5.6.1 Responses of the Public Accounting Sector Respondents

The first respondent expects graduates to have "a good [foundation of] accounting knowledge, because we don't expect new graduates to have practical experience". According to the respondent, the firm provides relevant experience but graduates must understand debiting and crediting because this helps them "think for themselves how things should be done". Examples of accounting knowledge mentioned consist of "technical accounting principles that include double entry and the accrual concept". While stressing the importance of having technical accounting knowledge, the respondent expects staff to "know how to draw a balance sheet, profit and loss accounts and bank reconciliation. They should be able to read the bank reconciliation and the purpose of preparing the reconciliation".

The respondent added a "qualifying" condition. It is a definite requirement to know how to keep a set of accounts, how the balance sheet system works, and to possess good communication skills. Writing skills are considered very important by

the respondent because staff write memoranda. The firm stresses English as the medium of communication internally and with the clients.

The respondent expects new staff members to perform audit jobs under the guidance of a senior. The senior instructs new staff in sectional audits. Other duties are added depending upon progress. New staff members are not expected to solve any audit issues until they have mastered the audit. Staff must first understand financial statements section by section. At year end the new staff will assist seniors to take stock.

The second respondent expects new staff to know debit, credit, full set accounts, and auditing. The respondent stresses knowledge of accounting theories. The respondent acknowledges difficulties in providing training for staff that lack accounting knowledge. It is acceptable to join the firm without many skills but not without basic accounting knowledge. The respondent then added,

> "I understand that it is not possible for them to have practical skills since they are full time [students], but the most important thing is that the normal structure of the curriculum must cover as much as possible in terms of theory; at the universities they should cover everything. At Poly[technics] they should at least cover up to 75% of the whole theory (Respondent 2)."

In terms of duties and tasks, staff members do certain sections of the job and are briefed on procedures to follow. All depend on on-the-job-training for new staff. The staff are required to do audit work in order to develop an overall picture of audit

work. As individuals progress they will be required to handle medium and large accounts.

5.6.2 Responses of the Service and Retailing Sector Respondents

The first respondent from the service group expects new staff, after graduating with a diploma in accounting qualification, to know basic accounting procedures. New staff should demonstrate managerial and analytical skills. Analytical skills are demonstrated by preparing the budget for the branch office. Other qualities mentioned by the respondent are commitment to work and trustworthiness.

Functions in the branch office are divided into three sectors. The first is the daily function of checking transactions on the computerised Customer Accounts Mini System. The transactions are tallied with collections. The second function is to analyse the print out of the transactions. This usually takes half of a working day. From the outcomes of the analysis, the staff then prepare payments for all vendors, suppliers, and check invoices. Staff members also generate monthly reports for all payables and receivables. The third function involves administrative duties related to the welfare of the branch office staff. In a small branch the accounting staff perform duties and tasks related to accounting, clerical and personnel administration.

The second respondent expects new staff to maintain ledgers and balance daily transactions. The branch office computerised accounting system connects to headquarters and all daily transactions must be tallied. The accounting staff must be good in mathematics as well as accurate. The new accounting staff will be asked to

do a few simple jobs such as front desk balancing. Other duties and tasks include doing bank reconciliation and balancing the cash accounts.

The third respondent expects new staff to possess accounting knowledge, management skills and appropriate attitudes. New staff members deal with a full set of accounts and work with members from other departments. A new staff member needs to adjust attitudes to reflect the culture of the organisation. The respondent stresses, "we try to suit the company, not to make the company suits us". The duties and tasks of an assistant supervisor involve managing customers' accounts and are referred to as client control through the Broker Management System. Another responsibility of the assistant supervisor is to handle the staff in the accounting section. Senior accounts members maintain trading accounts, subsidiaries accounts, treasury, cash flow and banking and supervise cashiers. Clerks handle trust accounts, payments processing and secretarial matters. The respondent adds that they must have computer knowledge.

The fourth respondent expects new staff to possess basic accounting knowledge and skills related to bookkeeping and double entries. In terms of accounting concepts the respondent expects staff to understand accrual concepts. A Diploma in Accounting graduate joins the company at the clerical level and handles petty cash, account payables and account receivables. The respondent notes that maintaining account payables branches out to revenues and expenses, capital accounts, work-in-progress and many other sub-sections.

5.6.3 Responses of the Manufacturing Sector Respondents

The first respondent highlights the need for new staff to have knowledge of double entry, computer expertise and an analytical mind. There are several computer software packages used by the company. The respondent states,

> "From the first day he joins, we will let him see what the company's needs and requirements, the work he has to do and the objectives. From then on the first thing I will do is to teach him from the beginning, beginning with all the expenses from the accounts payable. I will teach him how to code the accounts, what are expenses, which expenses go to which account. Then I will teach him the accrual, prepayments, and how to charge up every month (Respondent 1)."

The second respondent indicates that new staff must have accounting knowledge to adapt to the work place. Accounting knowledge is the foundation of the work place. He also stresses the importance of computer literacy. The respondent also describes the duties and tasks of the accounting staff as,

> "I have appointed an accounting and secretarial consultant to handle the closing of the accounts. At this particular office site the work of the accounting staff is to record (Respondent 2)."

The third respondent expects new staff to have knowledge of debits and credits. She also expects staff to do bank reconciliation and classify the accounts. In terms of the duties and tasks, new staff members handle petty cash, do bank

reconciliation and maintain the accounts. Another requirement is to operate computerised accounting software.

The fourth respondent demands a "good knowledge of computer". The respondent highlights the importance of computerisation in the manufacturing industry. She stresses accounting packages as well as computer programming. The qualities necessary for staff are intelligence and efficiency as the organisation has due dates. It is also necessary for the staff to have knowledge of foreign currency exchange since the company has buyers and suppliers around the world. The nature of the company's business requires the staff to be able to forward contracts. Responsibilities expected of new staff include handling the bankbook, petty cash, ledgers and costing. After several years of experience, the staff members assist in foreign exchange activities and apply for letters of credit.

The fifth respondent places a premium on accounting theories. The area of concern is debits and credits. He also stresses interpersonal skills to settle problems and to negotiate with other departments. New staff handle simple account payables. More vendors' accounts are passed to the staff to handle and solve "problem" vendors. Computer knowledge is also important.

5.7 Employers' Standard of Performance for Accounting Support Staff

The first respondent from the public accounting firm stresses the need to review a few completed jobs before performance can be determined. The second respondent noted that the audit programme is tailor made by the firm and provides

procedures when doing their audit work. Staff members need to read through the programme and provide answers to questions asked when doing the audit. At the end of the process the staff may express opinions on the sections, and an overall opinion on the client's financial position is made. Throughout the assignment seniors do constant monitoring and checking. All work is submitted to the seniors for compilation. The firm makes a continuous effort to enhance audit procedures by keeping abreast and up to date with all auditing standards, accounting standards, and company business laws.

From the service sector, the standard of the staff performance is based on reports staff members generate. Each member produces monthly reports after completing all the transactions and closing accounts. The ability to provide a thorough analysis of the status of accounts is an indicator of performance. Staff adherence to operational procedures and ability to complete reports in a timely manner indicate staff performance.

The level of performance for staff in the second respondent's organisation is based on the completed assignments, level of supervision required, accounting procedures followed, accuracy, and work completed on time. The respondent in the third organisation judges staff based on qualifications and responsibilities performed.

The fourth organisation implemented Standard Operating Procedures and Practices (SOPP) to help staff perform. Even though SOPP is available and the staff members are required to comply, the respondent feels the main criterion is the quality

of reports generated at the end of the month. The reasonability of the reports and the analysis indicate how well duties and tasks are performed.

The first respondent from the manufacturing sector identified several indicators of staff performance. Ability to complete work by the due date is the first indicator of performance. Secondly, staff activities during the month also reflect on staff performance. The quality of the reports highlights analytical abilities. To ensure consistency of standards examples are provided. In the second case, the respondent depends on initial training to achieve the required standard. Staff members follow procedures and guidelines provided during training and are free to contact consultants whenever they have any difficulties.

The third respondent uses standard forms to maintain the proper procedure as required by the company. Staff members are required to use standard forms to record daily transactions and this helps them perform duties and tasks. The respondent occasionally monitors and checks recorded transactions to determine the level of staff performance.

The account officer in the fourth organisation determined staff performance by checking completed work. Sometimes questions asked by staff demonstrate level of the comprehension related to their work.

In the fifth case the respondent stresses initial job training. Newly hired staff are expected to adhere to procedures and are encouraged to consult their immediate superior for assistance. The close supervision during the first few months of

employment and constant monitoring keeps the employer informed about staff performances.

In the government sector the respondent depends on procedures and previous records as references for the staff to perform their work. Tradition, culture and experience are important criteria for both parties to follow. As long as the staff members do their work as done in the past, they are regarded as performing to the required level. The State Government Enactment legislation provides guidance as to how the work should be done.

5.8 Criteria for Hiring Staff

Personality is an important criterion for selection at the first public accounting firm. Attitude and communication skills were also high as selection criteria. Other criteria included self-confidence and clear career objectives. Candidates are assessed on positive thinking and plans to become qualified accountants. The diploma was required for an interview but selection was dependent upon factors previously mentioned.

The second audit firm offered jobs to holders of the intermediate London Chamber of Commerce Institute certificate, diploma in accounting, local or overseas university graduates. Candidates with different qualifications start at a different point on the pay scale but all started in the same position. Candidates with higher qualifications were expected to progress faster and those who wished professional growth were also considered. The respondent acknowledges weaknesses in interviews

as a hiring tool. To choose the most suitable candidates the firm had a three-month confirmation period. During this period the candidates' performances, attitudes and communication skills are evaluated before the employee may continue to work.

The first respondent from the service sector saw the initial qualification only as a permit for entry. According to him what counts most are the commitment, perseverance and analytical abilities. These are also important factors that determine staff's career progress.

The second respondent felt that firm knowledge and attitude towards work were two important criteria for employment. Employees' knowledge and skills benefited the organisation and worked for themselves as well as for the company. Employees with knowledge and skills can perform better in their work and thus are likely to be promoted to better positions.

The third respondent argued that initial qualifications were only forty percent of the employment picture. Experience and attitude can provide the other 60%. The respondent wanted to know where the candidate obtained the experience and whether it could be immediately applied. In terms of attitude, the respondent asked specific questions to determine the suitability of a candidate.

The finance manager felt that Diploma graduates are basically at the same level of quality and differentiating among them is very difficult. He acknowledged difficulties in choosing the right candidate but wanted candidates with accounting knowledge, positive attitudes and good communication skills.

The first respondent from the manufacturing sector accepted the initial qualification of diploma in accounting as the minimum qualification for employment. In other sections of the company the minimum qualification for employment was the Malaysian Certificate of Education (MCE). In addition to the minimum qualification the respondent stressed possession of accounting knowledge, and ability to work under pressure, effective communication, and the ability to contribute ideas to improve performance.

The second respondent was more concerned about initial qualifications if it involves the job of an accountant. The candidate must be able to perform and be committed to his work. The third respondent was more concerned with the candidates' experience. To assess candidates experience she gave them written problems to solve.

The fourth company accepts the holders of the MCE to work on accounts. Diploma in Accounting graduates are also considered. In the fifth case, the practice was to employ holders of the intermediate LCCI qualifications but also consider diploma in accounting qualifications. The company prefers applicants who possess one or two years of working experience and have public relation skills.

5.9 Changes in Accounting Work

The first public accounting firm respondent noted the growing influence of information technology on accounting work. The staff are required to work with accounting software and word processors. Future graduates need to be exposed to the

latest accounting software. In an audit firm, the staff need to know computer applications because clients use computerised accounting systems. Knowledge of computer and information technology will help them to perform system audits. The company has implemented a computer system network in branch offices that permits staff to use electronic mail. In bigger branch offices teleconferencing is available.

The second audit firm experienced little computerisation. The cost of computerisation outweighed benefits because ninety percent of its clients' accounting records are not computerised. Another major change was the way the audit was performed. The normal audit examines all sections of the client's business without performing any risk assessment. The new audit begins with an assessment of risk for all sections and those with high risk receive more scrutiny, other sections are treated normally.

In the service sector the first respondent expects the accounting staff to be able to analyse accounting information as well as the external environment. Competition requires the accounting staff to understand the environment and forecast the future. In a small branch office, the respondent expects staff to handle several tasks. Accounting staff must perform accounting work and other general job functions.

The third company expects staff to operate the computerised brokerage system, accounting, and word processing. The existence of the different systems makes it essential to have computer skills. The respondent argues that staff members need to adapt to the unique nature of the brokerage industry. The regional finance office employs the latest technology. The respondent noted that IT was the wave of the

future and graduates of all programmes are ill prepared. If polytechnics prepare graduates with advanced IT skills, they will have a competitive edge over all educational institutions. The first respondent from the manufacturing sector also argued for more than a basic knowledge of computer software. The staff uses the computer everyday for accounting duties as well as other general duties. Some knowledge about computer operations is essential for employment.

In the third case the respondent reported simplification and reduction of paperwork with the introduction of the computer. Computer technology in the work place however requires accounting knowledge as well as expertise in computers and software packages. The introduction of the computer requires staff to understand the accounting software.

The fourth respondent hired a consulting firm to make the transition from manual accounting system to a computerised one. The change required the accounting staff to learn about computers and apply installed software. To assist the change over the staff required one and half months of expert assistance.

The respondent in the fifth case indicated an increase of computer applications in the accounting section. Accounts and all costing activities are done on the computer. Staff members with computer experience have the chance to work in the company. The respondent highlighted that many university graduates with degrees in accounting apply for accounting posts and this reduces the opportunity for Diploma candidates to be hired.

The government sector work place changed due to the introduction of computers. The accountant explained the situation as follows,

> "The computer has caused accounting work to change thus the students must also change so they follow the trend. The basic thing is you must use basic accounting principles and computers. You can work faster, volume also increases, and productivity increases (Respondent 12)."

5.10 Training and Career Routes

In terms of training, the first public accounting firm developed the World-Wide-Training (WWT) programme. The programme provides standard training to staff in branches throughout the world. This region includes Thailand, Singapore, Philippines, Indonesia and Malaysia. The first training unit within the WWT programme is the Audit and Business Advisory Staff Training which takes two and half weeks to complete. Training is conducted on site as well as regional centres. Shortly after joining a firm staff members are sent for training. There are also programmes for senior staff members. Another major training programme is the managers' training seminar conducted from Chicago, United States of America. There are other training programmes related to computer applications, public speaking, presentations and client meetings. Local training normally takes place in Kuala Lumpur or Penang. The trainers are either local or from regional offices

In terms of career routes, staff with diplomas in accounting work as staff assistants for the first three years. The respondent feels that three years is too short a period of time. Candidates joining the firm are asked to state their objectives and

expectations for the first three years of employment. The information is an indicator of whether the candidate is suitable to work in an audit firm. After one to one and a half years of employment, the staff are eligible for promotion to staff assistant and after another year one may be promoted to the post semi-senior or senior. Some staff members are promoted to senior posts. The respondent considers that normal progress within three years to become a senior. After spending a period of three to four years a staff can be promoted to experienced senior. To become a manager, one must work in the audit line for at least five years. Only candidates willing to pursue professional qualification are considered for employment.

In the second audit firm on-the-job-training is provided by technical directors for new staff. The firm also sends staff for courses conducted by the Malaysian Institute of Accountants or to other associates in Kuala Lumpur. The career route in the firm begins as audit assistant then to semi-senior 1, semi-senior 2, senior 2 and senior 1. There are three promotions in a period of three years and some hardworking staff may be eligible to be promoted to senior 1. Staff members are encouraged to pursue professional examination on a part-time basis. The firm provides them with study and exam leave. Staff members are expected to become fully qualified accountants after three years.

The first company in the service sector normally provides on-the-job training. Staff members that need further training are sent to the regional office for close monitoring by the manager. Basic training is conducted from time to time at the headquarters or at the training academy. The range of the training period is usually between one to 14 days.

The highest position that a person with a diploma in accounting is first as an officer and then an executive after a period of three years. To be considered for managerial posts one needs additional qualifications such as an advanced diploma, a degree or a professional qualification. Clearly the career could start as clerk then as an officer, senior officer, executive and senior executive.

In the second respondent's organisation, training occurs at the nearest branch office. The length of on-the-job training depends on when they are needed to start work. The purpose of the training is to master accounting applications on the computer. The respondent feels that a person with a diploma qualification can become a finance officer with three years of employment. A person may be posted to another branch when promoted. People working in a small branch have the chance to learn more than a person working in a big branch does.

The third respondent explained that there is no policy to train any staff except at management and supervisor levels. The managers and supervisors are scheduled to attend compulsory management and technical training programmes twice a year. The section head conducts training for lower grades staff internally once a year. The respondent also stressed that training is held on a need basis. Initial training is given during the first month of employment. The respondent evaluates them after three months on the job. According to the respondent, the company rarely appoints newly graduated Diploma in Accounting candidates to supervisor. Only candidates with a few years of experience with equivalent level qualifications may be employed directly as a supervisor. The normal route one starts as an accounts clerk and promoted to middle accounts clerk after a year. After the second year, promotion to a senior

accounts clerk is possible. Only after going through the different levels can one be considered for position of supervisor.

At the fourth respondent's organisation staff training begins with an induction programme related to the general activities and objectives of the business with specific focus on accounting. Accounting staff members receive training in the form of on the job coaching at the regional finance and accounting section office. During the training new staff are instructed on an integrated accounting information package. All staff members at the branch offices are trained in this system. The respondent stressed that newly hired staff should not expect promotion unless higher qualifications are pursued right from the beginning. To become an officer the staff must have been "expose to all the sections and (you) picked up well". After that the route available is to be promoted to executive 2 after spending a period as an executive 1. The respondent further elaborated,

> "There are two levels of executives, executive 1 and executive 2. To get these positions will take years because we have a standard. If you don't have any qualifications recognised by the Malaysian Institute of Accountants, then you have to struggle all those years (Respondent 4)."

The company has a clear staff development programme that permits staff to grow internally. Occasionally the company looks for outside candidates to fill vacancies but before looking externally, it first considers loyal staff. The following explanation expresses the policy regarding the matter,

> "In our company we want our staff to grow. We provide scholarships for those who would like to further their studies whether full time or part time. In fact the Company Act has now specified to become an accountant on behalf of a company you have to be a member of Malaysian Institute of Accountants. The polytechnics need to motivate the students from the beginning that they must study after completing their diplomas. Polytechnic can offer some advance courses for their students. As far as our company is concerned if you join us with a diploma you have a limited career path. I mean a very slow career path (Respondent 4)."

The first respondent from the manufacturing sector emphasised in-house training conducted by an external consultant on how to operate the Lotus computer software. An expert from headquarters in Japan continues the training. An accountant provides specific training on the accounting computer system. The training practice in the company is described as "we only have in house training depending on the needs. We will consider any training that is suitable".

In response to the question of career routes, the respondent said that for the first three years they are accounts assistant 5 before being considered for promotion to "Accounts Assistant 4". The respondent indicates that a chance does exist for the staff to be promoted as an executive.

The third company provides computer training in accounting software and word processing for new staff in the accounting section. Training for word processing is one week and the accounting package two months. After three years of employment the staff with a Diploma in Accounting qualification may be promoted to senior staff level and supervise several assistants.

In the fourth manufacturing company the staff received on-the-job-coaching. The staff was sent for computer training for eight weeks. An external trainer provided training on the computer system used by the company. The training lasted for two hours daily for the entire period. The staff can expect to become a supervisor in the accounting section after working for three years.

In the fifth respondent company training specifically related to the staff's job area is provided. It is an intensive on-the-job training for a period of three months. For the first three years of employment the staff progresses from clerk to senior clerk to assistant officer and then officer. The speed of the progress depends on the number of vacancies. The company looks for a degree holder for the position of an officer. Experience is the main criteria for internal promotion.

In the state government agency training begins with an induction course. Every new member of staff must finish the course within three years of employment. The course lasts for one month and is not directly related to the job but touches on general government policies. In terms of the career routes available in the agency staff may expect promotion to Senior Accounts Officer since the positions in the government sector are divided into groups and promotion will be within the group. With the qualification the staff will start as group 3 and can be promoted in the group. In order to be able to go for posts in other higher groups the staff needs to acquire higher qualifications.

5.11 General Comments on the Polytechnics' Diploma in Accounting Graduates

The first respondent from an audit firm felt that it is necessary to inculcate in the mind of the staff a strong desire to pursue their studies to a professional level before joining the firm. The respondent felt few graduates with a diploma in accounting qualifications had such a desire. In comparison with graduates of other institutions with the same level of qualifications, the respondent found that graduates from the polytechnics performed as well as colleagues from other institutions. Neither possesses much practical knowledge and the differences detected were mostly related to personality.

The second respondent from the audit firm sector also believed that the levels of performance of staff with equivalent qualifications were more or less the same. Most of the differences observed by the respondent resulted from individual circumstances rather than a generalised assumption about any particular institution.

The first respondent from the service sector found it difficult to generalise comparison but stressed the need to concentrate on students' accounting, management and analytical abilities. The respondent in the second case felt that the level of performance shown by the staff who graduated from the polytechnic programme exceeded his expectations. He compared the level of performance as equivalent to the level of university graduates that he had experienced.

The third respondent found differences between graduates of polytechnics and the graduates of other institutions working in the company. The following remarks would help to convey his view,

> "Normally what I can say about polytechnic graduates is that they are really fresh and that lack confidence if compared to LCCI graduates. LCCI people are independent and they are more fluent in English (Respondent 3)."

The fourth respondent felt that there is not much difference between the graduates of polytechnics and graduates of other major Malaysian training institutions. However in terms of accounting knowledge he considered those who had graduated with LCCI qualifications demonstrated more accounting knowledge but in terms of attitude the polytechnic graduates showed very encouraging signs. If he needed leadership qualities he would choose MARA graduates. The overall conclusion given by the respondent can be summarised in the following comments,

> "There is not much difference among the graduates in Malaysia. I think, graduates from ITM (now UiTM) and the polytechnics are almost the same. But in certain cases, if given a choice to recruit between polytechnics, ITM and university graduates, I will go for polytechnics and ITM graduates. I think the university curriculum is too academic compared to diploma. Diploma graduates are more practical (Respondent 4)."

From the manufacturing sector the first respondent felt that the polytechnic graduates were comparable to staff from other institutions in terms of performance. The staff learned to perform on the job from coaching and supervision provided. She

was confident that with experience graduates could be compared to staff with university degree qualifications.

In the second case the respondent was unable to provide any comparison since there was only a single accounting staff employed in the company. However from the experience the respondent held that the diploma in accounting programme provided more opportunities for the students to apply what they studied in real life situations.

The third respondent concluded that the level of performance among the staff is almost the same. When they first joined the firm they had no experience and all of them required on-the-job-training and supervision. In the fourth situation the respondent is satisfied with the level of performance demonstrated by graduates of the polytechnics. The following quotation expressed her thoughts,

> "So far there is an employee from the polytechnic and the other is from MARA. The polytechnic graduate is intelligent and has a better understanding in accounting. I believe that maybe this is due to teaching practices. Maybe your teaching is different from theirs. The teaching, the coaching and the training maybe different and these influence the graduates (Respondent 3)."

The respondent in the fifth company suggested that the difference was personal. The level of accounting knowledge was almost the same and the level of performance of graduates among institutions was comparable.

The respondent from the government sector believed that paper qualifications of staff was not nearly as important as commitment to work and contribution to the organisation. The respondent found little difference in performance among graduates.

5.12 Summary

This chapter has discussed employees' and employers' perceptions of duties and tasks performed by accounting support staff. The respondents were employees working as accounting support staff to qualified accountants in public, private and government accounting sectors. Abstracts of interviews are also included to complement findings from the survey questionnaires. Interviews are fundamental to the CBET approach since crucial information from job incumbents helps curriculum and instructional development. It purposely involves employees and employers when planning and developing education and training programme. The objective is to meet the expectations and demands of the work place.

Table 5.1 in section 5.2 illustrates how the respondents perceived duties performed in terms of importance. Sixteen of the duties were perceived as "important" and 6 were perceived as "fairly important". The mean scores across sectors indicated a similar pattern as shown in the overall result column with some respondents categorising some of the duties as "very important". At least 50% of the duties listed were seen as '"very important" or "important" while the rest were perceived as "fairly important" with two duties were "no response". However, interpretation of the results must take into consideration the limited response in certain cases.

Table 5.2 in section 5.3 shows perceptions of sub-groups of respondents in terms of importance of a list of 24 duties. Three sub-groups were identified according to the number of years working, highest accounting qualifications and graduates of polytechnics' Diploma in Accounting programme. Column 7 of table 5.2 contains mean scores of all respondents.

Section 5.4 introduces findings related to rank order of tasks performed by respondents. The tasks are arranged according to mean scores. A duty may contain one or more tasks. The findings show that certain duties' mean scores are lower than tasks mean scores.

Section 5.5 contains table 5.4a to 5.4c illustrating findings related to respondents' perceptions of computer literacy and skills. Table 5.4a highlights respondents' perceptions of a list of computer skills. Table 5.4b indicates the importance of spreadsheet applications, word processing and database applications for accounting support staff and table 5.4c depicts mean scores for a list of computer use.

Section 5.6 discusses employers' expectations of skills and duties assigned to newly hired accounting support staff. The findings are presented according to sectors. Section 5.7 identifies employers' approaches to determine standard of staff performance. Respondents describe approaches to help staff perform.

Section 5.8 discusses employers hiring criteria. In addition to academic qualifications employers highlight other aspects considered for hiring new staff. Section 5.9 describes changes in accounting work place. The impact of computer

technology is discussed. Training provisions and career routes are documented in section 5.10. Respondents describe the function of on-the-job-training. Career prospects are highlighted. Section 5.11 provides employers general comments on polytechnics' Diploma in Accounting Graduates.

5.13 Conclusion

The first five sections of Chapter 5 illustrate how accounting support staff perceived the duties and tasks they performed. It can be concluded from table 5.1 that accounting support staff working in a Malaysian context need to be competent in the first sixteen duties listed in the table. Findings from various sectors in the accountancy profession highlight variation in terms of duties and tasks performed within each sector. However further analysis of the findings indicates that respondents from the various sectors performed similar duties and tasks. Duties and tasks with mean scores more than 2.00 could be considered as essential for a Diploma in Accounting programme in the polytechnics. This conclusion is supported by the findings discussed in Section 5.3 of Chapter 5. Analysis of findings in Table 5.2 of Section 5.3 illustrates duties performed by respondents with Diploma in Accounting qualifications within the first five years of their employment. Comparison of findings from Table 5.1 and Table 5.2 indicate that Diploma in Accounting graduates are performing similar duties as their counterparts graduating from other accounting programmes. It could be concluded that polytechnics Diploma in Accounting graduates are expected to perform most of the 24 duties listed in Table 5.2.

Section 5.6 until section 5.11 of Chapter 5 delineates employers' expectations of accounting support staff. Analysis of response in section 5.6 highlights "threshold" knowledge and skills expected from Diploma in Accounting graduates. Most of employers interviewed expect Diploma in Accounting graduates to be able to perform duties that are similar to duties listed in Table 5.2. Findings in section 5.3 are supported by interview findings in section 5.6. Findings from analysis of responses in section 5.6 corresponds to knowledge and skills listed as relevant to accounting support staff discussed in sections 5.2 to 5.5. Findings from section 5.6 also correspond to most of the competences regarded as very important for entry-level position as accounting support staff in Chapter 6. Responses in section 5.7 to 5.10 indicate elements of capabilities and personalities beyond accounting knowledge and skills required by employers. Employers' comments documented in section 5.7 indicate that accounting educators must prepare students to work under pressure and to be able to work according to standards that have been set by them. In terms of criteria for hiring as discussed in section 5.8 it can be concluded that employers expect staff to perform most of the duties listed in table 5.2 as well as having positive working attitudes. Findings from section 5.9 highlight the changing trend in accounting work place that concern accounting practitioners, accounting educators and TED personnel. Accounting education and training programmes must change in order to be able to produce graduates that can adapt in a constantly changing working environment. All of the employers that participated in this study have prepared clear career route for Diploma in Accounting graduates joining their organisations. Employees' ability to acquire accounting and non-accounting competences are significant for career advancement. Responses from employers in section 5.11 indicate that Diploma in Accounting graduates were able to perform duties assigned

but employers would like to see improvement in their communication skills, self-confidence, analytical ability as well as work experience.

CHAPTER 6

EMPLOYERS' PERCEPTIONS OF A LIST OF COMPETENCES AND GRADUATES' LEVEL OF COMPETENCES

6.1 Introduction

This chapter contains three main parts. The first part (sections 6.2 and 6.3) reports employers' perceptions (see appendix M for respondents' demographic profile) in terms of importance of a given list of competences for career entry and advancement as accounting support staff. Section 6.2 describes perceptions of a group of employers regarding accounting support staff competences. Section 6.3 describes perceptions of employers towards (see appendix N for respondents' demographic profile) polytechnics' Diploma in Accounting graduates' competences.

The second part documents the perceptions of employers of accounting support staff competences and sub-competences. A list of 8 core knowledge and skills was identified as competences relevant to the profession and 27 of its sub-components were used in this study as sub-competences. It consists of sections 6.4 to 6.7. Section 6.4 documents employers' perceptions of accounting support staff competences. Section 6.5 describes competences of Diploma in Accounting graduates from polytechnics as perceived by employers. Section 6.6 documents employers' perceptions of accounting

support staff sub-competences. Section 6.7 describes sub-competences of Diploma in Accounting graduates from polytechnics as perceived by employers.

Interviews with twelve employers of Diploma in Accounting graduates from polytechnics constitute the third part of the chapter. Section 6.8 highlights employers' perceptions of graduates' strengths and weaknesses.

6.2 The Importance of Competences for Entry-level and for Career Advancement as Accounting Support Staff: Employers' Perceptions

The mean scores of employers' perceptions of specific competences are tabulated, refer to page 174, in Table 6.1. Columns 2 to 6 are divided into 2 sub-columns containing mean scores for entry-level (EL) and career advancement (CA). Column 1 lists eight competences. Column 2 shows mean scores of overall responses. Columns 3 through 6 present responses for four accounting sectors involved in the study.

In column 2(EL) of table 6.1, "knowledge of accounting" and "technical accounting skills" were considered as "very important" pre-requisites for entry-level positions as accounting support staff. "Communication skills" and "professionalism", "leadership", "knowledge of business and its environment", "information development and distribution skills", and "decision making skills" fall into the "important" category.

All respondents consider the 8 competences as "very important" for career advancement (column 2CA) with "professionalism" as the first choice followed in descending order by "leadership" skills, "knowledge of accounting", "communication skills", "technical accounting skills", "knowledge of business and its environment", "decision making skills", and "information development and distribution skills".

Columns 3 through 6 exhibit the respondents' perceptions across sectors. In column 3 (EL), for the public accounting sector, "knowledge of accounting" is considered as "very important" followed in descending order by "technical accounting skills", "leadership", "professionalism", "communication skills", "knowledge of business and its environment", "information development and distributions skills", and "decision making skills". For career advancement (column 3CA), "professionalism" and "leadership" are first; "knowledge of accounting" is second, "communication skills" is third, "technical accounting skills" is fourth, "knowledge of business and its environment" is fifth, and "information development and distribution skills" is seventh.

In column 4 (EL), for the manufacturing sector, possession of "knowledge of accounting" is considered as "very important" followed by "technical accounting skills", "communication skills", "knowledge of business and its environment", "professionalism", "decision making skills", and "information development and distribution skills". For career advancement (column 4CA), "knowledge of accounting" and "technical accounting skills" shared first place. Second is "communication skills"; third is "professionalism"; fourth is "decision making skills"; fifth is "leadership"; sixth

Table 6.1: Employers' Perceptions of Importance of Competences for Entry-Level (EL) and Career Advancement (CA) as Accounting Support Staff

	2.Overall		3.Public Accounting Sector		4.Manufacturing Sector		5. Service Sector		6.Government Sector	
1. Competences	EL n=43	CA n=43	EL n=17	CA n=17	EL n=9	CA n=9	EL n=14	CA n=14	EL n=3	CA n=3
Knowledge of Accounting	4.070*.828**	4.476/.773	4.000/1.000	4.375/.885	4.111/.601	4.556/.527	4.000/.784	4.571/.756	4.667/.577	4.333/1.000
Technical Accounting skills	3.905/.821	4.357/.821	3.824/.809	4.250/.856	3.875/.835	4.556/.527	3.857/.864	4.357/.929	4.667/.577	4.333/1.155
Communication skills	3.465/.702/	4.405/.701	3.412/.618	4.250/.683	3.667/.707	4.556/.726	3.500/.855	4.500/.650	3.000/.000	4.333/.000
Professionalism	3.465/1.099	4.524/.671	3.471/1.179	4.500/.730	3.444/1.130	4.444/.726	3.286/.994	4.571/.646	4.333/.1.155	4.667/.577
Leadership	3.302/.964	4.476/.740	3.471/.943	4.500/.730	3.444/1.333	4.333/.866	3.000/.784	4.500/.760	3.333/.577	4.667/.577
Knowledge of Business and its Environment	3.279/.882	4.333/.754	3.353/.702	4.313/.704	3.556/1.014	4.111/.928	3.000/.877	4.429/.756	3.333/1.528	4.667/.577
Information Development and Distribution skills	3.116/.762	4.024/.780	3.000/.935	3.875/.719	3.333/.500	4.222/.833	3.071/.730	3.929/.829	3.333/.577	4.667/.577
Decision Making skills	3.093/.921	4.286/.708	3.000/.935	4.063/.680	3.444/1.130	4.333/.707	3.000/.784	4.571/.646	3.000/1.000	4.000/1.000

Key:

EL= entry-level, CA = career advancement

*: mean scores where 1.0 = Irrelevant, 2.0 = Of some Importance, 3.0 = Important, 4.0 = Very Important, 5.0 = Essential

**: standard deviation

is "information development and distribution skills", and eighth is "knowledge of business and its environment".

The results for the service sector are in column 5. Column 5(EL), contains employers' perceptions for entry-level positions. "Knowledge of accounting" is first; second is "technical accounting skills"; third is "communication skills"; fourth is "professionalism"; fifth are "leadership" and "decision making skills"; sixth is "knowledge of business and its environment", and seventh is "information development and distribution skills". For career advancement (column 5CA), "professionalism" and "decision making skills" shared the first place followed by "knowledge of accounting", "communication skills", "leadership", "knowledge of business and its environment", "technical accounting skills", and "information development and distribution skills".

Column 6 contains results from the government accounting sector. In column 6(EL), "Knowledge of accounting" and "technical accounting knowledge" share first place; second is "professionalism", third are "leadership" and "information development and distribution skills"; fourth is "knowledge of business and its environment"; fifth is "communication skills"; and sixth is "decision making skills". For career advancement (column 6CA), "professionalism", "leadership", "knowledge of business and its environment", and "information development and distribution skills" shared the first place. Second place is "communication skills", third is "knowledge of accounting", fourth is "technical accounting skills", and fifth is "decision making skills".

6.3 The Importance of Competences for Entry-level and for Career Advancement as Accounting Support Staff: Perceptions of Employers Employing Polytechnic Diploma in Accounting Graduates

The mean scores of perceptions of employers of polytechnics' Diploma in Accounting graduates competences are tabulated, refer to page 178, in Table 6.2. Each column for columns 2 to 6 is divided into 2 sub-columns containing mean scores for entry-level (EL) and career advancement (CA). Column 1 lists eight competences. Column 2 shows mean scores of overall responses. Columns 3 through 6 present responses for four accounting sectors involved in the study.

In column 2(EL) of Table 6.2, "knowledge of accounting" and "technical accounting skills" are "very important" pre-requisite for entry-level positions as accounting support staff. In third place is "communication skills" followed by "leadership", "knowledge of business and its environment", "professionalism", "information development and distribution skills", and "decision making skills". These six competences were considered as "important".

All respondents consider the 8 competences as "very important" for career advancement (column 2CA). The overall results indicates "knowledge of accounting" is first followed by "leadership", "communication skills", "technical accounting skills", "knowledge of business and its environment", "decision making skills", "professionalism", and "information development and distribution skills".

Columns 3 through 6 exhibit the respondents' perceptions across different sectors. In column 3 (EL), for the public accounting sector, "knowledge of accounting", "technical accounting skills", "communication skills", and "professionalism" are regarded as equally important. These four competences are considered as "very important" followed by "knowledge of business and its environment" and "leadership". These two later competences are categorised as "important". "Information development and distribution skills" and "decision making skills" are considered as "of some importance". For career advancement (column 3CA), "leadership" and "professionalism" share the highest mean score; second in choice are "knowledge of accounting", "communication skills", and "decision making skills". "Technical accounting skills", "knowledge of business and its environment", and "information development and distribution skills" are third.

In column 4 (EL), for the manufacturing sector, possession of "knowledge of accounting" is considered as "very important" followed by "technical accounting skills". Respondents regard these two competences as "very important". These are followed by "communication skills", "knowledge of business and its environment", "information development and distribution skills", "professionalism", "leadership", and "decision making skills". For career advancement (column 4 (CA)), all competences are regarded as "very important".

Results from the service sector are in column 5. Column 5(EL), contains employers' perceptions for entry-level positions. "Communication skills" and

Table 6.2: Employers' Perceptions of Importance of Competences for Entry-Level (EL) Positions and for Career Advancement (CA) as Accounting Support Staff

	2.Overall		3.Public Accounting Sector		4.Manufacturing Sector		5.Service Sector		6.Government Sector	
1.Competences	EL mean, n = 23	CA mean, n = 23	EL mean, n=3	CA mean, n=3	EL mean, n=10	CA mean, n=10	EL mean, n=6	CA mean, n=6	EL mean, n=4	CA mean, n=4
Knowledge of Accounting	4.26*1/ 0.752**	4.696/0.559	4.000/0.000	4.000/0.000	4.500/0.707	4.800/0.422	4.000/0.894	5.000/0.000	4.250/0.957	4.500/1.000
Technical Accounting skills	4.000/0.798	4.435/0.728	4.000/0.000	3.667/0.577	4.100/0.738	4.400/0.699	4.167/0.983	5.000/0.000	3.500//1.000	4.250/0.957
Communication skills	3.826/1.029	4.522/0.655	4.000/0.000	4.000/0.000	3.400/1.174	4.400/0.843	4.333/0.816	4.833/0.408	4.000/1.155	4.750/0.500
Leadership	3.565/1.080	4.522/0.593	3.667/1.155	4.333/0.577	3.100/0.994	4.400/0.699	4.333/0.816	4.833/0.408	3.500/1.291	4.500/0.577
Knowledge of Business and its Environment	3.409/1.008	4.364/0.727	3.667/0.577	3.667/0.577	3.111/1.167	4.222/0.833	3.667/0.816	4.833/0.408	3.500/1.291	4.500/0.577
Professionalism	3.348/0.832	4.304/0.822	4.000/0.000	4.333/0.577	3.100/0.738	4.000/1.054	3.500/0.837	4.833/0.408	3.250/1.258	4.250/0.500
Information Development and Distribution skills	3.348/1.027	4.227/0.813	2.667/1.528	3.667/0.577	3.100/0.568	4.000/0.943	3.667/1.033	4.600/0.548	4.000/1.414	4.750/0.500
Decision Making skills	3.174/1.154	4.348/0.647	2.667/1.528	4.000/0.000	3.000/0.816	4.400/0.699	3.500/1.409	4.333/0.816	3.500/1.915	4.500/0.577

Key:

EL= entry-level, CA = career advancement

*: mean scores where 1.0 = Irrelevant, 2.0 = Of some Importance, 3.0 = Important, 4.0 = Very Important, 5.0 = Essential

**: standard deviation

"leadership" are first; second is "technical accounting skills", and third is "knowledge of accounting". These four competences are considered as "very important". Fourth is "knowledge of business and its environment"; fifth is "information development and distribution skills"; sixth is "professionalism", and seventh is "decision making skills". For career advance (column 5(CA)), "knowledge of accounting" and "technical accounting skills" shared first place. These two competences are considered by respondents as "essential" for career advancement. They are followed by "communication skills", "leadership", "knowledge of business and its environment", and "professionalism". Third is "information development and distribution skills" and fourth is "decision making skills".

Column 6 contains results from the government accounting sector. In column 6(EL), "knowledge of accounting" is first followed by "communication skills" and "information development and distribution skills". Respondents regard these three competences as "very important". Fourth are "leadership" and "knowledge of business and its environment". Fifth is "decision making skills", and sixth is "professionalism". For career advancement (column 6CA), "communication skills" and "information development and distribution skills" shared first place. Both competences are considered as "very important". Second place are "leadership" and "decision making skills". Third is "knowledge of accounting", fourth is "professionalism" and fifth is "technical accounting skills".

6.4 Accounting Support Staff Competence: Employers' Perceptions

Table 6.3 on page 181 shows employers' perceptions of accounting support staff competences as mean scores. There are 6 columns in Table 6.3. Column 1 lists eight competences. Column 2 indicates mean score results for all respondents. Columns 3 through 6 show results for four accounting sectors. In column 2, "technical accounting skills" is first then followed by "knowledge of accounting", "communication skills", "leadership", "professionalism", and "information development and distributions skills". The competences are categorised as "average". They are followed by "decision making skills" and "knowledge of business and its environment". These two competences are considered "weak".

Column 3 presents results from the public accounting sector. "Technical accounting skills" is first and is followed by "knowledge of accounting", "communication skills", "leadership", "professionalism", and "information development and distribution skills". These six competences are considered "average". These are followed by "decision making skills" and "knowledge of business and its environment". Respondents regard accounting support staff as "weak" in these two competences .

Results for the manufacturing sector is tabulated in column 4. "Technical accounting skills" is first followed by "communication skills", "leadership", "knowledge of accounting", "professionalism", "information development and distribution skills",

Table 6.3: Employers' Perceptions on Entry Level Staff Competences

(1) Competences	(2) Overall EL Employees Means, n=43	(3) Public Accounting Sector EL Employees Means, n=17	(4) Manufacturing Sector EL Employees Means, n=9	(5) Service Sector EL Employees Means, n=14	(6) Government Sector EL Employees Means, n=3
Technical Accounting skills	3.663(1)*	3.765(1)	3.611(1)	3.464(1)	4.167(1)
Knowledge of Accounting	3.450(2)	3.549(2)	3.223(4)	3.404(2)	3.777(2)
Communication skills	3.372(3)	3.424(3)	3.378(2)	3.243(3)	3.667/.808(4)
Leadership	3.314(4)	3.361(4)	3.297(3)	3.168(4)	3.708(3)
Professionalism	3.241(5)	3.276(5)	3.186(5)	3.144(5)	3.667/.879(5)
Information Development and Distribution skills	3.117(6)	3.158(6)	3.037(6)	3.049(7)	3.443/1.174(8)
Decision Making skills	2.984(7)	2.942(7)	3.036(7)	2.881(8)	3.553(6)
Knowledge of Business and its Environment	2.969(8)	2.785(8)	3.000(8)	3.071(6)	3.443/.768(7)

Key: ( )*: ranking, Scale: 1 = Very Weak, 2 = Weak, 3 = Average, 4 = Strong, 5 = Very Strong

"decision making skills", and "knowledge of business and its environment". All competences are perceived as "average".

Results from the service sector are in column 5. First is "technical accounting skills"; second is "knowledge of accounting"; third is "communication skills"; fourth is "leadership"; fifth is "professionalism"; sixth is "knowledge of business and its environment"; and seventh is "information development and distribution skills". Respondents regard accounting support staff as "average" in these seven competences. Eighth is "decision making skills" which is regarded "weak" by the respondents.

Column 6 contains results from the government sector. Listed first as "strong" is "technical accounting knowledge". This is followed by seven "average" competences. They are "knowledge of accounting", "leadership", "communication skills", "professionalism", "decision making skills", "knowledge of business and its environment", and "information development and distribution skills".

6.5 Accounting Support Staff Competence: Perceptions of Employers on Polytechnics' Diploma in Accounting Graduates

Table 6.4 on page 184 shows employers' perceptions of accounting support staff competences in terms of mean scores. Column 1 lists eight competences. Column 2 indicates the mean score results for polytechnics' Diploma in Accounting graduates. Columns 3 through 6 show results for four accounting sectors.

In column 2, "technical accounting skills" is first followed by "knowledge of accounting", and "communication skills". These three competences are considered "average" followed by "professionalism", "leadership", "information development and distributions skills", "decision making skills" and "knowledge of business and its environment". These five later competences are considered as "weak".

Column 3 presents the results from the public accounting sector. "Technical accounting skills" is first followed by "knowledge of accounting", "communication skills", "leadership", "professionalism", and "information development and distribution skills". These six competences are considered "average". These are followed by "decision making skills" and "knowledge of business and its environment". Respondents regard Diploma in Accounting graduates "weak" in these two competences .

Column 4 depicts the results for the manufacturing sector. "Communication skills" is first followed by "decision making skills", "professionalism", "technical accounting skills", "knowledge of accounting", and "leadership". The respondents perceive these six competences as "average". Graduates were considered "weak" in "information development and distribution skills" and "knowledge of business and its environment".

In column 5 the results for the service sector are reported. First is "technical accounting skills"; second is "professionalism"; third is "knowledge of accounting"; and

Table 6.4: Employers' Perceptions on Polytechnic Diploma in Accounting Graduates Competences

(1) Competences	(2) Overall Polytechnics' Graduates mean/std.dev., n=23	(3) Public Accounting Sector Mean, n=3	(4) Manufacturing Sector Mean, n=10	(5) Service Sector Mean, n=6	(6) Government Sector Mean, n=4
Technical Accounting skills	3.280/.728(1)*	3.167(4)	3.017(2)	3.500(1)	3.883(1)
Knowledge of Accounting	3.167/.754(2)	3.113(5)	3.099(1)	3.112(3)	3.557(2)
Communication skills	3.061/.461(3)	3.400(1)	2.920(3)	2.967(5)	3.300(4)
Professionalism	2.985/.702(4)	3.220(3)	2.899(4)	3.113(2)	2.777(7)
Leadership	2.905/.626(5)	3.000(6)	2.799(6)	3.083(4)	2.833(6)
Information Development and Distribution skills	2.897/.810(6)	2.997(7)	2.701(7)	2.883(7)	3.330(3)
Decision Making skills	2.878/.605(7)	3.223(2)	2.866(5)	2.943(6)	2.443(8)
Knowledge of Business and its Environment	2.712/.700(8)	2.777(8)	2.599(8)	2.723(8)	3.000(5)

Key: ( )*: ranking, Scale: 1 = Very Weak, 2 = Weak, 3 = Average, 4 = Strong, 5 = Very Strong

fourth is "leadership". These four competences are regarded as "average". Fifth is "communication skills"; sixth is "decision making skills"; seventh is "information development and distribution skills"; and eighth is "knowledge of business and its environment". Respondents regarded Diploma in Accounting graduates "weak" in these four competences.

Column 6 contains results for the government sector. Listed first is "technical accounting knowledge". This is followed by "knowledge of accounting", "information development and distribution skills", "communication skills", and "knowledge of business and its environment". All five competences are considered "average". "Professionalism" and "decision making skills" are considered as "weak".

6.6 Entry-level Accounting Support Staff Sub-Competences: Employers' Perceptions

On page 186 table 6.5 highlights accounting support staff sub-competences as perceived by 43 employers. There are 8 groups of competences. Group 1 is "Technical accounting skills", group 2 is "Knowledge of accounting", group 3 is "Communication skills", group 4 is "Leadership", group 5 is "Professionalism", group 6 is "Information development and distribution skills", group 7 is "Decision making skills", and group 8 is "Knowledge of business and its environment". Each group of competence is provided with the following information: mean score and standard deviation. Column

Table 6.5: Group and Sub-Competences

Group 1: Technical accounting skills, mean 3.663, std. dev. 0.049

Sub-competences	Mean	Std. Dev.
Perform accountancy skill required of the profession	3.698	.832
Know methods of gathering, summarising, and analysing financial data	3.628	.846

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 2: Knowledge of accounting, mean 3.473, std.dev. 0.178

Sub-competences	Mean	Std. Dev.
Possess a knowledge of the purpose and elements of financial statements	3.512	.960
Understand the fundamentals of accounting, auditing and tax	3.628	.874
Apply decision rules embodied in the accounting model	3.279	.908

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 3: Communication skills, mean 3.372, std. dev. 0.234

Sub-competences	Mean	Std. Dev.
Listen effectively	3.535	.767
Present views in writing	3.047	.688
Present views through oral presentations	3.279	.630
Read, critique and judge the value and contribution of written work	3.349	.686
Understand interpersonal and group dynamics	3.651	.686

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 4: Leadership, mean 3.322, std.dev. 0.0155

Sub-competences	Mean	Std. Dev.
Work effectively with diverse groups of people	3.558	.796
Organise and delegate	3.395	.849
Motivate other people	3.395	1.050
Resolve conflict	3.233	.947
Understand methods of creating and managing change within an organisation	3.209	.940
Use data, exercise judgements, evaluate risks, and solve real-world problems	3.140	.941

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 5: Professionalism, mean 3.271, std. dev. 0.198

Sub-competences	Mean	Std. Dev.
Identify ethical issues and apply own values to them	3.070	.828
Motivate to continue lifelong learning	3.465	.827
Deal effectively with imposed pressure	3.279	.826

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 6: Information development and distribution skills, mean 3.116, std. dev. 0.163

Sub-competences	Mean	Std. Dev.
Understand the role of information technology in solving business and accounting problems	3.302	.914
Understand the system development life cycle to plan, design, implement, and evaluate an information system	3.047	.975
Effectively apply fundamental programming skills to typical business problems	3.000	.756

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 7: Decision making skills, mean 2.984, std. dev. 0.115

Sub-competences	Mean	Std. Dev.
Solve diverse and unstructured problems in unfamiliar settings	2.907	.996
Induce general conditions from specific situations	2.930	.799
Select and assign priorities within restricted resources	3.116	.793

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 8: Knowledge of business and its environment, mean 2.969, std.dev. 0.071

Sub-competences	Mean	Std. Dev.
Understand the economic, social, and cultural forces in the world	2.907	.684
Know how typical business organisation work are managed	3.047	.754
Possess a knowledge of financial markets and funding institutions	2.953	.950

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

1 contains sub-competences. Column 2 reports mean scores. Column 3 indicates standard deviations. The standard deviations indicate the extent results differ from mean scores. If the mean scores are the same, then the higher the standard deviation, the less standing the data have.

6.7 Entry-level Accounting Support Staff Sub-Competences: Perceptions of Employers on Polytechnics' Diploma in Accounting Graduates

Table 6.6 on page 189 reports polytechnics' Diploma in Accounting graduates sub-competences as perceived by 23 employers. There are 8 groups of competences. Group 1 is "Technical accounting skills"; group 2 is "Knowledge of accounting"; group 3 is "Communication skills"; group 4 is "Leadership"; group 5 is "Professionalism"; group 6 is "Information development and distribution skills"; group 7 is "Decision making skills"; and group 8 is "Knowledge of business and its environment". Each group of competence is provided with the mean score and standard deviation. Column 1 contains sub-competences. Column 2 reports mean scores. Column 3 indicates standard deviations. The standard deviations indicate the extent results differ from mean scores. If the mean scores are the same, then the higher the standard deviation the less standing the data have.

Table 6.6: Group and Sub-Competences of Polytechnics' Diploma in Accounting Graduates

Group 1: Technical accounting skills mean 3.341, std. dev. 0.161

Sub-competences	Mean	Std. Dev.
Perform accountancy skill required of the profession	3.455	.739
Know methods of gathering, summarising, and analysing financial data	3.227	.922

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 2: Knowledge of accounting, mean 3.178, std.dev. 0.119

Sub-competences	Mean	Std. Dev.
Possess a knowledge of the purpose and elements of financial statements	3.273	.883
Understand the fundamentals of accounting, auditing and tax	3.217	.902
Apply decision rules embodied in the accounting model	3.045	.785

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 3: Communication skills, mean 3.061, std. dev. 0.188

Sub-competences	Mean	Std. Dev.
Present views in writing	2.957	.562
Present views through oral presentations	2.870	.344
Read, critique and judge the value and contribution of written work	2.957	.638
Listen effectively	3.217	.736
Understand interpersonal and group dynamics	3.304	.974

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 4: Leadership, mean 2.967, std.dev. 0.242

Sub-competences	Mean	Std. Dev.
Work effectively with diverse groups of people	3.435	.728
Organise and delegate	3.000	.674
Motivate other people	2.913	.793
Resolve conflict	2.818	.795
Understand methods of creating and managing change within an organisation	2.864	.889
Use data, exercise judgements, evaluate risks, and solve real-world problems	2.773	.922

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 5: Professionalism mean 2.985, std. dev. 0.114

Sub-competences	Mean	Std. Dev.
Identify ethical issues and apply own values to them	2.864	.774
Motivate to continue lifelong learning	3.091	.921
Deal effectively with imposed pressure	3.000	.816

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 6: Information development and distribution skills, mean 2.898, std. dev. 0.214

Sub-competences	Mean	Std. Dev.
Understand the role of information technology in solving business and accounting problems	3.043	.825
Understand the system development life cycle to plan, design, implement, and evaluate an information system	2.652	.935
Effectively apply fundamental programming skills to typical business problems	3.000	.953

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 7: Decision making skills mean 2.879, std. dev. 0.160

Sub-competences	Mean	Std. Dev.
Solve diverse and unstructured problems in unfamiliar settings	2.727	.456
Induce general conditions from specific situations	2.864	.640
Select and assign priorities within restricted resources.	3.045	.899

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

Group 8: Knowledge of business and its environment, mean 2.969, std.dev. 0.071

Sub-competences	Mean	Std. Dev.
Understand the economic, social, and cultural forces in the world	2.907	.684
Know how typical business organisation work are managed	3.047	.754
Possess a knowledge of financial markets and funding institutions	2.953	.950

1 = very weak, 2 = weak, 3 = average, 4 = strong, and 5 = very strong

6.8 Polytechnics' Diploma in Accounting Graduates Strengths and Weaknesses: Employers' Perceptions

The first interviewee from the audit firm highlighted the advantage of the six months industrial training for students. This training period introduces students to the work place. He considered this as strength and adequate accounting knowledge possessed by graduates was another strength.

In terms of weaknesses, the respondent emphasised the lack of communication skills in English. This includes the ability to write reports. The lack of understanding of audit work is identified as a weakness associated with lack of real life exposure. The respondent suggested that students need more exposure to preparing a full set of accounts for practical purposes.

The second respondent saw eagerness and interest of staff as a positive sign. On the other hand he observed that staff lacked some theoretical knowledge when it came to audit work. The lack of working experience in real audit work was another short coming identified but this could be overcome with on the job training. The respondent was also impressed with the staff's commitment to duties and assigned tasks. At the branch office, the staff was responsible for aspects of accounting and administrative matters. Staff's analytical ability was weak and needed to be improved. The monthly reports generated by the staff are the main tools used by the employer to assess analytical abilities.

The second respondent regarded technical accounting knowledge as a strength of the staff. More effort is needed to develop the staff's practical experience and to work under pressure. The staff constantly works under time pressure and meet a specified standard of performance.

The third respondent saw the graduates' technical accounting knowledge as a strength. Lack of practical experience, low self-confidence and the lack of self-initiative were considered as weaknesses. The employer expected the staff to do their job without having to wait for instructions, and they should ask for other work after completing a particular assignment. The respondent also expected the staff to ask for more challenging duties and tasks. If there is any problem she will assist them.

The Finance Manager considered the graduates suitable, ready to learn and to develop. The staff were described as serious and disciplined about their duties. They socialise with staff and show positive attitudes towards their work. They are also willing to assist others. The respondent would like the staff to portray the importance of their work and department. He explained the idea as follows, "it is not important what you do, but how you project yourself, you must make people feel that your division is important".

The first respondent from the manufacturing sector was very impressed with commitment shown by the graduate. He was willing to work late to complete the work on time. In terms of the weakness, the respondent felt that she needed to give more time to the staff to familiarise himself with the work.

The second respondent from the manufacturing sector appreciated the commitment shown by the staff. The staff work late and accepted responsibilities easily. The staff provides suggestions to improve work practice in the company and the respondent adopted some of them. The respondent urged staff to be more cautious when handling payments because mistakes can cause the company losses.

The third respondent believed that the staff had sufficient theoretical knowledge to understand instructions. Entry-level staff is not familiar with the practical accounting aspect of the industry. The respondent also felt that there was a need to encourage the staff to come forward if there were any problems. She wanted everybody to work as a team and help each other.

In the fourth manufacturing company, the respondent stated that the graduate demonstrated several strengths. The graduate interacted positively with all the staff in the section. She was quick in understanding her duties and tasks, and after a short period of time she was given important duties to handle. The respondent also found that she was willing to work overtime, had well report writing skills and adequate accounting knowledge. The only deficiency was her lack of knowledge in foreign exchange activities but with help she was soon able to handle them.

The fifth respondent from the manufacturing sector was happy with the graduate's accounting knowledge but stressed the need for additional computer and public relation skills. The company's accounting system is fully computerised and exposure to

accounting software during her studies would have been helpful. Ability to deal with people is equally important. The respondent from the government agency felt that the graduate's accounting knowledge was sufficient because state government rules and regulations specifications are used in work. The major weakness observed was the inability to communicate in English.

6.9 Summary

In section 6.2 the overall observation was that employers perceived accounting knowledge as "very important" followed by possessing "technical accounting skills", "communication skills", "professionalism", "leadership", "knowledge of business and its environment", "information development and distribution skills", and "decision making skills". All seven competences are categorised as "important" requirement.

Across all the sectors accounting knowledge and skills ranked first with possession of accounting knowledge perceived as "very important". The possession of "technical accounting skills" was an "important" pre-requisite. Responses for "communication skills", "professionalism", "leadership", "knowledge of business and its environment", "information development and distribution skills", and "decision making skills" were mixed but were considered as "important" by all employers. Employers perceive all eight competences listed as "very important" with "professionalism" and "leadership" ranked first for career advancement. Across the sectors there were instances where two or more competences shared the same ranking.

Section 6.3 reported perceptions of employers employing Diploma in Accounting graduates on competences for entry-level positions and for career advancement. The results indicate that the possession of the "knowledge of accounting" and "technical accounting skills" is considered as "very important" pre-requisites for entry-level staff. Across the sectors the respondents perceive the possession of accounting knowledge as the most important aspect for entry-level positions. Ranking for "technical accounting skills" fluctuated between first to fourth positions. Despite the changes in the ranking their mean scores remained within the "very important" category with an exception for the possession of technical accounting knowledge in the government accounting sector.

"Communication skills" were rated an "important" competence and ranked third in importance. The responses for "communication skills" were relatively stable throughout all sectors. "Leadership" ranked fourth, "knowledge of business and its environment" ranked fifth, "professionalism" ranked sixth, "information development and distribution skills" ranked seventh and "decision making skills" ranked eighth. These five competences were mixed with wide fluctuation in perceptions.

When taking career advancement into consideration the results indicate that possession of "knowledge of accounting", categorised as "very important", was ranked first. The manufacturing and service sectors gave the same ranking. "Knowledge of accounting" ranked third by the public accounting respondents and sixth by the government sector accounting. Despite the fluctuations in the ranking it was still categorised as a "very important" competency where career advancement is concerned.

"Leadership" ranked fourth for entry-level position but ranked second for career advancement. In the public accounting sector it ranked first for career advancement. It also ranked second by the manufacturing and service sectors and ranked third in the government accounting sector. This highlights the relative importance of leadership when considering promotion.

In terms of importance for career advancement, "communication skills" ranked third. It ranked third by the public accounting sector respondents; second by the service sector respondents, first by the government sector and fifth by the manufacturing sector respondents. Importance of communication skills increases relatively when career advancement is taken into consideration.

The relative importance of "technical accounting skills" dropped from second position during entry-level to fourth position for career advancement. Its relative position was sixth in the public accounting sector, second in the manufacturing sector, first in the service sector and eighth position in the government sector. Employers expect a candidate to develop additional technical accounting skills before promotion. Employers also expect candidates to develop other competences for more responsible positions.

"Knowledge of business and its environment" ranked fifth, "decision making skills" sixth, "professionalism" seventh, and "information development and distribution skills" ranked eighth. Across the sectors "knowledge of business and its environment" fluctuated between second and sixth position, "decision making skills" fluctuated

between second and eighth position, "professionalism" ranking fluctuated between first and eighth position and "information development and distribution skills" ranking fluctuated between first and eighth position. An explanation for the variations in ranking may be due to the type of career advancement available within an organisation. Another explanation could be due to different demands of the sectors involved.

From section 6.4, employers perceived most entry level accounting support staff as "average" on six of the competences and "weak" on two. The results indicated employers are demanding more from accounting programmes. The results across accounting sectors portrayed an "average" perception and supported the view that accounting graduates need better preparation on those competences.

Section 6.5 deals with employers' perceptions of graduates' competences hired as accounting support staff. The results indicate that only three areas were considered as "average" which were "technical accounting skills", "knowledge of accounting" and "communication skills". The mean scores obtained for these competences were lower than the mean scores obtained for the general group of employees. The results obtained for the other five competences were perceived as "weak" by the respondents with their mean scores lower than 3.000. "Professionalism", "leadership" and "information development and distribution skills" were also regarded as weak.

The results obtained from sectors indicate a consensus among the respondents that graduates are perceived as "average" in most areas. There were instances where

candidates were perceived as being poorly prepared. The results suggest the existence of a gap between employers' expectations and graduates' abilities.

Section 6.6 provides further breakdown of the competences. The results of the analysis indicate that sub-competences have mean scores lower than the group mean scores. The results show the areas that were identified as requiring further attention.

In section 6.7, employers rated polytechnics' Diploma in Accounting graduates as "average" on all the sub-competences. There were instances where sub-competences mean scores were lower than group mean scores. This could help to identify problem areas. All of the group competences as well as the sub-competences indicated that further attention is needed from accounting educators. Improving sub-competences may help to improve group competences.

Section 6.8 emphasises that accounting knowledge is the main strength and the lack of practical experience is the main weakness seen in staff. Other major strengths observed are positive attitudes, and commitment to work and eagerness to learn. Major weaknesses are lack of communication, interpersonal skills, lack of verbal and writing skills in English, and weakness of analytical abilities. The findings also suggest the need to improve ability to work under pressure, and to increase self-confidence and self-initiative.

6.10 Conclusion

Section 6.2 highlights that employers in Malaysia employing accounting support staff perceived "knowledge of accounting" and "accounting technical skills" as two "very important" competences for entry-level positions. Findings in Section 6.3 indicate that employers employing polytechnics' Diploma in Accounting graduates shared the same perceptions. These findings illustrate the need for the Diploma in Accounting programme in the polytechnics to equip accounting students with the necessary knowledge and skills. Findings from Chapter 4 can be used as guidance to determine the relevant knowledge and skills to be included in the Diploma in Accounting programme. Sixteen out of the 24 duties were identified as "important" by employers in Malaysia participating in this study while six duties were classified as "fairly important".

The findings from sections 6.2 and 6.3 also support the need for the Diploma in Accounting programme to develop communication skills, leadership, knowledge of business and its environment, professionalism, information development and distribution skills and decision making skills. The Diploma curriculum as well as the teaching and learning process in the polytechnics have to ensure the development of these other competences. The findings in sections 6.4 to 6.7 which discuss accounting support staff level of competence indicate the urgent need to implement a curriculum and teaching and learning process that enhance students' competences.

Findings from section 6.2 and section 6.3 also highlight the need for accounting curriculum to develop competences beyond accounting knowledge and skills. Employers

expect the Diploma in Accounting programme to equip graduates not only with theoretical understanding and skills of accounting but to equip them with abilities such as making judgements, asking questions, and posing problems (Birkett, 1993a, 1993b). Analysis of responses in sections 6.4 to 6.7 supports the view that employers expect accounting graduates to posses such attributes. Findings in section 6.4 and 6.5 show that Diploma in Accounting graduates are not properly being equipped with the required competences. Concerns and comments expressed by employers as depicted in section 5.8 and 5.11 in Chapter 5 parallel the outcome of analysis of responses in sections 6.2 and 6.3.

Analysis of findings from Section 6.8 indicates that employers provided positive comments with regard to graduates' attitudes. However Diploma in Accounting graduates were considered as deficient in terms of interpersonal skills, analytical abilities, self-confident, self-initiative, communication skills as well as working experience. Findings from section 6.8 highlight the importance of an extended set of competences as discussed by Deppe et al. (1991). Accounting practitioners in Malaysia demand accounting education and training programme in the polytechnics to equip Diploma in Accounting graduates with accounting knowledge and technical skills as well as other non-accounting technical skills and knowledge.

CHAPTER 7

SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This chapter is divided into five sections. The first section explains the organisation of the chapter. The second section is a brief summary of the fieldwork, which focuses on the purpose of this project. Section three highlights the findings found in the data. The findings presented are limited to data that bear directly on the research questions. Data not related to the research questions found in chapters four, five, six are in the appendices. Findings pertinent to the research questions are those where there is sufficient agreement among the various populations to give directions to curricular review in accounting education. The fourth section consists of conclusions that integrate and discuss the findings listed in section three. The fourth section also discusses the findings and conclusions as related to the literature in this area and attempt to highlight the contributions to knowledge. The fifth and final section documents recommendations for action.

7.2 Summary from Field Work

The first aspect of the project highlights interview with personnel from TED, Ministry of Education Malaysia. Three of the interviewees are heads of commerce

departments and one interviewee is an assistant director in the Curriculum Development Unit, TED. This section contains discussions on historical, structural and future prospects of the Diploma in Accounting programme. Then this project discusses and interprets the perceptions of employers and employees relating to accounting support staff duties and tasks. It highlights respondents' perceptions toward a list of 24 duties. The outcome is a profile of accounting support staff work. The findings are important for educators to consider in restructuring the accounting programme.

This project also requires employers to identify accounting skills and knowledge necessary for successful practice. It also highlights essential non-technical attributes required for practice. Feedback from employees indicates the importance of duties and tasks performed. The feedback also includes perceptions on computer skills and literacy.

7.3 Discussion of Findings from Fieldwork

The next four sub-sections highlight major findings from the fieldwork. Each sub-section helps to explain opinions of individuals in charge of implementing, monitoring and evaluating the Diploma in Accounting programme, accounting support staff duties and tasks, and employers' expectations of accounting support staff.

7.3.1 Discussion of Findings from Interview Sessions with TED Officer and Heads of Commerce Departments of the Polytechnics

The information received from officers of TED and the polytechnics highlight their concerns and expectations of graduates and the Diploma in Accounting programme. The findings from these personnel provide an opportunity to understand the Ministry of Education, Malaysia initiative in providing workforce education and training. The officers involved in the interviews are responsible to implement, monitor and evaluate the content and teaching and learning aspects of the Diploma in Accounting programme.

The officers have the perception that students are not effective in English. This is a problem that received the highest concern. Some of the officers encouraged students to use English to communicate among them and as the medium of instruction. Students should be encouraged to use English in class and learning activities. Formal presentations and report writing sessions can be used to integrate English usage in other subjects within the programme. Findings from Chapter 6 involving accounting practitioners support concerns of the TED personnel interviewed in this study.

To create a stimulating teaching and learning environment the Commerce Curriculum Unit of TED has proposed setting up accounting laboratories in existing polytechnics and in all the new polytechnics offering the Diploma in Accounting programme. This is seen as a way to develop further the analytical skills of students. There is also a plan to infuse accounting simulations in the teaching and learning

strategies. Lecturers are also encouraged to organise seminars and invite guest speakers in their classes. The proposal given by TED personnel paralleled a new accounting education and training model proposed by Needles, Jr. and Powers (1990).

Due to a shortage of teaching staff, polytechnics cannot meet the increasing demand by industries for accounting support staff. Lack of staff constitutes a major barrier to changing the programme. Future staff recruitment in the polytechnics will require teaching qualifications even though the policy was relaxed during acute staff shortage. The emphasis is to enhance methodologies in teaching and learning.

When considering employment opportunities, it is necessary to determine if graduates are able to secure employment appropriate to their qualifications. The trend is that graduates accept lower level employment requiring only a certificate in bookkeeping qualifications. There are also reports that indicate the employers offer "middle-level" accounting support staff jobs to bachelor degree accounting graduates. Due to the increasing competition, bachelor degree graduates are willing to accept employment that only requires diploma qualifications. In these cases the trend indicates that the diploma holders are losing out on both grounds.

The problem with the industrial training component is related to the limited availability of suitable training places. Auditing firms are regarded as the most appropriate place for the students to train. Due to the limited spaces available some students do training in other business organisations. Some employers do not provide appropriate training for students while some are reluctant to let students handle more challenging duties and tasks. The comments by employers in section 6.8 highlight the

need to enhance the industrial training component of the Diploma in Accounting programme at the polytechnics. Employers expect students were given a wider exposure of the accounting practice during their studies. However there is a need to develop a better co-operation between polytechnics and employers on this matter.

7.3.2 Discussion of Employers' and Employees' Perceptions of Accounting Support Staff Work Profile

The project also gathers data to determine how Diploma in Accounting graduates performed their duties and roles after graduation. The programme was expected to relate to the wider expectations of the work place. This is essential when developing the curriculum, teaching and learning materials for the programme.

In Chapter 5, the results of a survey of accounting work place produce a profile of duties and tasks performed by accounting support staff. Analysis of the results indicates that fifteen out of twenty-four duties listed are regarded as the main duties for entry-level staff. This is supported by the interviews with the employers discussed in Chapter 6. This trend is applicable throughout the four accounting sectors with minor variations. These variations highlight the differences in response due to the differences of the sectors involved. Senior staff perform the other seven duties. The authorities responsible for the Diploma in Accounting programme need to make sure that graduates are competent to perform the main duties performed by accounting support staff during the first five years of employment. Analysis of demographic data of the respondents confirms the trend. It is safe to assume that the fifteen common

duties are similar for a majority of the respondents. This is important information for those planning curriculum restructure.

Analysis of tasks indicates the importance of a task within a duty. The relative position among tasks helps identify its importance to respondents. It also helps students realise tasks performed by accounting support staff. Familiarisation permits students to relate what they learn to the actual tasks involved. Educators need this information during the teaching and learning process. Teaching and learning can be effective if materials are presented in a clear sequence. Educators also can use the information to identify the area where students have difficulty.

Findings on computer skills and literacy highlight the importance of spreadsheet and word processing applications to the respondents. In terms of computer skills, software applications, keyboarding and computer communicating are considered essential skills. Analysis and administration are two important uses of computers indicated by respondents. These findings are useful in determining educational needs of accounting support staff. Respondents also indicate that they spend between 6 to 10 hours per working week on computers. The responses from the polytechnic graduates suggest that they appreciate their limited exposure to computer applications in the programme. However they would like to be given the opportunity to apply computer technology during their studies.

Interviews with the employers highlight the impact of computer and information technology in the work place. Technology such as the accounting and

word processing software packages require staff to adapt to the new working environment.

In terms of understanding the types of jobs performed, the findings from the job incumbents provide the required information. The study indicates that accounting staff perform at least three separate duties per week. This finding provides the immediate focus for accounting educators when determining and developing programme content. This introduces the significance of having the ability to handle work pressure and the ability to set priorities within the work place. In preparing graduates for employment, appropriate attention needs to be given to multiple concurrent roles. It is hoped that this kind of information can help educators make the programme more relevant.

The findings provide insight into the duties performed by the respondents. In this case, smaller components of the duties may introduce other complexities. Educators then have the opportunity to concentrate on crucial needs. The findings illustrate that each duty takes a different amount of time. Instead of allocating equal "teaching and learning" time to the duty, accounting educators may allocate the time between tasks according to priorities and complexities. The arrangement of learning materials helps educators to identify specific areas that require remedial effort.

These findings suggest a difference between competences identified for immediate use and those competences necessary for career advancement. This calls for the accounting educators to look for better ways on how to handle this matter. A starting point is to evaluate the existing Diploma in Accounting programme.

7.3.3 Discussion of Employers' Perceptions of a List of Competences for Entry Level Posts as Accounting Support Staff and for Career Advancement

In Chapter 6, the findings related to employers' perceptions with regards to the 8 categories of competences suggest that they are expecting accounting support staff at entry-level to be equipped with sufficient accounting knowledge and skills. These two competences are perceived as "very important" and are suggested as "pre-requisites" by employers during interviews. This view is shared across all the accounting sectors. The outcome may suggest that these two areas of competence should be placed at the top of the priority list by curriculum developers.

The findings from the employers who hire the Diploma in Accounting graduates of the polytechnics indicate similar perceptions with regards to the 8 categories of competences. The results suggest that the polytechnic graduates are working under similar expectations and demands as experienced by graduates of other institutions. The first three categories of competences expected from the polytechnic graduates are accounting knowledge, accounting skills and communication skills.

Responses for professionalism, leadership, knowledge of business and its environment, information development and distribution skills and decision-making skills were mixed. Their relative positions within each sector are interchangeable and are considered as "important" by the employers. The findings suggest that the employers expect staff at entry-level to be equipped with these "extra" skills and abilities. In addition accounting knowledge and skills as well as communication skills

are regarded as essential for a smooth career start. This information can be used as a guideline to evaluate existing Diploma in Accounting programme. However for career advancement the results indicate that overall employers perceive all the eight competences as "very important" with professionalism and leadership ranked as the first two. Individual competence is perceived as critical for career advancement. The nature of the duties and responsibilities however, cause changes in the relative positions of each competence. The same argument is true across all sectors with instances of two or more competences sharing the same ranking.

The employers of polytechnics' graduates perceived the possession of accounting knowledge as the first criterion when considering career advancement. However both groups of employers agree that leadership ability comes second and communication skills is third on the list. The prevailing trend in this section suggests that the employers expect a candidate to develop further their technical accounting skills before a promotion is considered. At this stage employers also expect candidates to develop useful competences for more responsible positions.

Despite heavy emphasis on competences, employers perceived most of entry level accounting support staff as "average" on six of the competences and two were perceived as "weak". Decision-making skills and knowledge of business and its environment scored lower than "average". The results indicate employers demand better output from accounting programmes. The findings portray an "average" performance among the accounting sectors. The results support an earlier argument that accounting graduates entering the work place need better preparation. This is based on all the overall findings.

Looking at the employers' perception of the polytechnic graduates it is noted that action is urgently required. The graduates were considered as "average" only in three areas. These areas are communication and technical accounting skills as well as knowledge of accounting. The mean scores obtained for these three competences were lower than the mean scores obtained by the general group of employees. The worrying factor is that the findings indicate that the employers perceived graduates as "weak" in the other five competences. The results suggest the existence of a gap between polytechnics' Diploma in Accounting graduates preparedness and the employers' expectations.

In terms of the sub-competences, the findings for the general group of respondents indicate that all their scores were categorised as "average". There were instances where sub-competences mean scores were lower than the group mean scores. The findings for the Diploma in Accounting graduates indicate that some of the sub-competences mean scores were not only lower than the group score but the individual sub-competences scores were lower than average. In these areas the polytechnic graduates do not perform as well as their colleagues from other institutions. This could be used to help identify the problem areas involved. It means that accounting educators at the polytechnics should pay more attention to all the group competences and the sub-competences. This indicates the advantage of a clear and detail information to educators when they intend to enhance the programme.

7.4 Conclusions

This section contains major conclusions derived from the literature review and fieldwork investigations, and from evaluations of the work place and the Diploma in Accounting programme. The conclusions are:

1. Interview sessions with TED officials indicate that the objectives of the polytechnic programmes to prepare middle level technical staff or junior executives will remain for sometime into the future. It can be concluded that the polytechnic system under the Ministry of Education Malaysia will continue to expand into the future in pursuing its original political and economic purposes. Several new polytechnics were established following recommendations from the Cabinet Committee on Implementing Education Policies in 1979 and the First Malaysia Industrial Plan, 1985-1995. Presently there are 17 polytechnics operating and another polytechnic will begin its operation by the end of year 2003 (Ahamad, 2003).

2. TED officials participated in this study acknowledge that a big percentage of polytechnic graduates do not join the work force immediately after graduation. There are many that pursue their studies to higher level. Latest data obtained from a survey done by TED indicates that as much as 30 percent of polytechnics graduates pursue further education (Ahamad, 2003). As indicated by one of the TED officials in this study that as Malaysia's social and economy progress more of its citizen will want to pursue higher level of education. Polytechnics education system has to acknowledge a secondary objective, as seen from the

students' perspective, to become a stepping-stone for pursuing a higher level of education.

3. Interview sessions with employers indicated that Diploma in Accounting graduates lacked work experience even though industrial training component of the Diploma in Accounting programme has been identified by TED officials as an effective way to introduce accounting students to accounting work place. However TED officials also acknowledge the problems to find suitable training places and getting employers' co-operation to provide the necessary work place training to students. Inclusion of the industrial training component in the Diploma in Accounting programme indicated the need to expose students to work place needs and demands. Findings from this study indicate that work exposure during classroom experience is limited and it also highlights the need to provide a much effective work place exposure to polytechnic students.

4. TED has been working with the industries as well as the professionals in improving the programmes offered at the polytechnics. One of the main contributions by the industries is during curriculum development and review process. Members of the industries and professional bodies were invited to join industries advisory committee during curriculum development process. However it can be concluded that TED need to develop more effective working relationships with industries and the professionals since this study indicates that Diploma in Accounting graduates are not meeting the expectations of employers in terms of accounting knowledge and skills as well as competences considered as necessary by employers.

5. One of the major issues discussed by TED officials is the need to increase teaching and learning infrastructure and facilities in the polytechnics. It was acknowledge by the respondents the importance of integrating information and communication technologies in the teaching and learning process. Rani and Devi (1996) stress the increasing use of computers in accounting sectors. Salleh and Hamzah (1996) reiterate the need for accounting staff to work using computers in industry, commerce, public practice, and the public sectors. In addition TED need to build computerised-accounting laboratories in the polytechnics in order to facilitate the use of computer in the teaching and learning process. Government financial support in this matter is crucial.

6. TED officials also acknowledge strengths and weaknesses of the Diploma in Accounting graduates. Graduates were perceived to lack communication and analytical skills despite the call by accounting practitioners for accounting programmes to develop skills and attitude of students (Singh and Mohyiddin, 1992; Baldwin and Ingram, 1991; Bandy, 1990). Findings from a systematic analysis of graduates competences discuss in Chapter 6 exposed that polytechnics Diploma in Accounting graduates lack the necessary competences demand by accounting professionals. Diploma in Accounting graduates were perceived by their employers to be less competent than graduates of other accounting programmes.

7. Results from the fieldwork help to identify the duties and tasks performed by accounting support staff. Findings from a survey are supported by interview sessions involving a group of employers. These findings highlight the

importance of understanding how work roles in terms of duties and tasks are perceived and performed. The findings provide accounting support staff work profile to accounting educators in Malaysia. Findings in Chapter 5 help to emphasise the necessary accounting knowledge and skills that need to be included in an accounting education and training programme for accounting support staff as perceived by accounting practitioners. This information may not be explicitly discussed by Industry Advisory Committee set up by TED during curriculum development.

8. In addition to technical accounting competence, the findings of this study also highlight the importance of non-technical accounting competences necessary for entering the profession as well as for career success. Competences such as communication skills, leadership, knowledge of business and its environment, professionalism, information development and distribution skills, and decision making skills are considered as important for accounting support staff. The need for accounting programmes to develop such competences has been raised by Needles, Jr. and Power (1992), Lovell (1992), Singh and Mohyiddin (1992), and Durbin (1993).

9. Findings from fieldwork indicate that there was an urgent need to improve the provision of the Diploma in Accounting programme in the polytechnics. Graham (1993) suggests accounting educators should focus on accounting content and methodology. All of the respondents agree that there is a great demand for accounting programmes to produce accounting graduates with accounting knowledge and skills as well as competences necessary for successful

performance in the accounting work place. However respondents did not provide the way to achieve the desired outcome. Interviews with TED officials highlight the actions taken to improve Diploma in Accounting programme. Some of the actions taken are good but they may not help to provide a long-term solution to solve problems highlighted by employers. The proposed actions are unable to help increase the standard of accounting education in the polytechnics. Employers expect the Diploma in Accounting curriculum and the teaching process in the polytechnics to develop accounting knowledge and skills and the necessary competences. The content of the Diploma in Accounting curriculum and the teaching and learning process need to be reviewed. TED should adopt an appropriate model of curriculum development in order to achieve the expected needs and demands of the work place. It is concluded in this study that a concerted effort is required from TED and all parties related to accounting education in Malaysia to adopt an approach that correct the mistake systematically and effectively. Williams (1993) provides general main features of the new approaches to accounting education. Langley (1995) discusses the application of competence-based accounting programme.

7.5 Recommendations

After the literature review and work place investigations during the project the following are the recommendations that are intended to provide guidelines for improving the Diploma in Accounting programme within the Malaysian Technical and Vocational Education context:

1. Ministry of Education Malaysia should increase the number of polytechnics in the country in order to increase the number of places for post-secondary technical education. However the increase in quantity must be followed by enhanced education and training provisions. As the country moves forward towards realising the national agenda the need for producing middle level technical and business executives must be given proper attention in order to ensure sustainable supply of competent work force to help develop Malaysia's economic and social development.

2. Polytechnics need to ensure the industrial training component of the Diploma in Accounting programmes produce expected results. TED and polytechnics need to strengthen the present relationship with private practitioners and professional accounting bodies during content, process, and outcomes of Diploma in Accounting programme development. More dialogues between various parties should be encouraged. In addition private practitioners and professional accounting bodies must play an active role in providing, monitoring, and evaluating students in internship roles. Accounting professionals need to be invited to participate in the teaching and learning process as guest speakers. The producers and consumers of graduates of accounting programme must co-operate effectively.

3. The findings of this study suggest a strong need to increase the quality of accounting education and training in Malaysia. Polytechnics need to enhance the Diploma in Accounting programme. Findings of this study suggest the need of a thorough re-evaluation of the existing accounting programme. The findings make clear that practitioners and professional accounting bodies should play an integral role in that evaluation. The traditional approach of developing the programme with limited input from industry has hindered performance in the work place. The graduates do not meet immediate demands and have limited opportunities for career advancement due to poor preparation. The fieldwork suggests that the Diploma in Accounting programme neglects the personal development of students. The responsible parties should look for alternative approaches to optimise students'

occupational and personal development. This requires attention focus to content, instruction, assessment and support elements of the system under consideration.

4. Accounting lecturers need to increase the use of educational technology in their teaching. Use of simulations and accounting laboratories based around accounting technology should be increased where technology used in the classroom equals or exceeds that used in the private sector. Accounting educators need to provide stimulating teaching and learning environment. Accounting computer laboratories must be equipped with various accounting software in order to expose students to the software available in the workplace. The Diploma in Accounting curriculum must integrate the development of students' computer skills, software applications and various uses of computer as indicated by the findings in section 5.5 of this study.

5. Polytechnics and industrial placement organisations must work together to provide dynamic learning environments through industrial training placements. Challenging industrial training placement must become integral to the accounting programme. Accounting educators must develop clear and systematic training plans to be used as guidelines by organisations providing industrial training placements. Different training plans need to be prepared for training in different sectors of the industry. The training experiences provided to the students must include but not be limited to the duties expected to be performed by polytechnic graduates as indicated in section 5.4 of this study. There are sixteen duties that were identified as relevant to polytechnic graduates. Industrial training experiences have been described by respondents in this study as an essential element of an excellent accounting programme.

6. The information gathered from job incumbents and employers identifies areas that require attention. The programme must be re-structured around the employees' position and the required performance at the work site. The 16

duties identified by this study should be utilised as standard for content development and during the teaching and learning experience. The standard should also be extended to assessment practice. The findings suggest that a strategic plan needs to be developed to organise the Diploma in Accounting programme through well-designed modules or increments based on the tasks identified as important by respondents as indicated in section 5.4. A working committee based on a new model of co-operation consisting of the TED, accounting educators, accounting professionals and professional bodies could and must work together to develop the strategic plan to implement the required changes.

7. The polytechnic Diploma in Accounting programme must develop in students not only accounting knowledge and skills but also communication skills, leadership, professionalism, information development and distribution skills, decision making skills as well as knowledge of business and its environment. The Diploma in Accounting programme must provide appropriate computerised-accounting experience to students. Accounting practitioners regard these knowledge and skills as important for entry-level staff and become essential for career advancement. Accounting educators in the polytechnic need to help students develop these knowledge and skills through the curriculum and the teaching and learning process. Hardy and Deppe (1995) introduced a model of integrating various essential competences across the curriculum where accounting educators stated explicitly in their course syllabus competences to be developed.

8. The definition of competence adopted in introducing a CBET model must encompassed personal and employment capabilities development. According to Khair (1997) TED is concern with the development of the minds and skills of the Malaysian youth. The work by Haffenden and Brown (1989) and Birkett (1993a, 1993b) should provide the guidelines for accounting educators in Malaysia when determine an appropriate definition of competence for a Malaysian context. However various limiting issues raised

should be given attention while incorporating Eraut (1994) ideas regarding the development of professional knowledge and competence.

9. Accounting educators must develop a curriculum development model that integrates the development of the competences stressed as important by employers. The curriculum advisory committee must be provided with the appropriate working guidelines based on a new model of curriculum development in order to ensure that the content developed for the curriculum are relevant for work force education and training. TED was not able to provide a new curriculum model that produced the desired content since under the existing curriculum development model members of the advisory committee are not provided with the necessary guidelines and procedures to produce the required curriculum content. Despite several curriculum review exercises conducted by TED, polytechnics' Diploma in Accounting curriculum experience limited significant changes. This is true since the outcome of a process will depend to a great extend on the guidelines and procedures used during the content development process. The discussion by Langley (1995) provides an example of developing a work force education and training programme for accounting support staff.

10. The CBET model adopted should focus on the development of essential knowledge and skills by integrating them into the teaching and learning process. After developing the appropriate curriculum content accounting educators must develop methods to translate competence statement into effective teaching and learning experiences to the students. As indicated by Needles, Jr. and Powers (1990), Hyland (1994) and Khair (1997) the competence statements developed under the present CBET model did not identify the appropriate teaching and learning process to achieve the competences identified. Accounting educators should work with pedagogical experts in this matter. The work by Felder and Brent (2003) provided an example of guidelines for educators to effectively translate the required competences identified by an engineering accreditation board into the

teaching and learning process. TED, polytechnics, professionals and professional bodies must work closely to achieve this important aspect of adopting a CBET approach to accounting education and training programmes.

11. MOE and TED must provide continuous commitment and support in terms of the required human and financial resources during the development period of a CBET approach. Steering and working committees need to be established during various development stages. TED, polytechnics and other related governmental agencies personnel and accounting professionals must sit on the various committees. In addition to a committee that helps to identify the relevant competences to be developed in a Diploma in Accounting programme, a committee needs to be established to help identify alternative teaching and learning activities that help to develop the desired competences in the students. The establishment of a committee to look into teaching and learning practices helps to overcome some of the limitation of implementing a CBET approach relating to teaching and learning issues under the present CBET model. The teaching and learning strategies developed need to adopt a holistic approach to human development.

12. This study indicates that employers are not satisfied with the Diploma in Accounting graduates produced under the present curriculum and teaching practices. After an extensive literature review and a critical analysis of a fieldwork data during this study, a CBET Diploma in Accounting approach is recommended to the polytechnics. The CBET model recommended should embrace a holistic definition of human development without losing its focus on developing required work knowledge and skills. The CBET model approach adopted should integrate the development of the desired identified competences across the curriculum during the teaching and learning process. MOE and TED need to adopt a new curriculum content development model in order to prepare the Malaysian work force for the new century. Khair (1997) stressed that the education and training provisions in Malaysia need to produce human resources that are flexible and adaptable to the rapidly

changing work place. An evolutionary approach should be adopted when introducing the CBET model in order to ensure various constraints are overcome and the necessary preparations are made.

13. This study is as an important early effort to introduce a CBET Diploma in Accounting programme in the Malaysian polytechnics. Further research and studies have to be conducted by TED personnel and accounting educators. In order to encourage extensive research in the related areas, Malaysian government and accounting professional bodies need to provide research grants and scholarships to potential candidates. In addition to fundamental research exploring and determining the appropriate aspects of a CBET model, accounting lecturers can implement action research to help collect information before adopting an appropriate CBET curriculum, teaching and learning model in the Malaysian context.

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National Education Philosophy of Malaysia

(source: Zamrus, A.R. and Mokelas, A., 1998)

"Education in Malaysia is an on-going effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who posseses high moral standards, and who are responsible and capable of achieving high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the nation at large"

Courses in the Polytechnics

(source: TED, undated)

COURSES	PUO			POLISAS			POLIMAS			PKB			PKS			PPD			PKK			PSA			PJB			PSP			PKM			PKKT		
	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D	C	I	D
Civil Engineering		X	X		X	X		X	X		X	X		X	X		X	X						X												
Wood-based Technology																						X		X												
Civil Engineering (Public Work & Hydraulic)	X									X																										
Civil Engineering (Highway)										X																										
Civil Engineering (Construction)	X			X			X			X			X			X			X		X									X						
Building Services Engineering							X	X					X									X		X												
Town & Regional Planning								X																												
Architecture	X	X		X		X	X									X																				
Quantity Surveying							X			X	X	X																								
Land Survey	X	X		X		X							X						X																	
Electrical Engineering	X			X			X			X			X			X			X																	
Electrical Engineering (Control & Power)								X	X								X																			
Electrical Engineering (Petroleum)													X																							
Electrical Engineering (Medical)																						X		X												
Electronic Engineering		X	X											X	X																					
Electronic Engineering (Control)	X												X									X		X	X		X									
Electronic Engineering (Computer)	X			X			X			X						X												X		X			X			
Electronic Engineering (Communication)	X			X	X	X	X	X	X	X			X			X	X	X	X			X		X	X		X				X					
Electronic Engineering (Petroleum)													X																X		X			X			
Information Technology	X		X				X						X																							
Marine Engineering			X																																	
Mechanical Engineering	X	X	X	X		X	X	X	X	X			X	X	X	X	X	X	X		X	X		X							X					
Mechanical Engineering (Material)																									X		X									
Mechanical Engineering (Automotive)	X			X						X	X	X	X			X																				
Mechanical Engineering (Plant)							X		X																			X		X						

Mechanical Engineering (Refrigeration & Air Conditioning)	X	X	X																																	
Mechanical Engineering (Manufacturing)	X			X			X	X	X	X						X	X		X								X	X		X						
Mechanical Engineering (Agriculture)	X									X	X	X																								
Mechanical Engineering (Packaging)																						X		X												
Mechanical Engineering (Plastics)							X																													
Mechanical Engineering (Textile)																												X		X						
Mechanical Engineering (Petroleum)													X																							
Mechatronic Engineering			X						X			X															X									
Chemical and Process Engineering													X																							
Food Technology				X	X	X																														
Accountancy			X			X			X			X		X	X			X												X						
Insurance																						X		X												
Banking & Finance			X																																	
Marketing									X			X						X						X												
Data Processing				X																								X								
Business Studies	X	X	X							X		X		X	X						X	X		X				X		X	X					
Bookeeping				X						X			X						X									X								
International Trade												X																								
Secretarial Science							X											X																		
Tourism Management																						X			X		X									
Hotel & Catering Management																									X		X									
Apparel & Fashion Design																									X		X									
Graphic Design																									X		X									
Industrial Design																									X		X									

Key:

PUO - Politeknik Ungku Omar POLISAS - Politeknik Sultan Haji Ahmad Shah POLIMAS - Politeknik Sultan Abdul Halim Mu'adzam Shah PKB - Politeknik Kota Bharu PKS - Politeknik Kuching	PPD - Politeknik Port Dickson PKK – Politeknik Kota Kinabalu PSA – Politeknik Shah Alam PJB – Politeknik Johor Bharu PSP – Politeknik Seberang Prai PKM – Politeknik Kota Melaka PKKT – Politeknik Kota K. Terengganu	C – certificate I – integration D - diploma

Appendix C

The Structure of the Diploma in Accounting Programme
(Source: Ministry of Education, Malaysia, 1994)

Semester I:	**Semester II:**	**Semester III:**
Islamic Education I Moral Education I Commercial English I Accounting Fundamental Microeconomics Statistics I Introduction to Computer Marketing	Islamic Education II Moral Education II Commercial English II Marcroeconomics Statistics II Computerised Data Management Commercial Laws Business Mathematics I Financial Accounting I	Islamic Education III Moral Education III Islamic Civilisation Computerised Accounting System Business Mathematics II Financial Accounting II Business Management Cost Accounting Islamic Economics
Semester IV Six-month industrial training	**Semester V:** Commercial English III Islamic Economics Financial Accounting III Auditing Malaysian Taxation I Company Law Cost Accounting 2	**Semester VI:** Commercial English IV Financial Accounting IV Auditing and Investigation Malaysian Taxation II Business Finance Management Accounting

Appendix D

A Brief History of The Technical and Vocational Education in Malaysia

(source TAVED, 1988)

The history of technical and vocational education in Malaysia (then Malaya) goes back to 1906 when the "Treacher Technical School" was established to train technicians for the Railway and Public Works Department. In 1931, it was transferred to the Education Department. The intention to upgrade and to rename the school as "Technical College" was shelved due to the outbreak of the Second World War. However when the war ended the school was reopened as the "Technical College". Throughout the years the college has undergone several changes, and by 1972, it was upgraded to an institute of higher learning status and is now the University Teknologi Malaysia (UTM).

The actual development in terms of technical and vocational education and training began in 1926 with the establishment of the first Federation of Malay State (F.M.S.) Government Trade School. The establishment of the school was the first attempt by the government to specifically provide skilled training. Subsequently three more of the FMS schools were built in Penang, Ipoh and Johor Bharu between 1929 and 1934. These schools prepared mechanics, electrical wiremen and carpenters. In 1946 the schools were renamed as Junior Technical Trade Schools (JTTS). By then the schools offered courses in machine shop practices, electrical installation, motor engineering, carpentry and bricklaying.

As a result of the Report of the Education Committee or Razak Report, 1956 several of the JTTS were converted to Technical Institutes in 1956. These institutes were described as providing "technically biased" academic education and became forerunners of the present day secondary technical schools. In 1960 the remaining JTTS were renamed Secondary Trade Schools (STS). The STS main mission was to provide vocational education for lower secondary school leavers and also for Rural Extension School leavers.

In addition to the STS a system of Rural Extension Schools (RES) were also established in 1957. Following the Razak Report schools were established as an effort by the government to provide for rural Malay youths. The qualification for entrance was the completion of six years of primary education. The schools offered three-year courses in metalwork, carpentry, brickwork, vegetable farming, poultry farming, animal husbandry and rubber tapping. Students who successfully completed these courses could enter the STS as mentioned above.

Low entry requirements and inconsistent training are recognised as the cause of poor acceptance of these schools by the public. Following Rahman Talib Report in 1960, the STS and RES were phased out and replaced by the Secondary Vocational Schools system.

By 1965, by following the Rahman Talib Report the government introduced significant changes in the education system. First, primary school leavers were automatically promoted to secondary schooling when completed six years of primary school education. Second, for the first three year of lower secondary schooling the

government emphasised industrial arts, agriculture science, commercial studies and home science subjects. At the end of the third year lower secondary schooling pupils sat for Lower Certificate of Education (LCE) before they could continue for another two years to the upper secondary level.

At this juncture the government realised that more seats were required to accomodate pupils moving from the lower secondary to upper secondary schooling. Under the First Malaysia Plan (1965) the government decided to provide craftsmanship level knowledge and skills for pupils unable to pursue higher education. Upon leaving the schools with the knowledge and skills in engineering trades, commerce, home science and agriculture the school leavers found suitable employment upon completion of the Malaysian Certificate of Vocational Education (MCVE) examination.

In 1987 the SVS system experienced another innovation resulting from the recommendation of the Cabinet Committee Report or known as the Mahathir Report, issued in 1979. Streamlining of the vocational SVS pupils during the second year of schooling consisted of:

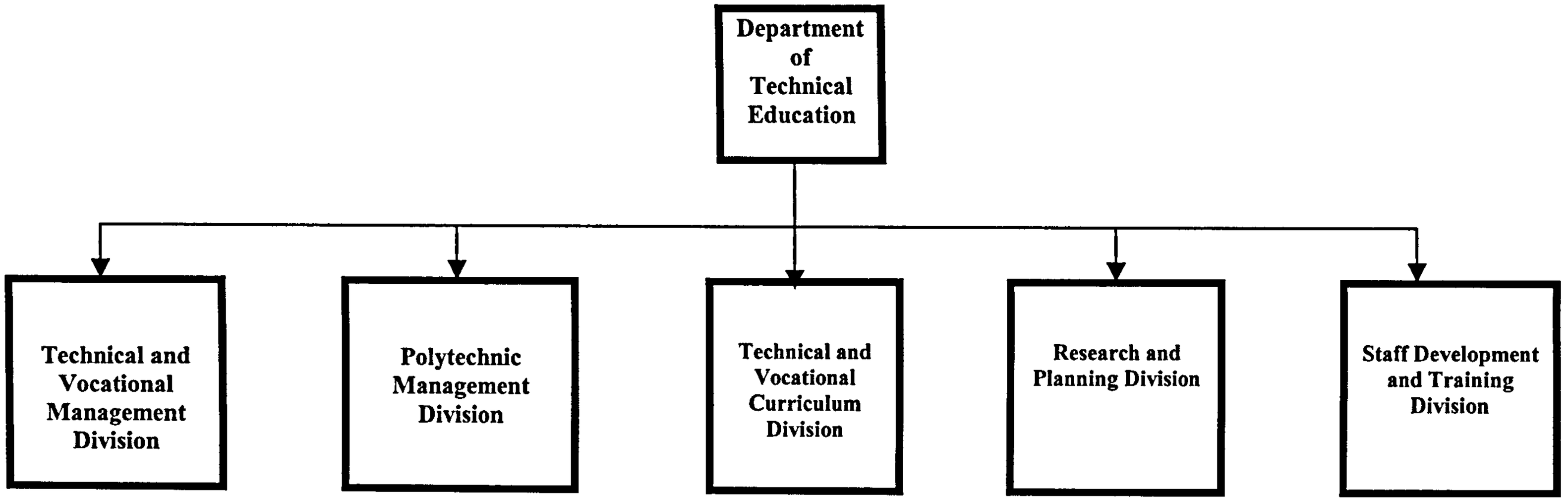
1. vocational education programme, and;
2. vocational skills programme.

However in 1992 the pupils were permitted to begin their training at an earlier stage. Pupils following the first streamlining took the Malaysian Certificate of Education (Vocational) while others opted for the National Vocational Training

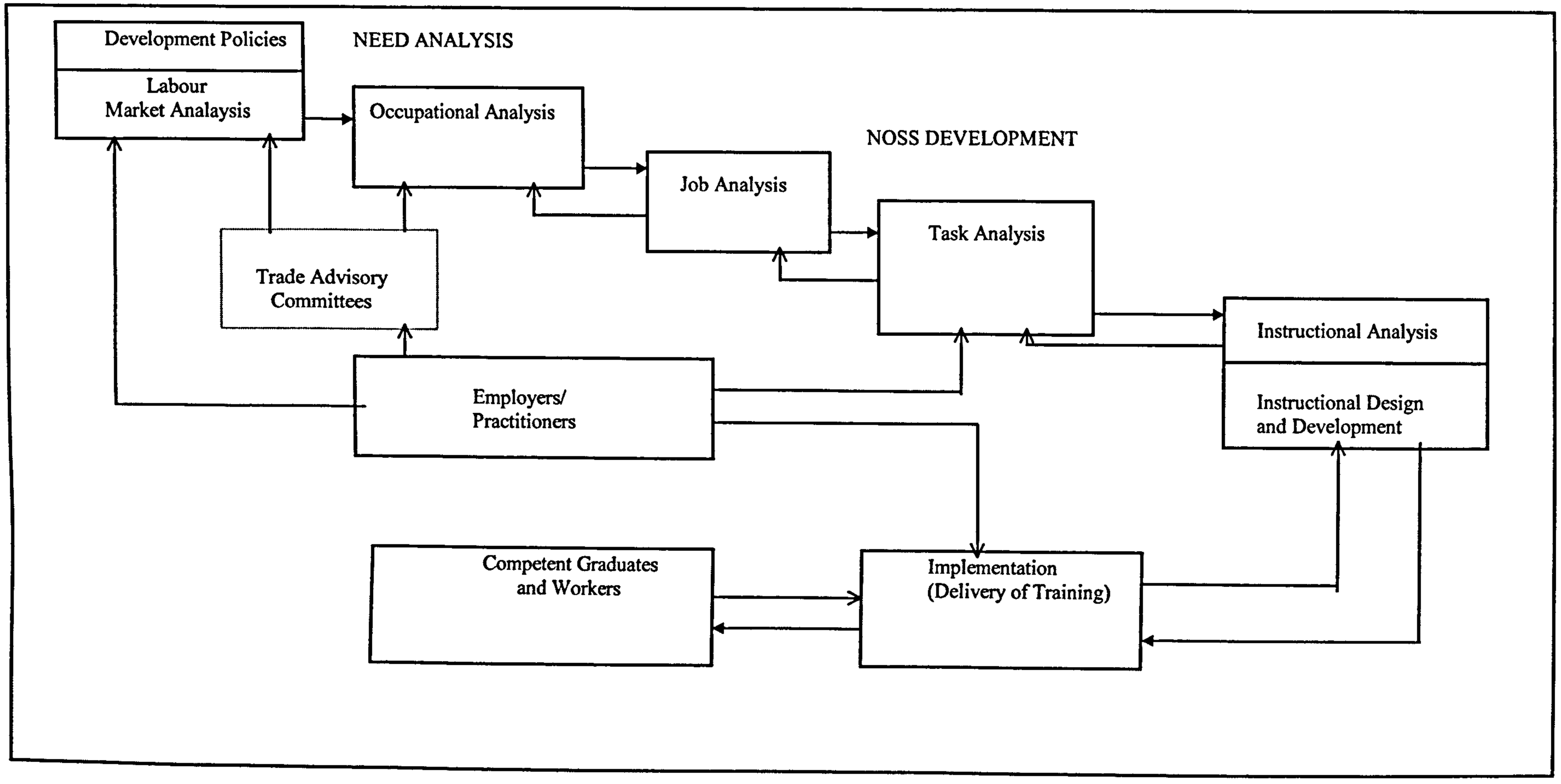
Certificate (NVTC) conducted by the National Vocational Training Council, Ministry of Human Resource.

Again in 1993 the SVS system took a quantum leap by no longer catering for lower level skills training and focussed on higher level "technological-vocational" oriented secondary school schooling. The outcome of the move was the phasing out of the MCE(V) - NVTC courses and increased the number of academic subjects into existing MCE(V) courses. The academic subjects placed strong emphasis on science and mathematics. Due to the changes the present SVS converted to STS and adopted new curricula that was approved by the Cabinet in May 1995. The move by the government created an upsurge from nine STS (1994 statistics) to more than seventy altogether by 1997.

Department of Technical Education, Ministry of Education Malaysia Organisation Chart



A Model for the Competency-Based (Vocational) Education/Learning Approach As Adopted in Malaysia
(Source: Leong, 1995)



Interview Schedule With Principal Assisstant Director
Commerce Section, Technical and Vocational Education Division

Main Objectives

The objective of this interview is to determine the role of the Commerce section of TED, implementation issues and the future planning for the Diploma of Accountancy programme in the Polytechnics of Malaysia.

Schedule

1. What is the (main) role of the Commerce section of TED?
2. What was the philosophy of creating the Commerce Department at PUO?
3. Why was the Diploma of Accountancy programme decided to be offered?
4. Who developed (individual, institutions) the curriculum?
5. How was the curriculum of the Diploma of Accountancy developed?
6. Was there any specific curriculum model to follow?
7. What was the objective of the programme?
8. How many times has the curriculum been reviewed?
9. What were the areas that were changed?
10. Why were the changes made?
11. What were the processes used for the review exercise?
12. Who was involved during the review process?
13. Has the objective of the programme undergone any changes?
14. What could be done to enhance the programme?

Interview Schedule With Head of Commerce Departments

Main Objective

The objective of this interview is to determine the objective, implementation issues and the future of Diploma of Accountancy programme in the Polytechnics of Malaysia.

Schedule

1. How many accounting programmes are being offered at present at this Polytechnic?
2. When was the Dip. of Accountancy introduced at this Polytechnic?
3. What was the main objective of the programme then?
4. Were there any secondary objectives of the programme?
5. Do you think you managed to achieve the objective?
6. Has there has been any change to the objective of the programme since then?
7. What is your major concern about the programme?
8. What are the comments that you have received from the graduates about the programme?
9. What are the comments from employers about the programme?
10. Should anything be done to enhance the programme?
11. (If yes), then what?
12. What is the employability rate of the Dip. Acc. graduates?
13. Are they getting employment equivalent to their qualifications?
14. (If not,) why do you think this is?
15. What do you see as the major strength of your graduates?
16. What do you see as the major weaknesses of your graduates?
17. What is your opinion on the Industrial Training component of the programme?
18. Is improvement required?
19. If yes, what can be done to improve the Industrial Training component?
20. What are the major benefits/strengths of the component?
21. What are the major problems about the component?
22. When was the last time that major changes occurred in the programme?
23. What were the changes?

24. What are the major changes that you think should be included in the next exercise?

25. Why do you suggest those changes?

26. What can be done to involve professional bodies such as the MIA/MAAT in developing and enhancing the programme?

27. What are the areas that you think can be the common ground for the both parties to work together?

28. What do you see as the future of the Diploma of Accounting programme?

Set B:Assistant Accountants

Notes:

OThis questionnaire is addressed to supporting accounting staff.

OThe purpose of this questionnaire is to obtain information on what you do in your current employment and on a few general related aspects of yourself.

The information provided by you is essential in order to analyse the data that would be obtained from a series of other data gathering exercises to evaluate the current provision of the Diploma of Accounting programme in the Polytechnics of Malaysia.

OPlease read and answer all the questions as carefully as possible.

OThe is no right or wrong answer. All responses will be treated appropriately.

OInformation obtained will be treated in the strictest confidence. Individuals and organisations anonymity will be maintained at all times.

OPlease return completed questionnaire before _____, using the pre-paid postage envelope provided.

Thank You.

TEXT BOUND INTO

THE SPINE

Assistant Accountants Job Profile

Jbin

TION ONE

is section we are interested to determine the general characteristics of your employment and what you do. Please provide the following general mation about **YOURSELF** and about **WHAT** you do by putting a **TICK** ☑or **WRITE** ✎in the boxes or spaces provided.

ECTORS OF INDUSTRY

blic Accounting Firm	1. ☐
nufacturing entity	2. ☐
vice entity	3. ☐
vernmental Accounting	4. ☐
ers (please specify)	_____

2. CURRENT JOB TITLE

Audit Assisstant	1. ☐
Account Assisstant	2. ☐
Tax Assisstant	3. ☐
Bookeepers	4. ☐
Accounts Clerk	5. ☐
Others (please specify)	_____

URATION OF WORK ACCOUNTING STAFF

years	1. ☐
years	2. ☐
0 years	3. ☐
years	4. ☐

3. HIGHEST ACCOUNTING QUALIFICATION

High School	1. ☐
LCCI	2. ☐
Diploma	3. ☐
Bachelor Degree	4. ☐
Masters Degree	5. ☐
Others (please specify)	_____

5. PLACE OF PRE-MPLOYMENT EDUCATION IN ACCOUNTING

Polytechnic	1. ☐
ITM	2. ☐
University	3. ☐
Others (please specify)	_____

TION TWO

d below is a list of duties and tasks. Please indicate the **IMPORTANCE** of each specific duties and tasks to you and the **TIME SPENT** on of the duties or tasks that **YOU CARRY OUT ONLY** by **CIRCLING** the most appropriate choice to you.

er the **IMPORTANCE** column please circle the degree of importance you attach to each duties or tasks you do using the following scale:

1= Not Important 2= Fairly Important 3= Important 4= Very Important 5= Extremely Important

er the **TIME SPENT** column please circle the amount of time spent on each job or task for a 40 hour working week using the following

1= 0 - 5 hours 2= 6 - 10 hours 3= 11 - 15 hours 4= 16 - 20 hours 5= >20 hours

		IMPORTANCE		TIME SPENT		LEAVE BLANK
Processing and Using Spreadsheet						
ting information from source documentation into a puter system	6.	-1- -2- -3- -4- -5-	7.	-1- -2- -3- -4- -5-		
ating and retrieving recorded details of requested item from mputer	8.	-1- -2- -3- -4- -5-	9.	-1- -2- -3- -4- -5-		
erating and printing standard reports on a computer system	10.	-1- -2- -3- -4- -5-	11.	-1- -2- -3- -4- -5-		
ducing spreadsheets for the analysis of numerical rmation	12.	-1- -2- -3- -4- -5-	13.	-1- -2- -3- -4- -5-	14.	☐
					15.	☐
rding and Accounting for Cash Transactions						
rding and banking monies received	16.	-1- -2- -3- -4- -5-	17.	-1- -2- -3- -4- -5-		
ng and recording payments	18.	-1- -2- -3- -4- -5-	19.	-1- -2- -3- -4- -5-		
taining petty cash transactions	20.	-1- -2- -3- -4- -5-	21.	-1- -2- -3- -4- -5-		
unting for cash and bank transactions	22.	-1- -2- -3- -4- -5-	23.	-1- -2- -3- -4- -5-	24.	☐
					25.	☐
rding and Accounting for Credit Transactions						
ssing documents relating to goods and services supplies on	26.	-1- -2- -3- -4- -5-	27.	-1- -2- -3- -4- -5-		
ssing documents relating to goods and services received redit	28.	-1- -2- -3- -4- -5-	29.	-1- -2- -3- -4- -5-		
unting for goods and services supplied on credit	30.	-1- -2- -3- -4- -5-	31.	-1- -2- -3- -4- -5-		
unting for goods and services received on credit	32.	-1- -2- -3- -4- -5-	33.	-1- -2- -3- -4- -5-	34.	☐
					35.	☐
rding for Payroll Transactions						
ing authorise payment to employees	36.	-1- -2- -3- -4- -5-	37.	-1- -2- -3- -4- -5-		
ing authorise payments, claims and returns to external cies	38.	-1- -2- -3- -4- -5-	39.	-1- -2- -3- -4- -5-	40.	☐
					41.	☐

		IMPORTANCE		TIME SPENT	LEAVE BLANK
paring Financial Accounts					
cording income and expenditure	42.	-1- -2- -3- -4- -5-	43.	-1- -2- -3- -4- -5-	
paring accounts from incomplete records	44.	-1- -2- -3- -4- -5-	45.	-1- -2- -3- -4- -5-	
paring the extended trial balance	46.	-1- -2- -3- -4- -5-	47.	-1- -2- -3- -4- -5-	48. ☐
					49. ☐
paring Reports and Return					
paring periodic performance reports	50.	-1- -2- -3- -4- -5-	51.	-1- -2- -3- -4- -5-	
paring reports and returns for outside agencies	52.	-1- -2- -3- -4- -5-	53.	-1- -2- -3- -4- -5-	54. ☐
					55. ☐
paring VAT Returns					
paring Value Added Tax returns	56.	-1- -2- -3- -4- -5-	57.	-1- -2- -3- -4- -5-	58. ☐
					59. ☐
ording Capital Transactions					
ntaining records and accounts relating to capital transactions	60.	-1- -2- -3- -4- -5-	61.	-1- -2- -3- -4- -5-	62. ☐
					63. ☐
ording Cost Information					
rating and maintaining a system of accounting for material s	64.	-1- -2- -3- -4- -5-	65.	-1- -2- -3- -4- -5-	
rating and maintaining a system of accounting for labour s	66.	-1- -2- -3- -4- -5-	67.	-1- -2- -3- -4- -5-	
rating and maintaining a system of accounting for expenses	68.	-1- -2- -3- -4- -5-	69.	-1- -2- -3- -4- -5-	
rating and maintaining a system for the appointment and rption of indirect costs (overheads)	70.	-1- -2- -3- -4- -5-	71.	-1- -2- -3- -4- -5-	72. ☐
					73. ☐
rating a Budgetary Control System					
aring forecasts of income and expenditure	74.	-1- -2- -3- -4- -5-	75.	-1- -2- -3- -4- -5-	
aring draft budget proposals	76.	-1- -2- -3- -4- -5-	77.	-1- -2- -3- -4- -5-	
itoring the actual performance of responsibility centres st budgets	78.	-1- -2- -3- -4- -5-	79.	-1- -2- -3- -4- -5-	80. ☐
					81.. ☐
aring Information for Cost Analysis and Control					
aring and presenting standard cost reports	82.	-1- -2- -3- -4- -5-	83.	-1- -2- -3- -4- -5-	
ysing accounting information	84.	-1- -2- -3- -4- -5-	85.	-1- -2- -3- -4- -5-	
cting, analysing and disseminating information about nal costs	86.	-1- -2- -3- -4- -5-	87.	-1- -2- -3- -4- -5-	88. ☐
					89. ☐
aring Information for the Appraisal of Activities and ects					
aring cost estimates	90.	-1- -2- -3- -4- -5-	91.	-1- -2- -3- -4- -5-	
aating proposed current activities	92.	-1- -2- -3- -4- -5-	93.	-1- -2- -3- -4- -5-	
aising long-term projects	94.	-1- -2- -3- -4- -5-	95.	-1- -2- -3- -4- -5-	96. ☐
					97.. ☐
ting Financial Statements (Accounting Practice/ stry and Commerce)					
ing limited company final accounts	98.	-1- -2- -3- -4- -5-	99.	-1- -2- -3- -4- -5-	
ing sole trader and partnership final accounts	100.	-1- -2- -3- -4- -5-	101.	-1- -2- -3- -4- -5-	102. ☐
					103. ☐
ting Financial Statements (Central Government)					
ing limited company final accounts	104.	-1- -2- -3- -4- -5-	105.	-1- -2- -3- -4- -5-	
ing public body final accounts (Central Government)	106.	-1- -2- -3- -4- -5-	107.	-1- -2- -3- -4- -5-	108. ☐
					109. ☐
ting Financial Statements (Local Government)					
ing limited company final accounts	110.	-1- -2- -3- -4- -5-	111.	-1- -2- -3- -4- -5-	114. ☐
ing local authority financial statements	112.	-1- -2- -3- -4- -5-	113.	-1- -2- -3- -4- -5-	115. ☐

		IMPORTANCE		TIME SPENT	LEAVE BLANK
aging Accounting Systems					
vising an accounts section	116.	-1- -2- -3- -4- -5-	117.	-1- -2- -3- -4- -5-	
oving the effectiveness of an accounting system	118.	-1- -2- -3- -4- -5-	119.	-1- -2- -3- -4- -5-	120. ☐
					121. ☐
aging a Cash Management and Credit Control System					
toring and control cash receipts and payments	122.	-1- -2- -3- -4- -5-	123.	-1- -2- -3- -4- -5-	
ging cash balances	124.	-1- -2- -3- -4- -5-	125.	-1- -2- -3- -4- -5-	
ging the granting of credit	126.	-1- -2- -3- -4- -5-	127.	-1- -2- -3- -4- -5-	
toring and control the collection of debts	128.	-1- -2- -3- -4- -5-	129.	-1- -2- -3- -4- -5-	130. ☐
					131.. ☐
menting Auditing Procedures					
g a systems audit	132.	-1- -2- -3- -4- -5-	133.	-1- -2- -3- -4- -5-	
cting a systems audit	134.	-1- -2- -3- -4- -5-	135.	-1- -2- -3- -4- -5-	
ing a Draft Audit Report	136.	-1- -2- -3- -4- -5-	137.	-1- -2- -3- -4- -5-	
cting a computer audit	138.	-1- -2- -3- -4- -5-	139.	-1- -2- -3- -4- -5-	140. ☐
					141. ☐
ring Taxation Computations					
ating income from employment	142.	-1- -2- -3- -4- -5-	143.	-1- -2- -3- -4- -5-	
ing accounting profits and losses for trades and sions	144.	-1- -2- -3- -4- -5-	145.	-1- -2- -3- -4- -5-	
ing computations of property and investment income	146.	-1- -2- -3- -4- -5-	147.	-1- -2- -3- -4- -5-	
ing capital gains tax computations	148.	-1- -2- -3- -4- -5-	149.	-1- -2- -3- -4- -5-	
ing capital allowance computations	150.	-1- -2- -3- -4- -5-	151.	-1- -2- -3- -4- -5-	
ing personal tax returns	152.	-1- -2- -3- -4- -5-	153.	-1- -2- -3- -4- -5-	
ing computations and returns of advance corporation tax come tax payable or recoverable by a company	154.	-1- -2- -3- -4- -5-	155.	-1- -2- -3- -4- -5-	
ing corporation tax computations and returns	156.	-1- -2- -3- -4- -5-	157.	-1- -2- -3- -4- -5-	158. ☐
					159. ☐
ation Technology and its environment					
ining an established storage system	160.	-1- -2- -3- -4- -5-	161.	-1- -2- -3- -4- -5-	
sing own files into storage areas for future use	162.	-1- -2- -3- -4- -5-	163.	-1- -2- -3- -4- -5-	
retrieving and supplying information for a specific e	164.	-1- -2- -3- -4- -5-	165.	-1- -2- -3- -4- -5-	
ing non-routine information from a computerised ation Management System	166.	-1- -2- -3- -4- -5-	167.	-1- -2- -3- -4- -5-	168. ☐
					169. ☐
bute to the Effectiveness of the Work Flow					
and organising own work schedule	170.	-1- -2- -3- -4- -5-	171.	-1- -2- -3- -4- -5-	
ing and organising information in support of own work	172.	-1- -2- -3- -4- -5-	173.	-1- -2- -3- -4- -5-	
ing and maintaining physical resources to carry out own	174.	-1- -2- -3- -4- -5-	175.	-1- -2- -3- -4- -5-	176. ☐
					177. ☐
and Maintain Effective Working Relationships					
hing and maintaining working relationships with other of staff	178.	-1- -2- -3- -4- -5-	179.	-1- -2- -3- -4- -5-	
ng and assisting visitors	180.	-1- -2- -3- -4- -5-	181.	-1- -2- -3- -4- -5-	182. ☐
					183. ☐
r and Maintain a Healthy, Safe and Secure lace					186. ☐
ring and maintaining the security of the workplace	184.	-1- -2- -3- -4- -5-	185.	-1- -2- -3- -4- -5-	187. ☐

lease list any other jobs or tasks that you performed

_____

_____

ION THREE

s section we are interested in computer applications when you carry out your job. Given below are computer applications that we would like o indicate their **IMPORTANCE** and the **TIME SPENT** on them.

r the **IMPORTANCE** column please circle the degree of importance you attach to the computer applications using the following scale:

1= Not Important 2= Fairly Important 3= Important 4 = Very Important 5= Extremely Important

r the **TIME SPENT** column please circle the time spent for each computer applications for a 40 hour working week using the following scale:

1= 0 - 5hours 2= 6 - 10hours 3= 11 - 15hours 4= 16 - 20hours 5= > 20hours

		IMPORTANCE		TIME SPENT	LEAVE BLANK
oarding	188.	-1- -2- -3- -4- -5-	189.	-1- -2- -3- -4- -5-	
ramming	190.	-1- -2- -3- -4- -5-	191.	-1- -2- -3- -4- -5-	
are	192.	-1- -2- -3- -4- -5-	193.	-1- -2- -3- -4- -5-	
uter Communicating	194.	-1- -2- -3- -4- -5-	195.	-1- -2- -3- -4- -5-	196. ☐ 197. ☐
are					
dsheet	198.	-1- -2- -3- -4- -5-	199.	-1- -2- -3- -4- -5-	
Processing	200.	-1- -2- -3- -4- -5-	201.	-1- -2- -3- -4- -5-	
ase	202.	-1- -2- -3- -4- -5-	203.	-1- -2- -3- -4- -5-	204. ☐ 205. ☐
nistrating	206.	-1- -2- -3- -4- -5-	207.	-1- -2- -3- -4- -5-	
ing	208.	-1- -2- -3- -4- -5-	209.	-1- -2- -3- -4- -5-	
sing	210.	-1- -2- -3- -4- -5-	211.	-1- -2- -3- -4- -5-	
Database	212.	-1- -2- -3- -4- -5-	213.	-1- -2- -3- -4- -5-	
ing Paper	214.	-1- -2- -3- -4- -5-	215.	-1- -2- -3- -4- -5-	
tical Sampling Applications	216.	-1- -2- -3- -4- -5-	217.	-1- -2- -3- -4- -5-	218. ☐ 219. ☐

Please add any other comments about the duties and tasks you carry out.

Thank You for Your Co-operation

Please return this questionnaire using the envelope provided.

Set A: Accounting Supervisors.

TES:

his questionnaire is addressed to a supervisor in an accounting department in an rganisation.

he purpose of this questionnaire is to obtain information on what you do in your rrent employment, your perceptions of your subordinates and on a few general lated aspects of yourself.

he information provided by you is essential in order to analyse the data that would be tained from a series of other data gathering exercises to evaluate the current rovision of the Diploma in Accounting programme in the Polytechnics of Malaysia.

lease read and answer all the questions as carefully as possible.

here is no right or wrong answer. All responses will be treated appropriately.

formation obtained will be treated in the strictest confidence. Individuals and ganisations anonymity will be maintained at all times.

lease return completed questionnaire before _____ using the re-paid postage envelope provided.

Thank You.

Employers' Representatives Profile

CTION ONE

this section we are interested to determine the general characteristics of your employment and what you do. Please provide the following neral information about **YOURSELF** and about **WHAT** you do by putting a **TICK** ☑or **WRITE** ✎in the boxes or spaces provided.

SECTORS OF INDUSTRY

blic Accounting Firm 1.☐
anufacturing entity 2.☐
rvice entity 3.☐
vernment accounting 4.☐
hers (please specify) _____

2.CURRENT JOB TITLE

Audit Supervisor 1.☐
Account Supervisor 2.☐
Tax Supervisor 3.☐
Others (please specify) _____

URATION OF WORK ACCOUNTING STAFF

Years 1.☐
S years 2.☐
10 years 3.☐
0 years 4.☐

4. HIGHEST ACCOUNTING QUALIFICATION

LCCI 1.☐
Diploma 2.☐
Bachelor Degree 3.☐
Masters Degree 4.☐

Others (please specify): _____

5. PLACE OF PRE-MPLOYMENT EDUCATION IN ACCOUNTING

HighSchool 1.☐
Polytechnic 2.☐
ITM 3.☐
University 4.☐

Others (please specify): _____

CTION TWO

this section we are interested in determining the extent you perform the duties in your present job. Under the **EXTENT OF RFORMANCE** column please circle the extent of the duties you performed using the following scale:

tties		EXTENT OF PERFORMANCE 1 Never	2 Rarely	3 Sometimes	4 Often	5 Always	Leave Blank
ta Processing	6.	1	2	3	4	5	
cording and Accounting for Cash Transactions	7.	1	2	3	4	5	
cording and Accounting for Credit Transactions	8.	1	2	3	4	5	
cording for Payroll Transactions	9.	1	2	3	4	5	
paring Financial Accounts	10.	1	2	3	4	5	
paring Reports and Returns	11.	1	2	3	4	5	
paring Value Added Tax (VAT) Returns	12.	1	2	3	4	5	
cording Capital Transactions	13.	1	2	3	4	5	
cording Cost Information	14.	1	2	3	4	5	
erating a Budgetary Control System	15.	1	2	3	4	5	
paring Information for Cost Analysis and Control	16.	1	2	3	4	5	
paring Information for the Appraisal of Activities and ojects	17.	1	2	3	4	5	
afting Financial Statements (Accounting Practice/Industry d Commerce)	18.	1	2	3	4	5	
afting Financial Statements (Central Government)	19.	1	2	3	4	5	
afting Financial Statements (Local Government)	20.	1	2	3	4	5	
anaging Accounting Systems	21.	1	2	3	4	5	
erating a Cash Management and Credit Control System	22.	1	2	3	4	5	
plementing Auditing Procedures	23.	1	2	3	4	5	
paring Taxation Computations	24.	1	2	3	4	5	
onitoring and Maintaining a Healthy, Safe and Secure orkplace	25.	1	2	3	4	5	

a. Others (please specify)

_____

_____

CTION THREE

sted below is a list of competencies. We are interested in your perception of the **IMPORTANCE** of the competencies for an **ENTRY-EVEL** position and for **CAREER ADVANCEMENT.**

nder the **ENTRY-LEVEL** and **CAREER ADVANCEMENT** column please circle to indicate the **IMPORTANCE** of each competencies ing the following scale:

1= Irrelevant 2= Of some important 3= Important 4= Very important 5= Essential

ompetencies		Entry-Level		Career Advancement		Leave Blank
ommunication skills	26.	-1- -2- -3- -4- -5-		27.	-1- -2- -3- -4- -5-	
formation development and distribution skills	28.	-1- -2- -3- -4- -5-		29.	-1- -2- -3- -4- -5-	
ecision making skills	30.	-1- -2- -3- -4- -5-		31.	-1- -2- -3- -4- -5-	
echnical accounting skills	32.	-1- -2- -3- -4- -5-		33.	-1- -2- -3- -4- -5-	
nowledge of Accounting	34.	-1- -2- -3- -4- -5-		35.	-1- -2- -3- -4- -5-	
nowledge of business and the environment	36.	-1- -2- -3- -4- -5-		37.	-1- -2- -3- -4- -5-	
ofessionalism	38.	-1- -2- -3- -4- -5-		39.	-1- -2- -3- -4- -5-	
adership	40.	-1- -2- -3- -4- -5-		41.	-1- -2- -3- -4- -5-	

CTION FOUR

his section we are interested in your perceptions of the **STRENGTHS** and **WEAKNESSES** of the **ENTRY- LEVEL** assistant accountant ru its in term of the following list of 27 competencies using the following scale:

mpetencies		1 Very Weak	2 Weak	3 Average	4 Strong	5 Very Strong	Leave Blank
esent views in writing	42.	1	2	3	4	5	
esent views through oral presentation	43.	1	2	3	4	5	
ad, critique and judge the value and ntribution of written work	44.	1	2	3	4	5	
ten effectively	45.	1	2	3	4	5	
derstand interpersonal and group namics	46.	1	2	3	4	5	47. ☐
derstand the role of information hnology in solving business and counting problems	48.	1	2	3	4	5	
derstand the system development life cle to plan, design, implement, and aluate an information system	49.	1	2	3	4	5	
fectively apply fundamental ogramming skills to typical business oblems	50.	1	2	3	4	5	51. ☐
lve diverse and unstructured problems unfamiliar settings	52.	1	2	3	4	5	
duce general conditions from specific uations	53.	1	2	3	4	5	
lect and assign priorities within stricted resources	54.	1	2	3	4	5	55. ☐
tform accountancy skills required of e profession	56.	1	2	3	4	5	
ow methods of gathering , mmarising, and analysing financial ta	57	1	2	3	4	5	58. ☐
ssess a knowledge of the purpose and ments of financial statements	59.	1	2	3	4	5	
derstand the fundamentals of counting, auditing and tax	60.	1	2	3	4	5	
ply decision rules embodied in the counting model	61.	1	2	3	4	5	62. ☐
derstand the economic, social, and ltural forces in the world	63.	1	2	3	4	5	
ow how typical business organisation rk are managed	64	1	2	3	4	5	
ssess a knowledge of financial markets d funding institutions	65.	1	2	3	4	5	66. ☐

		1	2	3	4	5	
ompetencies		**Very Weak**	**Weak**	**Average**	**Strong**	**Very Strong**	**Leave Blank**
entify ethical issues and apply own lues to them	67.	1	2	3	4	5	
otivate to continue lifelong learning	68.	1	2	3	4	5	
al effectively with imposed pressure	69	1	2	3	4	5	70. ☐
ork effectively with diverse groups of eople	71.	1	2	3	4	5	
rganise and delegate	72.	1	2	3	4	5	
otivate other people	73.	1	2	3	4	5	
esolve conflict	74.	1	2	3	4	5	
nderstand methods of creating and anaging change within an organisation	75.	1	2	3	4	5	
se data, exercise judgements, evaluate sks, and solve real-world problems	76.	1	2	3	4	5	77. ☐

a. Please use this space to add any other comments on what you do or on your perceptions of your subordinates performance and duties.

THANK YOU FOR YOUR CO-OPERATION
Please return this questionnaire using the envelope provided.

Interview Schedule With Employers

Main Objective

The objective of this interview is to determine the expectation of employers on new assistant accountant recruits as well as to obtain suggestions and comments from them in order to enhance the Diploma in Accountancy programme in the Polytechnics of Malaysia.

Schedule

1. What is your job title?
2. How many years have you been in this position?
3. What do you see as the main objective of your job?
4. What are your main duties and activities?
5. How many people do you supervise?
6. What does the supervision involve?
7. How much supervision do you give?
8. How much contact do you have with your subordinates?
9. How do you know if your subordinates' work is up to standard?
10. What are the (basic) skills that you are expecting from new recruits?
11. What sort of duties do you expect from a new accounting assistant?
12. What will be the career route available for such an individual for the first 3 years of employment?
13. What sort of "orientation" training does a new recruit receive?
14. How long is this training?
15. What are the major strengths of new recruits that you have observed?
16. What are the major weaknesses of new recruits that you have observed?
17. How important is the initial qualification as a criterion for selection as an accounting assistant?
18. What are the major changes that have occurred in the job and duties of an accounting assistant in the last 3 years?
19. What are your general comments about Polytechnics' graduates compared to graduates from other institutions?

Assistant Accountants' Demographic Profile

	Overall		P.A.F.		Mnfg.		Service		Govern.	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
1. Type of industry	37	100.0	15	40.5	4	10.8	15	40.5	3	8.1
2. Current job title:										
Audit Assistant	9	24.3	9	60.0	-	0.0	-	0.0	-	0.0
Accounts Assistant	14	37.8	3	20.0	2	50.0	7	46.7	2	66.7
Tax Assistant	3	8.1	2	13.3	-	0.0	1	6.7	-	0.0
Bookkeeper	2	5.4	-	0.0	-	0.0	2	13.3	-	0.0
Others	9	24.3	1	6.7	2	50.0	5	33.3	1	33.3
Total	37	100.0	15	100.0	4	100.0	15	100.0	3	100.0
3. Duration of working experience										
less than 3 years	18	48.6	9	60.0	1	25.0	8	53.3	-	0.0
between 3 to 5 years	12	32.4	3	20.0	2	50.0	6	40.0	1	33.3
between 6 to 10 years	2	5.4	1	6.7	-	0.0	1	6.7	-	0.0
more than 10 years	5	13.5	2	13.3	1	25.0	-	0.0	2	66.7
Total	37	100.0	15	100.0	4	100.0	15	100.0	3	100.0
4. Highest accounting qualification										
High school certificate	9	24.3	2	13.3	-	0.0	7	46.7	-	0.0
LCCI	6	16.2	2	13.3	1	25.0	-	0.0	3	100.0
Diploma	11	29.7	4	26.7	-	0.0	7	46.7	-	0.0
Bachelor degree	6	16.2	4	26.7	1	25.0	1	6.7	-	0.0
Others	5	13.5	3	20.0	2	50.0	-	0.0	-	0.0
Total	37	100.0	15	100.0	4	100.0	15	100.0	3	100.0
5. Institution of pre-employment education in accounting										
High school	6	16.2	2	13.3	1	25.0	4	26.7	-	0.0
Polytechnic	7	18.9	2	13.3	-	0.0	4	26.7	-	0.0
Mara Institute of Technology	6	16.2	2	13.3	1	25.0	4	26.7	-	0.0
University	6	16.2	4	26.7	-	0.0	1	6.7	-	0.0
Others	12	32.4	5	33.3	2	50.0	2	13.3	3	100.0
Total	37	100.0	15	100.0	4	100.0	15	100.0	3	100.0

Appendix L

Accounting Supervisors' Demographic Profile

Twelve respondents were interviewed. To facilitate the understanding Table N, which contains the information in rows and columns, has been drawn. Each row represents information related to an individual respondent and each column contains the same information for all the respondents. There are twelve rows and five columns.

Respondents' Supervisory Responsibilities and Contacts with Staff

Two of the respondents were from the public accounting firm. They provide auditing, accounting, taxation, secretarial and management consultation services. One of the respondents is a Branch Manager, and the other respondent is an Audit Principal. The Branch Manager is responsible for the entire operations of the branch while the Audit Principal is mainly in charge of the audit section of the organisation.

The Branch Manager has twenty staff members to supervise in the entire organisation. The supervisory activities involve coaching new staff on technical matters. The practice of the organisation is to hire candidates who are willing to pursue professional qualifications after joining the firm. The respondent sees the coaching component not only as a part of preparing the new staff for work but also to use it as preparation for the professional examinations. Seventy percent of the branch manager's time is used by new staff and thirty percent of his time is used to supervise.

Respondents' Demographic Profile

No.	Industry	Job Title	Experience	Job Main Objectives	Main Duties and Activities
1.	Audit Firm	Branch Manager	1 year	Overseeing the branch office	-recruitment of staff -staff supervision -ensuring all jobs are going on very well -taking care of the clients -acquire proper resources
2.	Audit Firm	Audit Principal	9 years	Ensuring audit division of the firm running smoothly	-ensuring audit functions done properly -staff procurement -clients have been served properly
3.	Retailing/Services	Branch Manager	8 months	Ensuring all the branch operations run smoothly	-maintaining branch operations -staff development -taking care engineering aspect of products
4.	Retailing/Services	Acting Branch Manager	8 months	Creating good customer services	-taking care of sales -after sales customer services -administration -taking care of accounting aspects
5.	Retailing/Services	Account Executive	5 months	General Control and Internal Audit	-controlling the account transactions -implementing policies and procedures
6.	Retailing/Services	Finance Manager	4 years	Supervision of the regional financial operations	-monitor expenditures -monitor accounts -internal control
7.	Manufacturing	Account Officer	6 years	Financial Controller	-in charge of the accounts -in charge of budgeting and forecasting -preparing financial reports
8.	Manufacturing	Managing Director	15 years	Managing the affair of the company	-looking for and getting projects
9.	Manufacturing	Account Supervisor	6 years	Assistant to the accountant	-staff supervision -maintain the accounts -prepare financial reports
10.	Manufacturing	Account Officer	21 years	Supervision of the accounting section	-maintaining the accounts -costing
11.	Manufacturing	Senior Asst. Manager	10 years	In charge of the Costing Department	-maintaining the accounts -preparing financial statements -preparing financial reports
12.	Government	Accountant	3 months	In charge of revenue collections and payments	-to account for revenue collected and payments made -administration

The audit principal has thirty staff members to supervise. There are eighty staff working in the organisation, and the audit section is the largest section. The types of supervision involve monitoring and checking to ensure that staff members are doing their jobs and are properly completed. The jobs are also checked to see whether they meet the requirements of different authorities. All the jobs are scheduled which helps the supervisor to allocate the jobs according to the staff's calibre.

There are three groups consisting of ten staff that divide two hundred to three hundred clients among themselves. The clients are big, medium and small businesses. A supervisor leads each group. The supervisor allocates jobs to respective staff and each provides a weekly report. New staff would have daily contact with the supervisor. The next chain of command is the manager and then the audit principal. The audit principal ensures that everything related to a client's audit files is in order before submitting the completed work to a partner. The existence of the three groups is for administrative purposes.

Four organisations were chosen from the service sector. They are either involved in providing financial services, selling merchandise, or providing after sales services. The first respondent from the group is a Branch Manager of a small branch office. There are six staff working under his supervision in three departments. They are Customer Services, Finance and Administration and the Engineering Department. Two of the six staff are working in the Finance and Administration department. The respondent supervisory responsibilities involve checking out daily operations and monthly reports generated by staff. In the accounting side this will include the maintenance of the petty cash and the daily payments and collections. The accounting section is also responsible for the annual operating budget for the branch. The budget

determines the activities needed to be carried out by the branch. When checking the budget the respondent makes any necessary changes. Advice and feedback are provided to staff on a daily basis by the supervisor. All members of the staff attend a monthly meeting to discuss branch office operational matters. They are expected to improve their performance as a result of the meetings. At the end of every month the respondent prepares reports on the performance of all members of the staff.

A second respondent, who is also a Branch Manager, supervises five staff members. Two of them are doing accounting duties and are included in the Administration section. The supervision function of the respondent involves the supervision of the daily transactions done and the implementation of the budget prepared for the branch office. The two staff members in the administration section share the accounting and administration work between them. There are no specified functions for each of them but they are expected to perform accounting as well as administrative work. The respondent provides close supervision of the accounting staff during the first few weeks of employment, but later they work independently. The respondent provides a detail monthly appraisal of the work done by accounting staff. Staff members are encouraged to meet with the respondent whenever they need to discuss their work.

The third respondent demonstrates for the staff how to apply technical accounting knowledge to the work. The employer expects new staff to possess the theoretical knowledge to perform the duties and tasks given to them. They are also expected to be able to see the differences between learned theories and practice in industry. The supervisor normally monitors the daily functions while teaching the clerical staff. Usually contact with the supervisor depends on problems that need to

be solved. More frequent monitoring is conducted with clerical staff while with the cashiers only a few times a week.

The fourth respondent, a Finance Manager, is in charge of four staff members at the regional office plus all financial staff in eleven branch offices throughout the northern part of the country. As a part of the supervision process the manager visits the branches to provide coaching and to discuss any matters related to the financial operations of the branches. The visits to the branches are conducted every three months. The accounting personnel are also required to attend monthly meetings at the regional office and this can be seen as part of the supervision process. During the meetings the group discusses the problems faced by the personnel related to the financial operations of their branches. Occasionally the accounting personnel from the branches are required to attend career development programmes at the regional office. During this period they are able to consult regional accounting staff regarding any problem. Telephone contacts are also common between the branches and the regional office. Most of the calls are not specifically related to accounting but to implementation of the computerised system installed at all the branches. The respondent describes the culture that they are trying to create in the organisation as follows, "we have close contact other than scheduled contacts. We encourage informal contacts as our culture. Among our bosses we don't have many barriers".

The third group of respondents consists of five organisations from the manufacturing sector. The first respondent has three accounting staff to supervise. The first staff member is responsible for account payables, the second staff is responsible for costing, and the third staff is in charge of the General Ledger. Supervision in the accounting department involves coaching and explaining matters to

staff. They are given help to do the required analysis and are also helped to understand why accounts do not balance. With the assistance given they managed to discover the reasons and improve understanding. The staff has daily meetings with the supervisor concerning the required duties and tasks. A meeting is scheduled if the staff feels that it is necessary to discuss the problems that they have.

The second respondent, a Managing Director, from the manufacturing group, has five staff working in the office. Only one individual is specifically appointed to handle accounting duties with some occasional assistance from a clerk. At the beginning of employment the staff is given two months on the job training from an accountant hired by her employer. At other times she has contacts with the Managing Director to obtain his signature before the disbursement of any cheque to suppliers or sub-contractors. The Managing Director also provides her with the facility to contact the appointed accounting firm responsible for her training if she has any difficulties with her work.

The third respondent, a Supervisor, has five accounting staff working under her supervision. The responsibilities in the company are broken down into five areas which are Cash and Bank, Payroll, Creditors Accounts, Due Checking and Purchasing. The firm has weekly scheduled meetings for all the staff. During the meetings staff are free to discuss any problems related to their duties and tasks. The staff plans the work for the coming week during the meetings. The supervisor tries to solve all problems identified by the subordinates. If there are any problems that she cannot handle than the matter will be taken to the accountant. The staff members are encouraged to work independently but are given the freedom to meet her anytime during the working day to discuss any problem.

The fourth respondent, an Accounts Officer, is in charge of four staff in the accounting department. Two of the staff are responsible for payments; one is responsible to handle the duties of obtaining letters of credit from the bankers, and another is responsible to key in data into the computerised accounting system. Supervision involves consultation sessions with the staff at the beginning of every working day. The staff are also encouraged to meet her to discuss any problems they have related to their duties and tasks.

The fifth respondent, a Senior Assistant Manager, is in charge of the Costing Department. The department is divided into two main functions consisting of the Account Payables section and the Costing section. There are twelve staff working in the department, and they are divided between the two sections. The responsibility for direct supervision of the accounting staff is given to an accounts officer in the Accounts Payables section. The officer supervises the work of a few clerks and senior account clerks. In the costing section the responsibility of supervision is vested with an Assistant Manager. The Assistant Manager is responsible to supervise clerks, assistant officers and officers. The staff members in the Costing section are senior and experienced if compared to the staff in the Accounts Payable section. Supervision provided to the staff is in terms of routine monitoring and checking of the daily transactions performed. As indicated by the respondent during the interview, supervision is only necessary for the first few months of employment. In case of any difficulties the staff are supposed to go and see their immediate superior and if they are still unable to solve the problems then they are to consult him.

In the government sector the respondent is categorised separately from other groups. The respondent, an accountant, has fifty staff working with him in the

accounting section. The accounting section is a part of a state government's agency responsible for collecting revenues for the services provided to the public. Of the fifty staff, three are Assistant Accountants while the rest of the staff are clerical staff providing supporting services. The Assistant Accountants are in direct contact with the Accountant on a daily basis. There is no scheduled meeting and the descriptions of the work done by the assistant accountants are fifty percent accounting and fifty percent ad hoc duties and tasks. Most of the meetings are related to solving problems related to the adhoc duties and tasks. In terms of the accounting duties and tasks the assistant accountants need only to refer to the procedures and regulations available in the section. When doing the ad hoc duties and tasks the assistant accountants need to refer to the accountant on the appropriate supportive documents and records required solving the problems on hand. There is no time constraint imposed on the staff if they need any assistance from the accountant.

Profile of a Group of Employers as Respondents

seta/p1	Overall		Public Accounting Sector		Manufac-turing Sector		Service Sector		Government Sector	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
1. Type of industry	43	100	17	39.5	9	20.9	14	32.6	3	7.0
2. Current job title:										
Audit Supervisor	10	23.3	10	58.8	0	0.0	0	0.0	0	0.0
Accounts Supervisor	15	34.9	1	5.9	4	44.4	8	57.1	2	66.7
Tax Supervisor	4	9.3	1	5.9	0	0.0	3	21.4	0	0.0
Others	14	32.6	5	29.4	5	55.6	3	21.4	1	33.3
Total	43	100.0	17	100.0	9	100.0	14	100.0	3	100.0
3. Duration of working experience										
less than 3 years	14	32.6	2	11.8	6	66.7	5	35.7	1	33.3
between 3 to 5 years	12	27.9	6	35.3	2	22.2	3	21.4	1	33.3
between 6 to 10 years	9	20.9	3	17.6	-	0.0	6	42.9	-	0.0
more than 10 years	8	18.6	6	35.3	1	11.1	-	0.0	1	33.3
Total	43	100.0	17	100.0	9	100.0	14	100.0	3	100.0
4. Highest accounting qualification										
High school certificate	1	2.3	1	5.9	-	0.0	-	0.0	-	0.0
LCCI	4	9.3	-	0.0	1	11.2	1	7.1	2	66.7
Diploma	19	44.2	6	35.3	3	33.3	10	71.4	-	0.0
Bachelor degree	10	23.3	5	29.4	3	33.3	1	7.1	1	33.3
Master degree	1	2.3	-	0.0	-	0.0	1	7.1	-	0.0
Others	8	18.6	5	29.4	2	22.2	1	7.1	-	0.0
Total	43	100.0	17	100.0	9	100.0	14	100.0	3	100.0
5. Institution of pre-employment education in accounting										
High school	4	9.3	2	11.8	1	11.1	-	0.0	1	33.3
Polytechnic	4	9.3	3	17.6	1	11.1	-	0.0	-	0.0
Mara Institute of Technology	15	34.9	2	11.8	3	33.3	10	71.4	-	0.0
University	12	27.9	5	29.4	3	33.3	3	21.4	1	33.3
Others	8	18.6	5	29.4	1	11.1	1	7.1	1	33.3
Total	43	100.0	17	100.0	9	100.0	14	100.0	3	100.0

Respondents' Duties and Tasks

1. No.	2. Duties	3. Total Mean Scores, n = 43	4. Public Accounting Sector, Mean Scores, n = 17	5. Manufac-turing Sector, Mean Scores, n = 9	6. Service Sector, Mean Scores, n = 14	7. Govern-ment Sector, Mean Scores, n = 3
1.	Preparing Financial Accounts	4.465	4.412(1)*	4.222(2)	4.571(1)	5.000(1)
2.	Preparing Reports and Returns	4.407	4.059(4)	4.333(1)	3.929(2)	3.667(3)
3.	Drafting Financial statements	3.628	4.353(2)	3.222(6)	3.214(7)	2.667(12)
4.	Managing Accounting Systems	3.395	3.235(6)	3.444(5)	3.286(6)	4.667(2)
5.	Preparing Taxation Computations	3.209	4.118(3)	1.778(17)	3.500(5)	1.000(19)
6.	Recording and Accounting for Credit Transactions	3.140	2.647(9)	3.222(7)	3.714(4)	3.000(8)
7.	Recording and Accounting for Cash Transactions	3.116	2.529(10)	3.222(8)	3.786(3)	3.000(9)
8.	Implementing Auditing Procedures	3.047	3.765(5)	2.889(13)	2.286(16)	3.000(10)
9.	Data Processing	3.023	2.824(8)	3.000(11)	3.214(8)	3.333(5)
10.	Maintaining a Healthy, Safe and Secure Workplace	3.000	3.000(7)	3.667(3)	2.643(11)	2.667(13)
11.	Recording Capital Transactions	2.721	2.471(11)	3.000(12)	2.714(10)	3.333(6)
12.	Operating a Cash Management and Credit Control System	2.628	2.235(14)	3.111(10)	2.571(12)	3.667(4)
13.	Operating a Budgetary Control System	2.605	2.059(16)	3.667(4)	2.571(13)	2.667(14)
14.	Preparing Information for Cost Analysis	2.581	2.294(13)	3.222(9)	2.571(14)	2.333(16)
15.	Recording Cost Information	2.512	2.235(15)	2.667(15)	2.571(15)	3.333(7)
16.	Recording for Payroll Transactions	2.512	2.059(17)	2.778(14)	2.786(9)	3.000(11)
17.	Preparing Information for the Appraisal of Activities and Projects	2.233	2.353(12)	2.667(16)	1.714(19)	2.667(15)
18.	Preparing Value Added Tax Returns	1.698	1.412(19)	1.444(20)	2.143(17)	2.000(19)
19.	Drafting Financial Statements (Local Government)	1.643	1.438(18)	1.556(18)	1.929(18)	1.667(18)
20.	Drafting Financial Statements (Federal Government)	1.405	1.313(20)	1.536(19)	1.500(20)	1.000(20)

Note: ( )*: ranking, **: for business and commerce
P.A.F. : Public Accounting Firm
Mfg. : Manufacturing
Gov't : Government

Scale: 1.000 = Never
2. 000 = Rarely
3.000 = Sometimes
4.000 = Often
5.000 = Always

Profile of Diploma in Accounting Graduates' Employers as Respondents

	Overall		Public Accounting Sector		Manufac-turing Sector		Service Sector		Government Sector	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
1. Type of industry	23	100.0	3	13.0	10	43.5	6	26.1	4	17.4
2. Current job title:										
Audit Supervisor	1	4.3	-	0.0	1	10.0	-	0.0	-	0.0
Accounts Supervisor	8	34.9	2	66.7	2	20.0	2	33.3	2	50.0
Tax Supervisor	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Others	14	60.9	1	33.3	7	70.0	4	66.7	2	50.0
Total	23	100.0	3	100.0	10	100.0	6	100.0	4	100.0
3. Duration of working experience										
less than 3 years	9	31.9	2	66.7	3	30.0	4	66.7	-	0.0
between 3 to 5 years	3	13.0	-	0.0	1	10.0	1	16.7	1	25.0
between 6 to 10 years	5	21.7	1	33.3	3	30.0	-	0.0	1	25.0
more than 10 years	5	21.7	-	0.0	3	30.0	-	0.0	2	50.0
missing/no response	1	4.4	-	0.0	-	0.0	1	16.7	-	0.0
Total	23	100.0	3	100.0	10	100.0	6	100.0	4	100.0
4. Highest accounting qualification										
High school certificate	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
LCCI	1	4.3	-	0.0	1	10.0	-	0.0	-	0.0
Diploma	5	21.7	2	66.7	1	10.0	1	16.7	1	25.0
Bachelor degree	6	26.1	1	33.3	1	10.0	2	33.3	2	50.0
Master degree	2	8.7	-	0.0	1	10.0	-	0.0	1	25.0
Others	8	34.7	-	0.0	5	50.0	3	50.0	-	0.0
missing/no response	1	4.4	-	0.0	1	10.0	-	0.0	-	0.0
Total	23	100.0	3	100.0	10	100.0	6	100.0	4	100.0
5. Institution of pre-employment education in accounting										
High school	1	4.3	-	0.0	1	10.0	-	0.0	-	0.0
Polytechnic	1	4.3	1	33.3	-	0.0	-	0.0	-	0.0
Mara Institute of Technology	5	21.7	1	33.3	2	20.0	1	16.7	1	25.0
University	8	34.8	1	33.3	2	20.0	2	33.3	3	75.0
Others	8	34.8	-	0.0	5	50.0	3	50.0	-	0.0
Total	23	100.0	3	100.0	10	100.0	6	1*00.0	4	100.0

Table N2: Respondents' Duties

(1) No.	(2) Descriptions of duties	(3) Total Mean Scores n = 23	(4) Public Accounting Sector, Mean Scores, n = 3	(5) Manufacturing Sector, Mean Scores, n = 10	(6) Service Sector, Mean Scores, n = 6	(7) Government Sector, Mean Scores, n = 4
1.	Preparing Financial Accounts	3.909	3.333(8)	4.600(1)	3.800(5)	2.750(4)
2.	Preparing Reports and Returns	3.864	3.667(4)	4.400(3)	3.800(6)	2.750(5)
3.	Managing Accounting Systems	3.818	3.333(9)	4.200(5)	4.000(3)	3.000(3)
4.	Preparing Information for Cost Analysis	3.714	3.667(5)	4.222(4)	2.800(12)	3.750(1)
5.	Operating a Cash Management and Credit Control System	3.591	4.000(1)	3.600(10)	4.200(1)	2.500(8)
6.	Data Processing	3.524	2.667(17)	4.000(7)	4.000(4)	2.500(9)
7.	Maintaining a Healthy, Safe and Secure Workplace	3.524	3.667(6)	3.300(13)	3.800(7)	3.667(2)
8.	Drafting Financial Statements*	3.500	4.000(2)	4.100(6)	2.800(13)	2.500(10)
9.	Recording Cost Information	3.500	4.000(3)	4.500(2)	3.000(10)	1.250(18)
10.	Operating a Budgetary Control System	3.409	3.667(7)	3.800(8)	3.000(11)	2.750(6)
11.	Preparing Information for the Appraisal of Activities and Projects	3.318	3.333(10)	3.800(9)	2.800(14)	2.750(7)
12.	Recording and Accounting for Credit Transactions	3.182	3.333(11)	3.500(11)	3.200(9)	2.250(13)
13.	Recording and Accounting for Cash Transactions	3.136	3.333(12)	3.300(14)	3.600(8)	2.000(16)
14.	Recording for Payroll Transactions	2.773	3.000(13)	2.500(16)	4.200(2)	1.500(17)
15.	Recording Capital Transactions	2.636	3.000(14)	3.500(12)	2.000(19)	1.000(20)
16.	Implementing Auditing Procedures	2.500	2.333(18)	2.500(17)	2.800(15)	2.250(14)
17.	Preparing Taxation's Computations	2.455	3.000(15)	2.300(18)	2.600(16)	2.250(15)
18.	Preparing Value Added Tax Returns	2.182	3.000(16)	2.600(15)	1.600(20)	1.250(19)
19.	Drafting Financial Statements (Local Government)	2.000	1.000(19)	2.125(19)	2.200(17)	2.333(12)
20.	Drafting Financial Statements (Federal Government)	2.000	1.000(20)	2.000(20)	2.200(18)	2.500(11)

Note: *: business and commerce
P.A.F. : Public Accounting Firm
Mfg. : Manufacturing
Gov't : Government

Scale: 1.000 = Never
2.000 = Rarely
3.000 = Sometimes
4.000 = Often
5.000 = Always