

DEVELOPMENT AND VALIDATION OF INSTRUMENT ON BELIEFS OF
TEACHING FUNCTIONS AND PRACTICES AMONG LECTURERS

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DEVELOPMENT AND VALIDATION OF INSTRUMENT ON BELIEFS OF
TEACHING FUNCTIONS AND PRACTICES AMONG LECTURERS

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Specially dedicated to my great father (Allah's Mercy upon his soul)

I really miss him (Al-Fatihah)

To my beloved mother for her love and prayers

To my beloved sister Najwa for her love, encouragements and support

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ABSTRACT

Lecturers' beliefs are developed throughout their life and are influenced by various factors, including events, experiences, and other people. Teaching reforms require changes in lecturers' beliefs about teaching and practices for continuing professional development especially amongst community colleges' lecturers in Yemen. This study is targeted to investigate on how beliefs can be engaged to teaching functions and practices. The main objectives of this study were to identify the constructs of the lecturers' beliefs on teaching functions and the constructs of the lecturers' teaching practices, the relationship between lecturers' beliefs on teaching functions and practices, and propose a hypothetical framework of beliefs on teaching functions and practices. This study utilized mixed method design. The population of this study was the lecturers of community colleges in Yemen. The sample of this study was 103 lecturers who answered the questionnaires, followed by 25 lecturers who responded to the interview questions. The construct validity of the instruments to measure Lecturers' Beliefs on Teaching Functions and Lecturers' Teaching Practices was tested using the Rasch Model measurement. The relationship between lecturers' beliefs on teaching functions and practices was tested using Structural Equation Modeling. The qualitative data was analyzed using inductive thematic analysis and NVivo software. The findings showed that eight constructs of the lecturers' beliefs on teaching functions, and five constructs of the lecturers' teaching practices had satisfactory construct validation. There was a significant and positive relationship between Lecturers' Beliefs on Teaching Functions and Lecturers' Teaching Practices. Based on the findings, a hypothetical framework on beliefs for teaching functions and teaching practices was recommended for use in enhancing professionalism amongst community colleges' lecturers.

ABSTRAK

Kepercayaan pensyarah telah dibentuk dalam kehidupan mereka dan dipengaruhi oleh pelbagai faktor, termasuk peristiwa, pengalaman, dan orang lain. Pembaharuan dalam pengajaran memerlukan perubahan melalui kepercayaan seseorang pensyarah mengenai pengajaran dan amalan untuk pembangunan profesional yang berterusan terutamanya dalam kalangan pensyarah kolej-kolej komuniti di Yaman. Kajian ini disasarkan untuk mengkaji bagaimana kepercayaan boleh dilibatkan dengan fungsi dan amalan pengajaran. Objektif utama kajian ini adalah untuk mengenal pasti bentuk kepercayaan para pensyarah terhadap fungsi pengajaran dan bentuk amalan pengajaran mereka, hubungan antara kepercayaan pensyarah terhadap fungsi dan amalan pengajaran, serta mencadangkan satu rangka kerja andaian bagi kepercayaan terhadap fungsi dan amalan pengajaran. Kajian ini menggunakan reka bentuk metode campuran. Populasi kajian ini adalah pensyarah kolej komuniti di Yaman. Sampel kajian ini merupakan 103 orang pensyarah yang menjawab soal selidik, diikuti oleh 25 orang pensyarah yang telah menjawab soalan-soalan temuduga. Kesahan pembentukan instrumen adalah untuk mengukur kepercayaan pensyarah terhadap fungsi pengajaran dan amalan pengajaran mereka yang telah diuji menggunakan pengukuran Rasch Model. Hubungan antara kepercayaan pensyarah terhadap fungsi dan amalan pengajaran telah diuji menggunakan Model Kesamaan Berstruktur. Data kualitatif telah dianalisis menggunakan analisis tematik induktif dan perisian NVivo. Dapatan kajian menunjukkan bahawa lapan bentuk kepercayaan pensyarah terhadap fungsi pengajaran, dan lima bentuk amalan pengajaran mereka mempunyai pengesahan bentuk yang memuaskan. Terdapat hubungan yang signifikan dan positif antara kepercayaan pensyarah terhadap fungsi pengajaran dan amalan pengajaran pensyarah. Berdasarkan kajian ini, satu rangka kerja andaian terhadap kepercayaan untuk fungsi pengajaran dan amalan pengajaran telah disyorkan untuk digunakan bagi meningkatkan profesionalisme dalam kalangan pensyarah kolej komuniti.=

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LIST OF ABBREVIATIONS

CC	- Community College
IRT	- Item Response Theory
RM	- Rasch Model
PTME	- Point Measure Estimate
LBTF	- Lecturers' Beliefs on Teaching Functions
LTP	- Lecturers' Teaching Practice
SEM	- Structural Equation Modeling
CFA	- Confirmatory Factor Analysis
ML	- Maximum Like hood
CFI	- Comparative Fit Index
RMSE	- Root Mean Square Error
CFI	- Comparative Fit Index
TLI	- Tucker Leis Index
MNS	- Mean Square
CA	- Cronbach's Alpha

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Lecturers make decisions about classroom instruction regarding to theoretical beliefs on teaching and learning (Harste and Burke, 1977). Lecturers' beliefs affect their objectives, procedures, materials, interaction patterns of the classroom, their teaching functions, their students and the institutions they work. Lecturers interpret, respondent and innovate only in ways related to their current beliefs and practices. Therefore, many researchers emphasized about the need of investigating of lecturers' thinking (Clark, 1988, Kennedy, 1997; Mamsour, 2009).

Community Colleges (CCs) provide admission to higher technical education for all. Everyone who can benefit from education may attend community colleges. CCs are committed to three major values in fulfilling their mission: access, equity, and success. Equity refers to the attempt to ensure that people from all ethnic and socio-economic backgrounds have the skills and knowledge to benefit from and succeed in the colleges to close the "achievement gap" between students from different demographic groups. Success refers to commitment provided by the programs and services ensuring students can obtain their educational goals (Community College League of California, 2013).

above have completed 6 years of basic education (Guarcello et al., 2006). Moreover, this high rate of expenditure is more indicative of how costly the education system has become to the country.

Yemen is facing a myriad of problems in its education system that is nested within its wider challenging social context. The government has identified education as a key strategic objective to address economic and social development. To that end, in 2002 Yemen developed the National Basic Education Strategy (NBEDS), in line with its commitments made within the Dakar Framework for Action two years prior (WB, 2009; Ministry of Education report, 2003). The strategy aims to address Yemen's most pressing educational challenges. The NBEDS strategy focuses on four main target areas: (i) improvement of the quality of education; (ii) improvement of the management of the sector (iii) priority to basic education; and (iv) emphasis on the education of girls, which in turn will raise the overall enrollment rate. It is no coincidence that improvement of quality of education has been listed as the first target area. Although Yemen has yet to reach ideal levels of net enrollment, its dramatic expansion of basic education in the past 50 years has reasonably shifted focus to quality of education. In fact, if Yemen does not address the quality of education, it risks further eroding the public trust in the education system. Lack of trust in the promise of education may explain why survival rates are low, particularly for secondary education. Restoring the public's trust in the education system is a key objective for the government after the Arab Spring, and lack of trust is detrimental for long term economic and social cohesion.

Governments in developing countries are increasingly paying more attention to technical and vocational education, with some countries adapting the American community college model, as they believe it will solve various social and economic problems (Wang and Seggie, 2013). This type of education is believed to keep jobless people off the streets, decrease youth unemployment, and provide industry with skilled middle-level professionals (Agrawal, 2012 and Ziderman, 1997). International organizations like the UNESCO and the World Bank are providing funding.

The pyramid of education in Yemen is inverted and it needs reconsideration. It is assumed that a large proportion of the outcomes of the secondary schools are to join technical education instead of going on to higher education. The executive council of the community colleges prepared a five-year plan 2011/2015 to run a number of new colleges to support the labour market in the public and private sector; this agreement is in with the social fund for development (Executive Supreme Council of the Community Colleges, 2013 and Alabidi 2014).

Projects in developing countries are designed to improve the capacity of technical and vocational institutions (TVIs) so that they can offer programs that meet the needs of the labor market (Gervedink Nijhuis, Voogt, and Pieters, 2012). Literature addressing the gap between the labor market needs and the outcomes of TVIs in developing countries has associated this problem, in part, to deficiencies found in the design and implementation of the curricula offered by these institutions (Agrawal, 2012; Baqadir, Patrick, and Burns, 2011; Lai and Lo, 2008). Vocational programs are required to have curricula that not only respond to the current needs of the labor market through providing students with relevant entry-level skills, but also prepare students for life-long learning skills and adaptability (Ziderman, 1997). In addition, employers were found to be expecting vocational programs to produce graduates who can learn new things in the workplace, work independently, possess adequate vocational skills and generic knowledge, and be aware of work ethics (Baqadir et al., 2011; Lai and Lo, 2008). Therefore, when vocational curricula are designed or modified, they need to be broad and flexible and involve representatives from the labor market (Agrawal, 2012). However, TVIs in developing countries encounter a number of challenges in keeping their curricula up to labor market expectations. These challenges include the inability to have long term plans due to uncertainty about the kind and amount of resources they will be receiving from the government, the provision of more practical training for their students, and the lack of information about student employment destinations as there are no national statistics. This all results in a mismatch between the outcomes of these institutions and employment opportunities (Lumby, 2000). This mismatch was also reported to be a result of the inadequate collaboration between these institutions and industries (Akomaning, Voogt, and Pieters, 2011). Quality of teachers and educational

management in TVIs constitutes another challenge for realizing updated and responsive vocational curricula. Teachers were found to have outdated subject matter knowledge due to inadequate industrial attachment (Bakah, Voogt, and Pieters, 2012), and heads of study departments were reported to be lacking managerial knowledge and skills; this resulted in study departments not having goals, and curricula that had not been reviewed for many years (Gervedink Nijhuis et al., 2012).

High quality professional development is a central component in nearly every modern proposal for improving education (Guskey, 2010; Chimombo, 2005; Shagrir, 2012; Mukred 2010; Alsayed, 2004; Esmail 2010). Lecturers who undertake university level professional development have greater impact on their practice (Coolahan, 2007; Sugrue, 2006; OECD, 2009; Guskey, 2010; Campbell and Norton, 2007).

Community Colleges (CCs) provide admission to higher technical education for all. Everyone who can benefit from education may attend community colleges. CCs are committed to three major values in fulfilling their mission: access, equity, and success. Equity refers to the attempt to ensure that people from all ethnic and socio-economic backgrounds have the skills and knowledge to benefit from and succeed in the colleges to close the “achievement gap” between students from different demographic groups. Success refers to commitment provided by the programs and services ensuring students can attain their educational goals (Community College League of California, 2013).

CCs spread rapidly throughout Arab countries. In July 1998, the Government of Yemen started to explore the practicability of establishing CC as independent institution for higher technical education under the Higher Educational Ministry (Yemen Law No. 5, 1996). Ministry of Technical and Vocational Training (MTVT) was established in 2006 (The Law of Technical Education No. 23, 2006). The main objective of establishing MTVT is the need to preparation of skilled labor for the labor market to meet the need of the fields of industry, trade and services. Evidence suggests that the need for this type of labor is increasing in developing and developed countries alike. In 2009, the government of Yemen created community

colleges under the MTVT. Other rules related to community colleges and technical education was approved to keep up with the economic developments and development needs of the country (Alabaidi, 2014). According to MTVT plan, the number of government community colleges will reach 39 beginning in 2015. Some of these colleges have started to work and some others have not been handed over to the ministry. The number of colleges that are currently working in the academic year 2012/2013 is 10 (Executive Supreme Council of the Community Colleges, 2013 and Alabidi, 2014).

To further the values of access, equity, and success of CC mission and goals, the CC mission and functions are established as: (a) as a primary mission, academic and vocational instruction at the lower division level for younger and older, (b) as a primary mission, advance CC's economic development and universal competitiveness through education, (c) as vital and important functions, remedial instruction, and with school districts, adult non-credit education, English as a Second Language, and support services that help students succeed, (d) as authorized functions, community service courses and programs and institutional research concerning training and services that contribute to workforce improvement students (Community College League of California, 2013).

Regarding CC mission and goals, CC recognized that effective lecturers are an important factor to continue its mission and to build skilled graduated students for the labour market. It is important to understand how these lecturers think about their teaching functions and how it influences teaching practices and student achievement. Lecturers' beliefs play an important part in education in explaining the academic performance change of individuals. Kennedy (1997) stated that these beliefs were used to assess new ideas on teaching that lecturers confront in their classes. Those teachings that are shaped according to their beliefs are recognized and characterized as "what is new?" (Kennedy, 1997; Bruner, 1996; Raths, 2001). The relationship between beliefs and practices among lecturers influences their decisions in terms of integrating technology. It provides them with possible examples of ways to practice those promoted ideas, resolving conflicts between a variety of beliefs, organizational supports, constraints and similar practices.

Currently, the implementation of the CC agenda for a wider participation has impacted lecturers' teaching and learning approaches, requiring them to adjust and explore strategies to help students. These developments require lecturers to actively improve existing practices in order to improve their professionalism, to explore a firm understanding of the pedagogy of their subjects and of how students learn, but above all else to become reflective practitioners.

1.2 Background of the Problem

An effective way to evaluate the performance of lecturers of universities and colleges depends mainly on the scientific criteria that are related to accreditation standards applied globally, regionally and locally (Haptoor 2009; Basorah, 2007; Mukred 2010; Alhakimi, 2011). The application and implementation of the evaluation process in accordance with these standards need experts specializing in quality and accreditation of colleges and universities. The use of multi-methods for assessing lecturers in universities and colleges by using self-assessment, portfolio and student assessments provide assessors a comprehensive evaluation of the lecturers. This will ensure the effectiveness of objectivity, fairness and accuracy of assessment results (Alradai, 2008; Haptoor, 2010; Kuyran, 2010; Alhakmi, 2010; Abdulrab, 2011; Alkulaidy, 2011; Mukred, 2010; Alsharafi, 2010; Alshook and Alogeel, 2011).

There has been an orientation and an understanding of the importance of lecturers' appraisal for better performance and development. Decisions were made to agree during workshops and conferences to implement the appraisal of lecturers. The implementation is weak and has no approved plan from the university and college policymakers in Yemen (Alraadi, 2008; Alkulaidy, 2011; Mukred 2010; Alsharafi 2010). Universities and colleges in Yemen have weaknesses in paying enough attention to scientific research, publication, training, and they remain minor activities. Higher education in Yemen needs to develop the system of appraising the lecturers (Alshakeer, 2010; Mokred, 2010; Abdullrab, 2011; Alkulaidy; 2011).

According to UNESCO 2011, Khan and Chase 2003, low quality in education and teaching in Yemen creates multiple problems. One effect of low teacher quality in Yemen is low student-learning outcomes. Yemen participated in the 2007 Trends in International Mathematics and Science Study (TIMSS) evaluation. Yemeni students performed poorly, 94% did not reach the 'low' benchmark on math and 92% did not reach the 'low' benchmark for science (UNESCO 2011, Khan and Chase 2003). In fact, Yemen ranked the lowest of all participating countries in math and science; this was attributed to the students' inability to read the test questions. Reading and writing skills are particularly low according to achievement data analysis on key subject areas for students in grades 4 to 6 (UNESCO 2011, Khan and Chase 2003). Khair et al. (2012) found that only 35% of students tested across 8 provinces were able to pass a math test. These figures, coupled with low completion rates, suggest that low teacher quality is negatively affecting student learning outcomes.

Negative classroom practices, like teacher centered methodologies, are also a powerful indicator of low teacher quality in Yemen. Teaching methods in Yemen are "highly teacher dominated" with strict classroom discipline (Dyer 2007). Teachers are not trained in student-centered methodology despite that being the approach reflected in curricula and teacher's guides (UNESCO, 2011). Ezzi (2012) found that Yemeni English teachers, with a large majority having had university pre-service training, did not explicitly teach grammar rules, give practice time, or care for accuracy. She also found that the vast majority agreed or strongly agreed that the teacher's guides were too difficult for them to follow (177). Moreover, their stated beliefs about correct teaching, "are not reflected in their classrooms" (180). Bataineh and Thabet (2011) had similar findings; Yemeni EFL teachers reported understanding the principles of communicative language teaching methodologies but resorted to more structure-based practices in their classrooms.

Developing countries such as Yemen require development in education. Education is broadly used as an instrument for social change (Chimombo, 2005). A country which is unable to develop the skills and knowledge of its people and to utilize them effectively in the national economy will be unable to develop anything

else (Harbison and Hanushek, 1992). In addition, lecturers in higher education represent the backbone of universities and colleges, therefore, the status of the university has always been associated with lecturers' and professors' prestige, and the university's reputation and strength today is higher or lower based on the status of its scientists and professors (Alshakeer, 2010; Mukred 2010; Alsayed, 2004; Esmail 2010; Alsharafi 2010; Mazab 2012).

Yemen needs a dynamic, efficient and high quality higher education system. Its natural resources are not as extensive as many of its neighbours', and it will depend on the exploitation of its human resources if it is to develop into a successful 21st century economy and society (Ministry of Higher Education and Scientific Research, 2005).

The World Bank (2011) reported higher education reform efforts at the turn of the century in Egypt, Jordan and Yemen were spurred by the following similar urgent issues: Rapid growth and strained budgets. During the 1990s university enrollments expanded very rapidly in three countries (17 percent per year in Egypt, 19 percent in Jordan and an explosive 43 percent in Yemen) far above the average 3 percent population growth rate in the region. In all three expansions outstripped funding capacity of the state. There exists a lack of diversity in funding and inefficient use of funds. Through the 1990s the state was just about the only source of funding of higher education in the region, except in the case of Jordan which had embraced cost recovery. Figures on cost per student showed a holding pattern in Jordan and some increase in Egypt and Yemen, but only in Egypt was this considered to be a sign of inefficiency. In both Egypt and Jordan overstaffing in public universities with non-teaching functionaries was a chronic problem. There had been no formal, institutional assessments of higher education student achievement at the turn of the century, but high student-staff ratios revealed poor conditions for quality teaching/learning: Jordan 27:1 Egypt 29:1 and Yemen, 41:1 (23:1 was the MNA norm). Qualitative indicators also showed weakness in instruction and poor use of IT.

Employers and students alike were displeased with the quality and outcomes of education provided, but there was little hard evidence: neither the institutions themselves nor any oversight body had systematically evaluated student learning outcomes nor, as of the launching of these projects, had any plans to do so in the future. The World Bank report (2011) reported two main results including weak middle-level technical education and low relevance to country needs and conditions of the three countries of Yemen, Egypt and Jordan. These results reported as follows:

Weak middle-level technical education (TE): Community College enrollments in Jordan declined by around 40 percent in the 90s and in Egyptian Technical College enrollment growth was flat in the early 2000s; in Yemen, enrollment was growing but still accounted for only about 5 percent of the higher education population. Post-secondary TE was seen as out of touch with local economies, overly theoretical and outdated. TE Graduates suffered higher unemployment rates than any other category.

Low relevance to country needs and conditions: University education was also out of touch with the needs of increasingly globalized economies: more than 75 percent of students in Egypt and Yemen and 60 percent in Jordan were enrolled in the social sciences and humanities. Graduate unemployment was high and growing: 17 percent in Jordan and around 10 percent in Egypt and Yemen. The three higher education reform projects that appeared in 2000 or just after had the following objectives:

- Jordan: Initiate improvements in the quality, relevance and efficiency of higher education in the country and support the Government's program to reform sector governance;

- Egypt: Create conditions fundamental to improving the quality and efficiency of the higher education system through legislative reform, institutional restructuring, and establishment of independent quality assurance mechanisms and monitoring systems; Yemen. Assist the Borrower in preparing and carrying out a higher education reform strategy, and developing the capacity of the Ministry of

Higher Education and Scientific Research to carry out major reforms aimed at the strengthening of postsecondary education. In all three countries, system reform thus aimed to improve higher education quality, efficiency and relevance, and the Bank-endorsed higher education reform model stood in the background of these reform efforts.

The three projects were most focused and successful at creating inputs or immediate conditions (drawing from the higher education reform model) for improved quality: improved IT infrastructure and its use in teaching, learning and research; staff upgrading and in-service training; competitive grants to stimulate program innovation and renewal efforts, and quality assurance and accreditation systems. In Egypt these systems were operating quite effectively; in Jordan somewhat less so; and in Yemen with first steps.

However, in none of the three was there any evidence that these inputs have made a difference in terms of student outcomes (improved learning and/or better preparation for the labor market), given that such outcomes were neither measured in any of the projects nor even by the countries' higher education systems.

With regard to student-staff ratio (in which increases show worse conditions), all countries showed poor or deteriorating conditions for effective learning. On the specified intermediate outcomes in Jordan and Egypt, improved instruction and increased student satisfaction, the results were negative on the first and inconclusive on the second for Jordan, and inconclusive on both for Egypt.

Relevance was generally conceptualized as bringing higher education into better alignment with economic and social needs of the country. The project's emphasis for improving relevance was on upgrading inputs or conditions. Strategies for this were updating curricula and teaching styles (in line with international norms), getting both instructors and students connected to the vast resources of the worldwide web, creating programs with direct connection to labor force needs, and involving private sector managers in decision making, and these were generally delivered as planned, particularly in Egypt and Jordan.

There were few measures of higher education relevance as an outcome. It was possible, with data external to the projects, to assess an outcome that background documents showed widespread concern about: improved balance between theoretical (social sciences and humanities) and applied fields (medicine, engineering and agriculture). Findings showed a reduction in social sciences/humanities enrollment over project years from 60 to 56 percent in Jordan and 76 to 66 in Yemen, but essentially no change in Egypt (79 to 78), levels still well above those in other regions. With regards to employers' satisfaction with technical college graduates in Jordan, the results were not encouraging: trainees were found to lack technical skills and their training was deemed overly theoretical.

There were some positive project outputs in this area. Jordan and Egypt used competitive grants and Technical College/Community College (TC/CC) reform programs to create or restructure programs to be more relevant in their curricula and processes -- to labor force needs. Although only indirectly supported by the project, Yemen built three world-class graduate studies programs that were well connected to high level employment.

Data external to the projects painted a grim picture of the recent labor market success of university graduates during project years. In Jordan the rate stayed at a high 17 percent and in Egypt and Yemen it increased 3 and 5 fold, respectively. The huge spikes in unemployment in both Egypt and Yemen came at the time when the enormous late 1990s surge of enrollees were coming into the labor market, and at the same time civil service jobs were being eliminated and private sector job creation was stagnating.

According to the Ministry of Education report (2008) teaching profession in Yemen has changed a lot in the past two decades. Only recently has the profession been fully Yemeni; "Yemenization" of the teaching corps began in the 1990s completed in early in the 2000. However, that figure masks the large shortage of teachers in rural areas, particularly that of female teachers (Ministry of Education report, 2008). The profession is largely male; only 28% of teachers are female in government basic and secondary schools (WB, 2013). This gender gap in the

teaching profession is one of the main factors of low enrolment rates of females in rural areas, where only 9% of teachers are female (UNESCO, 2011; WB, 2013).

According to Ministry of Higher Education and Scientific Research (2005) Yemeni universities employ approximately 2650 fully tenured academic staff, usually holding PhD's, plus a further 1750 teaching assistants, generally with Masters degrees as their highest qualification. These figures imply a student: staff ratio of 50:1 plus, which is extremely high, and has deteriorated substantially in recent years. This undoubtedly has an impact on quality, but also, as is discussed below, on the style of teaching and learning, which is adversely affected. However, the public community colleges employ 140 teaching staff between them. Because of the nature and level of their provision, this staffs hold lower level qualifications than university staff. Similarly, the staffs employed by the remote education colleges of the universities tend to have lower-level qualifications than that elsewhere (Ministry of Higher Education and Scientific Research report, 2005).

There appear to be no systematic processes for the review of curricula or for the involvement of the outside world - industry in particular - in developing curricula to ensure that what students learn appropriate and relevant. So it seems that many programs have not been modified for many years – certainly they are not developed systematically - and that students are not only taught inappropriately but that what they learn may not be up-to-date and appropriate. This is not particularly surprising in view of the lack of incentives for staff to review programs, and the predominance of outside interests for many staff (Ministry of Higher Education and Scientific Research report, 2005).

Gauging teacher quality in a developing context like Yemen is difficult in the absence of standardized evaluation metrics. However, the Ministry of Education and many researchers have reported repeatedly on what they observed to be low teacher quality (Ministry of Education, 2008; Dyer, 2007, Guarcello et al. 2006, Yuki and Kameyama, 2013). These reports draw from quantitative figures on teacher qualifications and attendance, qualitative observations on classroom practices, and student response survey data. Collectively, this data paints a dire portrait of teacher

quality in Yemen's education system. According to the literature, there are four key indicators that imply low quality in teaching: (i) lack of qualifications and professional training, (ii) teacher absenteeism, (iii) prevalence of teacher-centered methodologies and other negative classroom practices, and (iv) the prevalence of emotional and physical abuse by teachers.

The Ministry of Higher Education and Scientific Research reported that The four-year first degree programme is not in itself a particular issue (increasingly other countries are standardizing on a four-year first degree programme) but there are concerns about whether students have a sufficient base in key subjects - the English and Arabic languages, IT and mathematics, for example - to be able to progress satisfactorily through the four years. In particular, in the medical sciences and engineering subjects, given that so much of what students study is in English, it is essential that they have a good grasp of the English language, which many do not.

There is no tradition of universities offering programs for postgraduates in order to update and train them for professions and careers, and no incentive and therefore little provision in continuing education for the wider population (The Ministry of Higher Education and Scientific Research REPORT, 2005; Alabidi, 2014; Executive Superme Council of Community Colleges, 2013) .

The biggest indicator of low teacher quality in Yemen is the lack of qualifications and professional training. A large number of teachers lack the basic qualifications to teach. In Yemen, the minimum qualification to teach was a two-year diploma from a teacher training institute. Unfortunately, approximately 42% of Yemeni teachers have a secondary education or less (UNESCO, 2011). Most of the teachers who lack qualifications teach in rural schools (66%) and teach in basic education (91%) (UNESCO, 2011). The bulk of teachers in adult education programs are "secondary school leavers," only having short courses on teaching adults (Yousif, 2007). Teachers who do have qualifications are rarely required to renew their licensure. Moreover, many teachers are not provided opportunities for ongoing professional development. Only about 50,000 to 100,000 teachers, or about

half the current teaching force, is provided in-service teacher training annually (Ministry of Education, 2008, UNESCO, 2011).

According to the Ministry of Higher Education and Scientific Research report, (2005), there are no incentives for universities or the staff within them to ensure high quality and standards in what they provide. As damaging as the absence of quality assurance processes is the absence of any accreditation process. The Government has recognized the unsatisfactory nature of the present arrangements, and has recently, with World Bank support, let a contract for technical assistance to a consortium led by the UK NARIC organization, to help develop quality systems in Yemeni universities (Higher Education and Scientific Research report, 2012).

The goals and mission of CCs were established accordance to Law No 5 of 1996 which has defined the goals and objectives of community colleges as follows: a) preparing human resources required for development in fields of engineering, technology and business management, b) assisting the community through extension of training and consultancy services, c) establishing a flexible educational system, which can cope with advances in technology and to meet needs of labour market, d) providing vocational and technical training for the citizens of the community to upgrade their skills technical and vocational training and join them with new technology to produce trained and professional people regardless of the need of the markets and the importance of using new technology around the world.

The education system in community colleges offers Technical diploma and Bachelor of Applied Fields. The CCs offer a two year technical diploma after high school. The educational level has specialization and is designed to prepare workers for technical level specified in vocational classification and specifications (technical diploma). The CCs offer of Bachelor of Applied Fields regarding the technical community colleges is part of the framework of the project for higher technical education. The duration of study is four years after secondary certificate. The graduates are prepared to work in Institutes, community colleges and the labour market. The period of study is three years, with technical and scientific skills and theoretical skills split 60% - 40%, respectively (Executive Supreme Council of the

Community Colleges, 2013 and Alabidi, 2014). The graduates receive a technical diploma (technician). The graduates from high schools or equivalent can enroll in community colleges in different technical areas.

To make CC lecturers implement "teach better", it only makes sense to provide the skills they need at the levels they ask for and in a way that makes learning the skills practical for them. These skills must focus on the process of learning; increasing opportunities for quality educational performance and success; offering positive orientation, guidance, and direction through coaching; motivating students to increase satisfaction for and development of learning to learn skills; recognizing and encouraging students' desire to learn; working to limit and/or eliminate learning obstacles; using effective performance as expectation by which to improve students; and utilizing intellectual competencies to maximize instruction effectiveness (Sarapin and Vorvoreanu, 1999; Campbell et. al., 2004; Campbell and Norton, 2007; Chen, 2008).

According to the Development Academic report of Sana'a community college (2013), community colleges in Yemen has a lack of written policies and regulations that clearly spells out the management expectations for the teacher as a responsible academic (in terms of reporting grades, documenting students' progress, seek of professional growth, attending meetings, participation in committees and activities, etc.). In other words, if we want to evaluate the academics' professional performance, community colleges first need to have its expectations clearly stated. Therefore, SCC does not have expertise in planning and coordinating the professional growth of its academic staff. Therefore, lack of experienced personnel to be in charge of teacher's professional development is a great barrier.

Abdul Rab (2011) in his research about a relationship is traced between the adherence to applying the principles of Total Quality Management and the level of performance at Aden Community College, stated that performance at Aden Community College is low of %55.9, where as the percentage of those who agree that the level of performance is high is % 9.8 , others who agreed that the level is average are % 34.3.

Rahmah Anam in her study (2013) found that The estimations of the teaching staff and the students regarding the evaluation of the Aden Community College academic performance are unrealized in a required way and high quality; it needs some changes and improvements academically through sessions, symposiums and mutual field visits with some counterpart colleges.

According to Alabiadi report (2014) the educational level has specialization and is designed to prepare workers for technical level specified in vocational classification and specifications (technical diploma). The period of study is three years; the graduates gain technical and scientific skills 60% and the theoretical skills 40%. The graduates receive a technical diploma (technician). The graduates from high schools or equivalent can enroll in community colleges in different technical areas. The Technical Community Colleges are part of the framework of the project for higher technical education. The duration of study is four years after secondary certificate. The graduates are prepared to work in Institutes, Community Colleges and the labor market.

Table 1.1 showed the total enrolled number in TEVT institutions affiliated to MTEVT according to statistics of 2012/2013 was (34,603) students: (28691) males and they form a percentage of (82.9%); the females were (5912) and they form a percentage of (17.1%). In comparing with the enrolled number in 2007/2008, it was found the total number (25098) students: (22431) males and they form a percentage of (89.4%); the females were (2667) and they form a percentage of (10.6%). The enrolled were distributed in varying proportions at different education systems. The enrolled number in professional institutes in 2012/2013 was (11658)- (these programs are for 2 or 3 years and they are after basic education). The enrolled number form a percentage of (33.7%) of the total enrolled number in TEVT. This includes (838) female students who form a percentage of (7.2%). The enrolled number in technical education (2+3 years after high school) was (22945) students who form a percentage of (66.3%); this is out of the total enrolled number; the females were (5074) who form a percentage of (22.1%). The enrolled number in technical institutes (students study for two-year and they join with secondary schools) was (15086). The male students were (12008) and the female number was

(3078). The enrolled number in community colleges (students study for three years after high school) was (7859): (5863) males and (1996) females.

Table 1.1: Enrolment and graduation growth of TEVT institutions affiliated to MTEVT during the period 2007 -2013

General	Sex	Technical system (after Secondary)				professional system (after Statute)				Total		
		3 years	2years	Total	%	3 years	2years	Total	%	Number	%	
2007/2008	Enrollment	M	3580	8193	11773	84.3	4409	6249	10658	95.7	22431	89.4
		F	856	1337	2193	15.7	374	100	474	4.3	2667	10.6
		T	4436	9530	13966	55.6	4783	6349	11132	44.4	25098	100
	Graduation	M	515	2505	3020	81.8	1075	1568	2643	97.4	5663	88.4
		F	198	472	670	18.2	45	26	71	2.6	741	11.6
		T	713	2977	3690	57.6	1120	1594	2714	42.4	6404	100
2012/2013	Enrollment	M	5863	12008	17871	77.9	3138	7,682	10820	92.8	28691	82.9
		F	1996	3078	5074	22.1	547	291	838	7.2	5912	17.1
		T	7839	15086	22945	66.3	3685	7973	11658	33.7	34 603	100
	Graduation	M	851	4415	5266	74.7	1,680	2,535	4215	94.1	9481	82.3
		F	487	1293	1780	25.3	185	80	265	5.9	2045	17.7
		T	1338	5708	7046	61.1	1865	2615	4480	38.9	11526	100

In terms of the size of the increase in the enrolled number during the comparison period, it can be seen through the statistical indicators the following. There is weakness in enrolment in these institutes and colleges compared to expansion and increase in the number of institutions. This is perhaps due to the lack of community awareness about the importance of vocational and technical education. The tendency is to go for university education instead. With regard to the level of female enrollment in TEVT, it is noticed that there is a variation of annual growth rates for females; there is a slight improvement in the percentage of enrolled during the year 2012/2013. However, these percentages are not consistent with the educational policy and legislation that emphasizes the representation of women and their integration in TEVT. This calls for reconsideration of the representation of women in this type of education. Enrollment of females should be in proportion with

the role of women in development. According to Table 1.1 there is an increase in the number of graduates of TEVT during 2007-2013. The number of graduates in 2007/2008 was (6404): the number of females was (741) and they form a percentage of (11.6%). But in 2012/2013, the number of graduates was (11526): the number of females was (2045) and they form a percentage of (17.7%).

The number of graduates from the vocational institutes (2 and 3 years) after basic education in 2012/2013 reached (4480): they form (38.1%) of the total graduates: out of them the females were (265). The number of graduates from the technical education (2 and 3 years after high school) was (7046). They form (61.1%) of the total graduates. They were divided into (5708) graduates from Technical institutes (two years after high school); of them (1293) are females. The ones from the community colleges are (1338): of them were (487) females. As for the bachelor degree of applied fields, the number of graduates is (155): the females were (39).

It could be argued that there is a significant improvement in quantity in terms of enrolment and graduation at various educational types in 2012/2013 if compared with what it was in 2007/2008. But this improvement does not rise to the level of the ambitions and hopes sought by development projects and the labor market. In general, it can be said that TEVT in our country has witnessed during the current phase a significant improvement. There are increasing number of institutes and colleges: professional and technical. Enrollment ratios between males and females improved in quantity which is desirable and needed in various education levels. But by comparing the annual growth rates of enrollment and graduation of both sexes, we see these percentages in an awkward position. This calls for reconsideration of the admission policies. This is to ensure opportunity for all and to achieve high rates of qualified and trained personnel to meet current and future needs of the local and regional labor market.

Table 1.2 showed the level of the quality development of TEVT during the period 2007/2008 and 2012/2013. There were number of new disciplines opened and they are in line with the needs of the labor market and the requirements of the economic and social development projects. Some disciplines achieved a high

percentage of enrollment and graduation. The following discusses the size of this expansion according to the educational levels in these institutes and community colleges affiliated to the Ministry of Technical Education and Training.

Table 1.2: Enrollment and graduation in professional institutes (two years after basic Education) for the academic year 2012/2013

<i>Specialization</i>	<i>Enrolled</i>			<i>Graduates</i>		
	<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>
<i>Electrical extensions</i>	2005	81	2086	721	5	726
<i>Electricity Winding</i>	554	7	561	186	3	189
<i>Home Electric Appliances</i>	66	0	66	12	0	12
<i>Cars Electrics</i>	614	0	614	257	0	257
<i>TV and Radio Electronic Maintenance</i>	302	0	302	110	0	110
<i>Turning</i>	599	0	599	194	0	194
<i>Welding</i>	244	0	244	58	0	58
<i>Mechanics of health extensions</i>	223	0	223	56	0	56
<i>Conditioning and Cooling Mechanics</i>	564	0	564	195	0	195
<i>Light vehicles Mechanics</i>	1734	0	1734	583	0	583
<i>Car Framework Fixing</i>	26	0	26	14	0	14
<i>Mechanics of Agricultural Machines</i>	61	0	61	23	0	23
<i>Carpentry Furniture</i>	563	4	567	123	0	123
<i>Building</i>	16	0	16	0	0	0
<i>Hairdressing</i>	0	24	24	0	8	8
<i>Sewing</i>	0	175	175	0	64	64
<i>Aluminum</i>	86	0	86	3	0	3
<i>Goldsmith</i>	25	0	25	0	0	0
<i>Total</i>	7682	291	7973	2535	80	2615

i. Professional level (two years after the basic)

The number of professional disciplines in this level of education reached (18) specializations. Those disciplines are distributed on the industrial fields (electricity - electronics – mechanics carpentry- handicrafts) and the enrolled number in these

disciplines is (7973) in public 2012/2013. Table 1.2 showed that there is an imbalance in the distribution of students in different disciplines. Some disciplines achieved high rates of enrollment and graduation (as in Electrical Extensions) where the number of students reached (2086); also in they reach in (Light Mechanics Vehicles) (1734). In contrast, we find a severe decline of enrollment in other disciplines in (Car Framework Fixing, electricity, Beauty, Home Appliances, building and Goldsmith).

Table 1.2 showed that females enroll more in Sewing and Beauty but they are not available other sections. This shows the community awareness is still weak and parents do not encourage their girls to enroll in vocational education. In addition, there is an inferiority perception for professional diplomas. This view is related to the social culture inherited old generations. There is a need to change this view and promote awareness of the importance of TEVT. When comparing the enrolment rates with graduates, we notice that the total of the graduates is (2615); this is a very small percentage that does not meet the simplest immediate needs. It does not agree with the current policies of TEVT, which aspires to accommodate 15% of the outcomes of public education in the coming years.

ii. Professional level (three years after the basic)

There is a noticeable improvement in the quality and size of the professional disciplines in this level of vocational education. The number of professional disciplines increased into (26), especially in the fields of electricity, civil engineering, electronics, mechanics, fine arts, woodworking, construction, maritime domain, commercial and agricultural, veterinary and marketing and accounting in the year 2012/2013. The total enrolled number at this level reached (3685); they are distributed on various disciplines. The number of graduates is (1865); this result confirms that there is a remarkable decline in the enrolled and graduates from what it was between 2007 and 2011. In addition, there is a high proportion of the dropouts in TEVT. There is a problem in the process of training and learning because the proportion of graduates is less than 50% of enrollment. This calls for updating the curricula and renewing the educational process. There is an imbalance in the

distribution of enrollment in different disciplines. The enrolment rates have risen in the fields of commerce and electronics. But there is a steep decline in most of the other disciplines. However, there is a significant improvement in the enrollment of females in some disciplines that are suitable to them

iii. *Technical level (two years after high school)*

The Technical level includes diverse technical disciplines reached (49) during the period between 2007 and 2013. These disciplines spread over different areas (Design - Civil Engineering - Electricity – Electronics - mechanics- the maritime domain - hospitality - the commercial field the field of agriculture and veterinary. The enrolled number in these disciplines is (15086): of whom (12,008) males with an increase of (79%); the females are (3078) with an increase of (20%) of the enrolled number. The number of graduates is (5708): of them (4415) are males and (1293) females. There is a variance in enrollment in various disciplines; the disciplines achieved high enrollment: general electricity - Area and Roads Surveying- Computer Programming - Accounting – Offices Management); enrollment rates of these disciplines is (58%) of the total enrolled number. The rest of the percentage is divided on other disciplines. It is also noted that the rates of males and females vary very much in favor of males. In general, there is a marked improvement in terms of the type of disciplines. There is also an increase in the immediate needs of the labor market. The quality of disciplines improved; it achieved the minimum enrollment that is in line with the size of the budget and spending allocated to this type of education. But this puts these percentages in an awkward position. It requires finding admission policies to expand enrollment and optimize spending on this type of education. The quality of fields is required to be in alignment with the requirements of development.

iv. *Technical level at Community Colleges (three years after high school)*

The statistical data of the Executive Supreme Council of the Community Colleges (2013) indicate that the number of government community colleges will reach (39) in beginning of the year 2015 and this is according to the ministry's plan

as shown in Table 1.4. Some of these colleges started to work and some others are not handed over to the ministry. The number of colleges that are currently working in the academic year 2012/2013 is (10). These current capacity for these colleges is (7859) students in (42) technical and medical fields. These disciplines are: (Technology of Computer Engineering and Electronics, engineering of technology medical equipment, Engineering of cooling and air conditioning Technology, technology of automotive engineering, Engineering Technology of Interior Design, graphic design and digital media, technology of programming and computer applications, Internet technology, Fashion Design, Small Business Administration, offices and secretarial management, information technology, engineering technology, construction, accounting, marketing and advertising, hotel management, multimedia, Computer Information Systems, nursing, Medical Laboratories, Business Administration, anesthesia, ecommerce, total quality management, design and landscaping).

Every college has a number of disciplines depending on how old the college is. But it is noted that many colleges did not comply with specialties as in the feasibility study for each college. This is due to the lack of adopting financial allocations to open departments and disciplines according to the feasibility study because it is expensive. Therefore, some of the specialties are repeated in many colleges though there is no need in the labor market for these colleges. In 2013, there was a project with a loan from Kuwaiti to equip 12 community colleges. The project also is to develop curricula and train the academic and administrative staff according to the feasibility study for each college as shown in Table 1.3.

Table 1.3 showed that the enrolment at this level of technical education for the year 2012/2013 is (7859): (5863) males and (1996) females. These students are in various disciplines and with varying proportions. The number of graduates from these disciplines during the year 2012/2013 is (1338). The result may imply that there is an imbalance in the distribution of enrollment at different disciplines and a wide variation in enrollment rates between males and females. This result indicated that there may be interest in some disciplines at the expense of other disciplines but not in accordance with the requirements of the labor market. This will lead to

graduates who are unemployed and the labor market will not be able to absorb them. This is against the nature of the importance of this type of education. This education is based mainly on the opportunities for students who could not join university education. The aspirations and secure future of students could be achieved only by this kind of education.

Table 1.3: Number of government community colleges in the academic year 2012/2013

<i>Sn</i>	<i>Name of College</i>	<i>Governorates</i>	<i>Applicants</i>	<i>Admitted</i>	<i>Enrolled</i>	<i>Graduates</i>
1	<i>Community College of Sana'a</i>	<i>Sana'a</i>	1973	570	1492	248
2	<i>Community College of Aden</i>	<i>Aden</i>	2320	739	1768	303
3	<i>Community College of Ahs</i>	<i>Hajja</i>	550	691	1800	262
4	<i>Community College of Sanhan</i>	<i>Sana'a</i>	577	279	760	98
5	<i>Community College of Yarim</i>	<i>Ibb</i>	397	162	372	96
6	<i>Anran Community College</i>	<i>Anran</i>	770	337	616	83
7	<i>Al-Khafi Community College</i>	<i>Mahawet</i>	131	90	282	64
8	<i>Sayoon Community College</i>	<i>Hadramout</i>	426	262	476	115
9	<i>Asher Community College</i>	<i>Hadramout</i>	144	66	134	0
10	<i>Al-Luhaia Community College</i>	<i>Hodeidah</i>	56	54	159	69
<i>Total</i>			7344	3250	7859	1338

Table 1.4 showed the enrollment at this level of technical education for the year 2012/2013 is (7859): (5863) males and (1996) females. These students are in various disciplines and with varying proportions. The number of graduates from these disciplines during the year 2012/2013 is (1338). There is an imbalance in the distribution of enrollment at different disciplines and a wide variation in enrollment rates between males and females. There is interest in some disciplines at the expense of other disciplines but not in accordance with the requirements of the labor market. This will lead to graduates who are unemployed and the labor market will not be

able to absorb them. This is against the nature of the importance of this type of education. This education is based mainly on the opportunities for students who could not join university education. The aspirations and secure future of students could be achieved only by this kind of education. The following table shows the number of students enrolled in the government community colleges for the year 2012/ 2013.

Table 1.4 Indicators of government community colleges by specialization and by sex for the Year 2013/2012

Specialization	Accepted			Enrolled			Graduates		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Foundation Year	941	307	1248	970	316	1286	-	-	-
Graphic Design and Multimedia	48	26	74	158	127	285	25	23	48
Computer Engineering and Elect.	65	7	72	357	38	395	87	14	101
Information Technology	194	74	268	706	193	899	128	52	180
Internet technology			0	114	27	141	15	18	33
Computer Programming	132	49	181	561	207	768	141	99	240
E-Commerce			0	120	0	120	21	5	26
Business Administration			0	100	42	142	31	38	69
Accounting	282	79	361	794	238	1032	105	69	174
Project Management			0	84	62	146	63	23	86
Marketing and Advertising	105	41	146	293	127	420	29	9	38
Administrative Sciences	147	37	184	192	61	253	-	-	-
Engineering Medical Equipment			0	76	10	86	27	6	33
Conditioning Eng. and cooling	79	0	79	227		227	29	0	29
Automotive Engineering	49	0	49	153		153	5	0	5
Structural Engineering	60	4	64	145	9	154	39	1	40
Interior			0	22	28	50	7	10	17
Nursing	66	70	136	220	219	439	45	25	70
Labs	126	41	167	424	132	556	39	62	101
Pharmacy	149	29	178	64	9	73	-	-	-
Anesthesia				8	3	11	7	3	10
Costume Design	0	27	27	0	93	93	0	20	20
Hospitality and Tourism	10	6	16	25	9	34	-	-	-
Quality			0	38	34	72	6	8	14
Design and Landscaping			0	12	12	24	2	2	4
Total	2453	797	3250	5863	1996	7859	851	487	1338

Table 1.4 showed that the disciplines related to admission, enrollment and graduation as follow:

- i. All government community colleges do not abide fully with what came in the basic feasibility studies regarding the opening of disciplines required for each college.
- ii. The highest rates of enrollment were in the following disciplines: Accounting, computer programming, information technology and laboratories. The same disciplines also occupied the highest graduation rates (44%) of the total number of graduates.
- iii. Most colleges have opened new disciplines that are not in the basic feasibility studies. This happens in community colleges as: Yarim, Alamaafir, and Sanhan; However, many of those disciplines are important and meet the needs of the surrounding areas of the college.
- iv. Some Colleges did not open new disciplines despite the importance of those fields in meeting the needs of the areas that surround community colleges, e.g. Amran, Abs and Al-Luhai.
- v. With respect to the results related to the capacity and outcomes of the colleges, it is noticed that the applicants for colleges reached (7344) students. But the students who were accepted are (3250). These numbers are few due to non- existence of human and material resources to accept all of the students who applied to colleges. This is in addition to the low percentage of girls enrolled in most colleges compared to males.

v. *Bachelor of Applied majors (four years after high school)*

The bachelor degree in applied majors is within the framework of the Dutch support for Yemen. This project is called higher technical education; it includes a number of technical disciplines and technology in each of the following institutions: Technical Institute in Al-Mualla, Sana'a community college, and Aden college community). These colleges include Electromechanical, Telecommunications, Networks Engineering and Information Systems. There are other majors: Bachelor of technical teacher in each of the community college in Sana'a and Aden. There are other specialties, e.g. Engineering of Electronics and Computer Programming, Information Technology, Graphic Design and Accounting). These programs are prepared by MTEVT with support of the Dutch project to meet the shortage of teachers in vocational and technical institutes. Table 1.5 showed the admission, enrollment and graduation for bachelor degree of applied majors for the year 2012/2013 according to specialization and sex.

Table 1.5 showed that the enrolled number in the Bachelor degree of Applied Majors in 2012/2013 is (667) students: 517 males and 150 females; they are distributed on various disciplines with varying proportions. The number of students admitted is (153): of them (33) females. This explains the extent of the high admission at the bachelor's degree in community college and the available capacity in the colleges. Number of graduates from these various disciplines in the year 2012/2013 reached (155): (39) of are females. There is a decline in the number of admissions at this level of education despite the need for this kind of education; this may be due to the fact that the philosophy of community colleges encourages graduates to enter the labor market. This Bachelor degree is limited to the distinguished students to qualify them to be teachers to cover the need of various TEVT institutions. The disciplines that fall under this type education are suitable to the requirements of development and the needs of the local market. But this requires the expansion of more new disciplines at different governorates in a way that leads to open opportunities for everyone to join. The increase of the enrolled in this type of education requires human and material resources. The legislative amendments are needed for the enrolled in applied education to continue their higher studies in

TEVT: master's degree and doctorate in the same applied disciplines. With this, we maintain the technical staff from leaving the technical education to university education, which suffers high unemployment in its outcomes.

Table 1.5: Admission, enrollment and graduation for bachelor degree of applied majors for the year 2012/ 2013 according to specialization and sex

Level	The	Specialization	Admitted			Enrolled			Graduates		
			M	F	T	M	F	T	M	F	T
Bachelor of Applied Majors	Technical Institute (Al-Mualla, Aden)	Electromechanical	0			181	0	181	20	0	20
		Communications	38	3	41	110	35	145	11	11	22
	Community College (Sana'a)	Network Engineering	0	0	0	49	13	62	26	3	29
		Information Systems	0	0	0	27	16	43	15	8	23
		Preliminary	34	10	44	34	10	44	0	0	0
Total			72	13	85	401	74	475	72	22	94
Bachelor of Technical Teacher	Aden Community College	Eng. of Computer & Electronics	14	1	15	19	1	20	13	1	14
		Computer Programming	10	8	18	14	28	42	9	7	16
		IT	14	5	19	23	23	46	13	4	17
		Design	2	1	3	12	6	18	2	1	3
		Accounting	8	5	13	22	13	35	7	4	11
		Marketing and Advertising				8	5	13			
	Construction Engineering				18	0	18				
Total			48	20	68	116	76	192	44	17	61
Total			120	33	153	517	150	667	116	39	155

The pyramid of education in Yemen is inverted and it needs reconsideration. It is assumed that a large proportion of the outcomes of the secondary schools are to join technical education instead of going to higher education. The executive council of the community colleges prepared a five-year plan 2011/2015 to run a number of new colleges to support the labour market in the public and private sector; this agreement is in with the social fund for development (Executive Supreme Council of the Community Colleges, 2013 and Alabidi 2014). The plan included providing the qualified cadres, training and qualifying staff according to a time plan, and developing programs and curricula through the preparation of a unified curriculum document for all disciplines in collaboration with the private sector. This requires

skilled and professional lecturers who are responsible for teaching students and to meet the need of labour market. There are not enough qualified lecturers in some professional and technical disciplines in community colleges (SCC report, 2011 and Alabidi, 2014).

According to the Executive Supreme Council of the Community Colleges (2013) and Alabidi (2014) the system of qualifying the teachers and lecturers of TEVT had many obstacles related to qualification as mentioned below:

- i. The absence of a clear philosophy of qualification and the weakness of the educational and academic qualification.
- ii. Lack of practical training.
- iii. Poor equipment of the qualification and training institutes and the limited tools.
- iv. The weakness of the relationship between education and the labor market. This is in addition to the excessive expansion in development programs that absorb the high qualified labor.
- v. The lack of incentives to attract the qualified staff to join the profession. This becomes even more difficult due to the weakness of the social status of teachers working in this type of education.

To overcome these obstacles, some researchers believe that the plans for qualifying the teachers and lecturers of the technical and vocational programs must be based on the following components:

- a) Qualification is to be according to a well-prepared plan that takes into account the quantitative and qualitative needs of TEVT teacher.

- b) Qualification is to be integrated.
- c) Qualification is to be academic and practical.
- d) There should be a continuous follow-up and evaluation of qualification programs.
- e) There should be an incentive system to attract the excellent staff to TEVT.

Table 1.6 showed the number of the faculty members in the institutions of technical education and vocational increased in 2007/2008 from (2644) to (4556) in 2012/2013 with an increase of (72.3%): (3734) males and (822) females. The percentage of female participation in this type of education is still very small although there is an increase in the female teaching staff in these institutes and colleges. The number the female teachers is (420) during the comparison period and the rate of increase is (104.5%) in 2007/2008. The limited number of the faculty members who are highly qualified in various disciplines. Most teachers have (vocational secondary school or diploma).They reach in 2012/2013 (638) and they lack scientific skills that enable them to use modern methods, means and techniques. Statistics also indicate that the teachers who have technical diploma reach the number of (1458).The teachers who have bachelor's degrees are (2177). It is noted that there are no non-Yemeni teachers to benefit from them in modernizing and renewing experiences, especially from some of the countries that have considerable experience in the field of TEVT.

Table 1.6: Growth of faculty members in TEVT institutions of the Ministry in the period 2007-2013

<i>Qualification / type</i>	<i>2007 / 2008</i>			<i>2012 / 2013</i>			<i>Growth%</i>		
	<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>
<i>Ph.D.</i>	26	0	26	36	4	40	38.5	-	53.8
<i>Master</i>	96	25	121	128	49	177	33.3	96.0	46.3
<i>Bachelor</i>	1029	294	1323	1620	557	2177	57.4	89.5	64.6
<i>Technical Diploma</i>	673	53	726	1293	165	1458	92.1	211.3	100.8
<i>Vocational High School</i>	144	3	147	192	11	203	33.3	266.7	38.1
<i>High School</i>	34	11	45	58	13	71	70.6	18.2	57.8
<i>Professional Diploma</i>	211	3	214	355	9	364	68.2	200.0	70.1
<i>Preparatory</i>	6	5	11	16	4	20	166.7	-20.0	81.8
<i>Basic</i>	23	0	23	16	2	18	-30.4	-	-21.7
<i>Without qualifications</i>	0	8	8	20	8	28	-	0.0	250.0
<i>Total</i>	2242	402	2644	3734	822	4556	66.5	104.5	72.3

According to the results of the survey carried out by the executive council of community colleges (2013) about the employment of the faculty members during the past years, it can be concluded that:

- i. All government community colleges have not fully committed to what came in the basic feasibility studies and the actual needs of the faculties with regard to the employment of teaching staff in terms of quantity or type (specialization).
- ii. Most community colleges hired faculty with specialties that are not actually taught in those colleges, such as community colleges in Sana'a, Aden, Sanhan, Sayoon, and Dalea.
- iii. All colleges do not employ professionals or technicians despite the importance of their roles in the educational process.

- iv. Some administrative staff were moved to the Academic staff, causing internal and external pressure on the colleges without adhering to the academic standards.

The results mentioned above in the report of council of community colleges (2013) may indicate that the financial and administrative independence of these colleges that used in a wrong way (Alabidi, 2014). This led to deviations from the basic objective of the colleges. This is with respect to opening new disciplines or employment of teaching staff or sending the faculty for academic qualification.

CC lecturers have responsibilities in helping community colleges to achieve their goals and missions. Instructional practices depend on what lecturers bring to the classroom. Professional competence is a crucial factor in classroom practices (Shulman, 1986, Campbell et al., 2004; Scheunpflu et al., 2006; OECD, 2010). Lecturers' professional knowledge and actual practices may differ not only among community colleges but also among lecturers within a community college.

CC lecturers may play passive role in teaching; they do not think creatively towards their teaching; they follow the traditional view in teaching and do not follow the new theories in teaching. Lecturers' lack of knowledge of their teaching functions may imply a lack of formal job descriptions of lecturers' responsibilities and roles, the absence of self-assessment for lecturers, the appraisal forms of appraising lectures may be designed in formal way and do not cover the teaching functions, and absence or lack of feedback of appraising lecturers from their assessors (Alraadi,2008; Bagareeb 2010; Kuyran 2010; Mukred 2010; Alsharafi 2010; Alshok and Alogeel 2011; Alkulaidy 2011; SCC report, 2011). As a result, lecturers who refer to the traditional teaching theory cannot change their beliefs unless they change their style of teaching to change their beliefs and perceptions, which would lead to improvement in teaching practices.

Lecturer performance teaching at community colleges was low and affected the enhancement of their professional knowledge and experience (Mofreh et.al, 2014 and Alabidi, 2014). The lack of knowing lecturers' functions on teaching imply that

low teaching practices reflects their professionalism. Lecturers' teaching professional identities arise from their images of lecturers, their beliefs and concepts of a "good lecturer" and their personal theories about teaching (Flores and Day, 2006; Lortie, 1975; Sugrue, 1997).

Researchers have found that lecturers' beliefs play a critical role in transforming lecturers' technology integration into more constructivist practices (Bitner and Bitner, 2002; Dexter, 1999; Ertmer, 1999, 2005; Niederhauser and Stoddart, 2001; Ravitz, et.al, 2000; Sandholt et.al, 1991, 1997; Windschitl and Sahl, 2002; Zhang and Ng, 2011). Lecturers who may lack perception in recognizing their teaching functions at CC may imply that most of the lecturers do not have educational background in teaching methods and techniques. The educational background of lecturers with lack of perceptions of teaching may influence the way lecturers' style and methods of teaching are perceived (Alsayed, 2004; Esmail 2010; Alsharafi, 2010 and Mukred 2010). Lecturers update their beliefs of new forms of instruction, but they do not change their current teaching methods. Lecturers are expected to play an important part in changing educational institutions and classrooms (Prawat, 1992; Schulman, 1987; Shulman, 1986, Campbell et al., 2004; Scheunpflu et. al, 2006; OECD, 2010).

Lecturers are seen as the main barriers to change because of their traditional beliefs. Scholars have argued the necessity for a more detailed research investigating the direct relationship between lecturers' beliefs and practices (Quinn and Wilson, 1997; Pajares; Pomeroy, 1993). A strong correlation exists between the use of Merrill's first principles of instructions and improvement of students' performance and practices in the class (Frick et al., 2007). Principles are often integrated in instructional theory, which provide clear guidance on how to develop learners' performance and practices (Reigeluth and Carr, 2001). Merrill (2009) emphasized that learners are motivated when they can see the relevance of what they are learning. If they learn new information of real world problems, if they are shown a demonstration of skills, they are expected to acquire (show). If they have the opportunity to apply these skills to solve more real-world problems or to perform more real-world tasks (do), they are much more likely to acquire, retain and be able

to use the required skills. However, it is even more important to look at the influence on lecturers' beliefs, practices and professional background factors such as type of training, certification and professional development, pedagogical knowledge, employment status (part-time versus full-time) and experiences. It is important to note that any of these relationships can have different causal interpretations. For instance, professional development activities may change beliefs and attitudes, but participation in such activities may itself be because of certain beliefs (Kennedy, 1998; Ingvarson et.al, 2005; OECD, 2009; Shagri, 2013).

There is a need in changing and developing education in Yemen as a developing country. Education is broadly used as an instrument for social change (Chimombo, 2005; Harbison and Hanushek, 1992; Psacharopoulos, 1985). A country which is unable to develop the skills and knowledge of its people and to use them effectively in the national economy will be unable to develop anything else (Harbison and Hanushek, 1992; Psacharopoulos, 1985; Chimombo, 2005). Educational theory was not something to be imposed upon the teaching profession by academic or scientific experts, but would be rooted in a 'more systematic study of pedagogies which was classroom based and concerned with the lived realities of lecturers' work (Findlay 1903; Claparede 1911; Green, 1913; Green, 1913; OECD, 2009; Shagri, 2013).

At institutions of higher and technical education, faculty members are required to function as professional experts in their fields and engage in effective teaching practice. CC lecturers should move away from the construction of teaching as technical craftsmanship towards a more critical engagement with the principles which underpinned effective teaching practice. In addition, their teaching must be on a high level and they must belong to a community of colleagues, generate and disseminate knowledge and conduct research on an ongoing basis (Shagrir, 2013; Mazab 2012; Guskey, 2010; Campbell and Norton, 2007; Alshakeer, 2010; Mukred 2010; Alsayed, 2004; Esmail 2010; Alsharafi 2010;). High quality professional development is a central component in nearly every modern proposal for improving education (Guskey, 2010; Chimombo, 2005; Shagrir, 2012; Mukred 2010; Alsayed, 2004; Esmail 2010). Lecturers who undertake university level professional

development have greater impact on their practice (Coolahan, 2007; Sugrue, 2006; OECD, 2009; Guskey, 2010; Campbell and Norton, 2007).

When addressing the quality of education, improving the development of teachers should be at the center of the conversation. It is important to note that in developing contexts, any education reform initiatives that do not include teachers and their professional development have not been successful (Villegas-Reimers 2003). Moreover, “professional-development initiatives that have not been embedded in some form of reform of structures and policies have not been successful either” (Villegas-Reimers 2003, p. 24). Teacher quality reforms have a symbiotic relationship with wider education initiatives. When considering general education quality improvements, increasing teacher quality is the best way to improve student learning outcomes. In fact, regarding student learning outcomes, “Research shows that teacher expertise can account for about 40 percent of the variance in students’ learning in reading and mathematics achievement-more than any other single factor, including student background...” (Rhoton and Stile, 2002). This is critical for Yemen; improved student learning outcomes can reduce the basic education repetition rate. Currently, Yemen spends approximately \$130 per pupil in primary education and reducing the repetition rate through improved student learning outcomes can potentially save the Ministry of Education millions of dollars a year (Ministry of Education report, 2003).

Community Colleges (CC) in Yemen started as a new postsecondary educational structure with the purpose being to bridge the vocational gap between the outcomes of regular universities and the fast changing needs of the community and labor market (Alzubairy, 2009). Starting in 2000 with three programs developed by a foreign project, CCs currently offer 10 diploma programs served by 10 departments. An ex-vice dean pointed out that reviewing and updating the college curricula had been left to the study departments; however, such curriculum design (CD) practices, he explained, had been quite limited and based on individual undertakings and personal judgments by the study departments due to the lack of resources and the inadequate expertise of teachers to assume CD roles (Albashiry, 2015).

CCs aim to enhance the abilities of Yemeni youth and elevate their practical and scientific levels, which will be reflected in the improvement in scientific, educational and skills activities, and will contribute to creating job opportunities for youth and serving the country through eradicating unemployment. Also, it will help to produce skilled and productive workforce that contribute to the economic, administrative and social development.

1.3 Problem Statement

Yemen's education system is faced the same challenges found in many developing countries (World Bank report, 2009; Ministry of Education report, 2003, Alabaidi report, 2014). Its dramatic expansion of basic education in the past 50 years has reasonably shifted focus to quality of education. Developing countries depend on successful education, Yemen as a developing country needs to develop its education to develop and improve lives. Therefore, the lecturers play an important role in improving education. Some barriers related to lecturers' beliefs in relationship to the teaching function should be considered in order to gain a deeper understanding of how lecturers translate their beliefs into practice. Previous researchers have noted the influence of lecturers' beliefs on classroom instruction specifically in math, reading, and science, yet few researches have been done to establish a similar link to lecturers' beliefs on teaching functions and teaching practices (Mansour, 2008; Haney, Czerniak, and Lumpe, 1996; Pajares, 1992; Ajzen, 1985; Shulman, 1986; Brickhouse 1990; Clark and Peterson, 1986; Luft, 1999; Poulson et al., 2001). Quality of lecturers and educational management in higher technical and vocational educational institutions constitutes another challenge for realizing updated and responsive vocational curricula (Community Colleges, 2013 report and Alabaidi, 2014).

Teaching reforms need changes in lecturers' deeply held beliefs about teaching and learning (Ernest, 1989; Pajares, 1992; OECD, 2009; Guskey, 2010; Shagrir, 2012). It is essential to know the strengths of lecturers and those aspects of their practice which could be further developed. From this perspective, it shows that

ignoring lecturer's prior experiences can hinder the assimilation of new ideas and practices. That encourages lecturers to adopt and to reflect on how their existing beliefs and behaviors could assist in being more receptive to alternative perspectives, to be prepared to improve their knowledge and to work in ways that are consistent with their views and developing standards based on research (Alsharafi, 2010; Mukred 2010; Alhakimi 2010; Alhariri 2011). Lecturers' beliefs and understandings of teaching as well as learning play an important role in their classroom practices and in their professional growth (Prawat, 1992; Bandura, 1986; Harste and Burke, 1977; Kuzborska, 2011; Mamsour, 2009; Pajares and Nespor, 1992; Latshaw, 1995; Al-baker, 2001).

Fullan (1992) claimed that educators' vision of the potential for educational change with new educational technologies underestimate the difficulty for lecturers to implement the changes that will be required in their practices and skills, as well as in their educational beliefs. According to Fishbein and Ajzen (1975), the strength of a belief is indicated by the person's subjective probability that he or she will perform the behavior in question. This suggests that it is worthwhile to investigate lecturers' beliefs, and also to explore the implicit link between lecturers' views on learning and teaching and their actual classroom practices. Without lecturers' skilled pedagogical application of educational technology, technology in and of itself cannot provide innovative school practice and educational change (Cox, Abbott, Webb, Blakeley, Beauchamp, and Rhodes, 2004). Studying the link between lecturers' beliefs and classroom practices can therefore shed light on the correspondence between classroom practices and stated beliefs, which may reflect on lecturers' convictions relating to educational processes and goals involving information technology in the classroom. It may also help to probe issues based on educational change more in-depth. Lecturers' beliefs and practices are important for understanding and improving professional development (OECD, 2009; Guskey, 2010; Shagrir, 2013).

To sum up, there have been few researches conducted regarding lecturers' beliefs about teaching and the interrelationship with teaching practices. Therefore, there are questions on the influence of beliefs on teaching functions and practices among lecturers at community colleges. This research focuses on the relationship

between lecturers' beliefs on teaching functions and practices, and the influence of the demographic factors on lecturers' teaching practices.

1.4 Research Objectives

The objectives of this research are as follows:

- i. To identify the constructs of the Lecturer's Beliefs on Teaching Functions (LBTF) at community colleges.
- ii. To identify the constructs of the Lecturers' Teaching Practices (LTP) at community colleges.
- iii. To profile the level of Lecturer's Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) among the CC lecturers.
- iv. To investigate the relationship between Lecturers's Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) among the CC lecturers.
- v. To propose an alternative framework of Lecturer's Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) for the CC lecturers.

1.5 Research Question

This research aims to answer the following questions:

- i. What are the psychometric properties of LBTF developed to determine if it is sufficiently valid and reliable as predictor of LBTF?
- ii. What are the psychometric properties of LTP developed to determine if it is sufficiently valid and reliable as predictor of LTP?

- iii. What is the level of LBTF and LTPM among the CC lecturers in terms of demographic traits (gender, age, qualification, employment status, tenure status and department)?
- iv. To what extent, if any, does the LBTF relate to the LTP?
- v. To what extent, if any, does lecturers' background moderate the casual effects of LBTF on LTP?
- vi. What are the patterns of Lecturer's Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) for the CC lecturers?

1.6 Research Hypotheses

In view of objectives of the research above, there are two main null hypotheses as follows:

- i. H_{01} : There is no significant relationship between Lecturer's Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) at community colleges.
- ii. H_{02} : There is no significant relationship between Lecturers' Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) based on demographic factors at community colleges.

1.7 Significance of the Research

This research is unique in combining a tight focus on Lecturers' Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) involvement of lecturers at community colleges using mixed methods. This study provides important insights for lecturers, community colleges, higher educational institutions, policy makers in higher education and students regardless of the relationship between LBTF and LTP. More importantly, a study of LBTF and LTP can create a picture of how the findings and recommendations of current research and policy

filter through into real classroom practices, showing how lecturers view 'practices' policy through the lens of their belief on teaching functions. Currently, there is no instrument measuring the Lecturers' Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP). This research developed the LBTF and LTP as its first contribution.

This research will help the lecturers to understand how their ideas and perceptions about their roles and responsibilities can improve their professionalism and practices in teaching. Lecturers' understanding about their importance of their beliefs gives them the opportunity in decision-making and improvement of students' achievements. Kennedy (1997) asserts that these beliefs are used to evaluate the new ideas about teaching that lecturers confront in their classes. Those teachings that square with their beliefs are recognized and characterized as "what's new?" Using the developed LBTF questionnaire, the lecturers can measure their Beliefs on Teaching Functions. Using the developed LTP questionnaire, the lecturers can measure their Teaching practices. Understanding the relationship between Lecturers' Beliefs on Teaching Functions (LBTF) and Lecturers' Teaching Practices (LTP) provides lecturers with possible examples of how their beliefs influence their classroom practices.

The administrative community colleges can use the developed LBTF instrument to measure the lecturers' beliefs on teaching functions and LTP instrument is used to measure teaching practices among lecturers' at community colleges. The administrative in community colleges can assess the lecturers' professional development individually based on their beliefs on teaching functions and its influence on their teaching practices.

Those teachings that square with their beliefs are recognized and characterized as "what is new?" Thus, the relationship between beliefs and practices among lecturers should be considered among scholars. Also, it is useful to provide lecturers with possible examples of how to apply promoted ideas and resolve conflicts among a variety of beliefs, organizational supports and constraints, and related practices. In addition, it helps lecturers to adapt to educational reform, the

process of reflecting on and discussing beliefs is “an important aspect of lecturers’ professional development,” enabling lecturers to take “greater control over their own professional growth” (Calderhead 1996; (OECD, 2009; Guskey, 2010; Shagrir, 2013). Such reflection may even be a route to improving classroom practice, as Salinas et al. (2002) argued: “enhancing lecturers’ consciousness of their beliefs about classroom practice should contribute to improving effectiveness”.

However, this research with its contribution gives the key to community colleges on how to accomplish its goals by developing the CC lecturers’ practices. Therefore, this CC can appraise lecturers’ teaching practices by using self-assessment based on the lecturers’ perceptions and beliefs about their teaching functions which influence lecturers’ in their understanding of their roles as lecturers because of building their new knowledge and experiences. In addition, the CC lecturers with their beliefs of teaching functions will develop their teaching practices. This new vision of the importance of the role of lecturers’ beliefs on teaching functions and its influence on teaching practices gives CC administrations and lecturers the light of impertinence role that lecturers can play in improving the effectiveness of teaching. Like any educational institution, the effectiveness and success of a CC depends on effective lecturers and their roles in education that are the most important resources, which influence the CC outcomes. Thus, community colleges could use both LBTF and LTP instruments in appraising lecturers as a supportive and developmental process designed to ensure that all lecturers have the skills and support they need to carry out their role effectively. It will help to ensure that lecturers are able to continue to improve their professional practice and to develop as lecturers.

Other higher institutes in Yemen like universities and college may rethink lecturers as an important source in raising their effectiveness by understanding the beliefs and perceptions about their teaching and how these beliefs influence their teaching practices, student s’ achievements and college outcomes.

For policy-makers, the research explores the relationship between the demands made in the LBTF and LTP model and framework, showing alignments

and points of tension. It offers insights into how a decade of the framework has shaped lecturers' beliefs and practice as factor indicators of their professional development.

1.8 Research Limitation

This research is limited to Lecturer's Beliefs on Teaching Functions and Lecturers' Teaching Practices among lecturers of community colleges, Yemen. This study is limited to the latent constructs of the Lecturers' Beliefs on Teaching Functions and Lecturers' Teaching Practices. In addition, the information background of CC lecturers including age, gender, qualification, employment status, and length of tenure factors were limited to the research investigation of how Lecturer's Beliefs on Teaching Functions influence the Lecturers' Teaching Practices based on these factors.

The research design implemented is a mixed method. Quantitative and qualitative data were used for the purpose of this research sequentially. This research was conducted at community colleges as higher educational institution in Yemen. Lecturers who worked in community colleges were chosen as respondents for this research. Generalization to other institutions, nationalities, races will need farther research as this study primarily investigated Yemen as Arab perspective.

Rasch Model and Structural Equation Modeling were implemented as parametric statistical analysis. These two types of analysis were used as appropriate in testing validity and reliability of the LBTF and LTP instruments, and formulation of model explaining the relationship between the Lecturers' Beliefs on Teaching Functions and Lecturers' Teaching Practices. Non parametric data analysis was used to test the level of Beliefs on Teaching Functions and Teaching Practices among lecturers at community colleges. In addition, inductive thematic and coding analysis were applied to qualitative interview data.

1.9 Operational Definition

This research defines the concepts of lecturers' beliefs, teaching functions and teaching practices based on previous literature reviews and the researcher point view. The three concepts of this research are used as research variables to be investigated in practice.

1.9.1 Lecturers' Beliefs

In the literature, Belief has been defined in different ways and used interchangeably with various other terms, including the attitudes, values and judgments as intellectual concepts and perception theory, system theories, implicit and clear theories ((Richardson, 1996; Kagan, 1992; Pajares,1992; Richardson, 1996; Haney, Czerniak and Lumpe, 1996; Aguirre and Speer, 2000; Mansour; 2009). Pajares defined Belief as an “individual’s judgment of the truth or falsity of a proposition, a judgment that can only be inferred from a collective understanding of what human beings say, intend, and do (Pajares,1992).

Richardson (1996) stated that anthropologists, social psychologists, and philosophers have agreed on an acceptable definition of beliefs as “beliefs are thought of as psychologically held understandings, premises, or propositions about the world that are felt to be true. In educational settings, beliefs were defined as “one’s convictions, philosophy, tenets, or opinions about teaching and learning” (Haney, Czerniak and Lumpe, 1996).

Pajares (1992) defined the lecturer beliefs as the ideas that influence how they conceptualize teaching. These ideas encompass ‘what it takes to be an effective lecturer and how students ought to behave’ (Pajares, 1992). Pajares also states that beliefs functions as a filter through which new phenomena are interpreted. According to Aguirre and Speer (2000), current definitions of lecturer beliefs found in the education literature focus on how lecturers think about the nature of teaching

and learning. However, Mansour (2009) stated that beliefs relate more to experience based than theory based.

On other hand, based on the literatures and previous studies, the concepts of beliefs and lecturer's beliefs are defined by this research as "belief is a variable that changed by moderating factors, ideas, attitudes and action, while lecturers' beliefs in educational setting refers to lecturer's thoughts and views based on their knowledge and experience which shape their conceptualization of teaching and influence their teaching practices".

1.9.2 Teaching Functions

Teaching functions refer to classroom experiences that serve to move students from a lack of mastery-to-mastery in an academic content area (Doyle, 1985; Rosenshine and Stevens, 1986; Fitzpatrick, 1982; OECD, 2010; Smith, 2007). Function of lectures is to help students learn by imparting important knowledge and setting up a situation in which the students can and will learn effectively (Dede et al..2008, and Pandely, 2011; OECD, 2010; Smith, 2007).

However, in this research lecturer's teaching functions refers to the role and activities in teaching and learning processes for acquiring knowledge and experience. This is because of the influence of the lecturers teaching functions on practices, experience and students' learning outcomes.

In addition, lecturers' functions refers to three components as diagnosing the students' behaviour to make desirable behavioural change, administrating the teaching strategies and techniques for achieving the stipulated objectives, and assessing the progress and outcomes of teaching and learning.

1.9.3 Teaching Practices

Gujjar et al., (2010) stated that teaching practices refer to practical aspect of training conferences and a variety of facts and dramatic characteristics. During the teaching practices, students and lecturers are as learners acquiring skills. Teaching practices is a valuable opportunity, where conferences are capable of increasing their knowledge, making experiments based of the acquired knowledge and solving problems related to teaching. Teaching practices have three main implications: the practices of teaching skills and acquiring the lecturer's role; the full range of students' experiences going through college / university; and practical aspects of the subject as opposed to theoretical studies (Stones and Morris, 1977). Teaching practices is the practical use of teaching methods, teaching strategies, teaching principles, teaching techniques and practical training and practices / exercise of different activities of daily living (Shagrir, 2013; Gujjar et al., 2010; Guskey, 2010; Campbell, 2006).

In this research, lecturers' teaching practices refers to lecturers practical activities by which the lecturers transfer knowledge and experience in actual situations to the students by using proper teaching methods, techniques and a variety of activities to demonstrate and improve students' learning.

1.10 Theoretical Framework

The theoretical framework of this study is based on constructivism theory including Piaget and Vygotsky' theories and Merrill's' first principles of instruction. The theoretical framework is the structure that can hold and support a theory of a research study (Casey, 1996; Swanson, 2013 and Blaxter and Hughes, 2010). A theoretical framework includes concepts, with their definitions, and existing theories that are used for particular research. Figure 1.1 shows the theoretical framework of this research.

The theoretical framework involved the variables the research aims to investigate such as Lecturers' Beliefs on Teaching Functions (LBTF) as independent variable, Lecturers' Teaching Practices (LTP) as dependent variable, respondents' background information including gender; age; qualification; length of tenure; and employment status which work as moderating variables which may influence the Lecturers' Beliefs on Teaching Functions and Practices. These concepts were investigated based on the research theory. Independence of interpreting one's own experience is emphasized by constructivism (Roth, 1994). In addition, the issue of teaching in the education literature is discussed from the point of view of the transference from theory to teaching practices (De Corte, 2000; Defazio, 2006, Randi and Corno, 2007). Many studies claimed that improving student learning and satisfaction can be achieved by implementing the first principle of instruction in teaching and learning (Merrill, 2006; Thomson, 2002; Frick et al, 2007). This model of first principle of instruction of Merrill is based on a constructivism theory as a theory of teaching and learning.

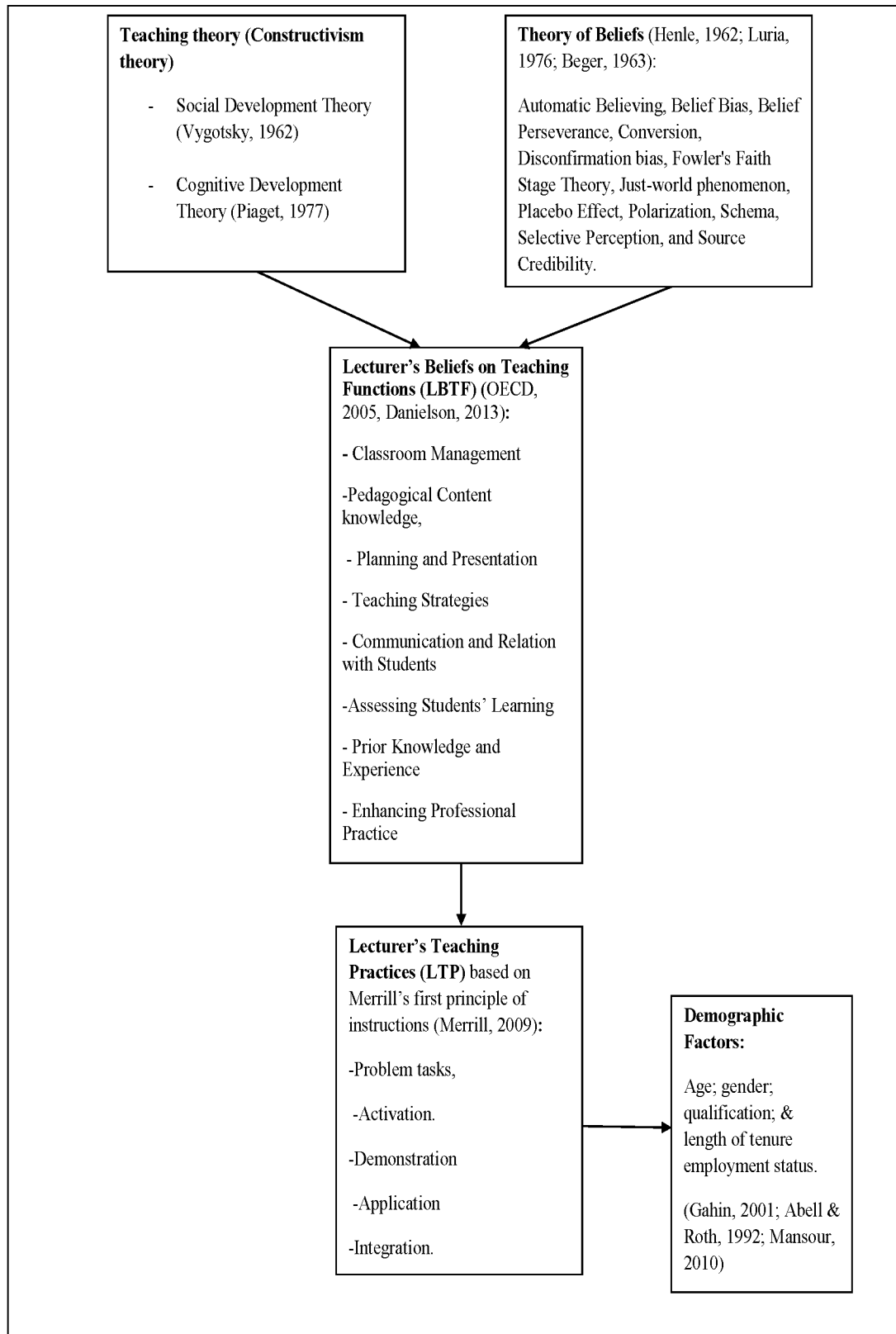


Figure 1.1: The research theoretical framework

1.11 Conceptual Framework

The conceptual framework of this research as shown in Figure 1.2 presented the proposed relationships between the LBTF as an independent variable, LTP as a dependent variable and demographic factors as moderating variable. The conceptual framework provides researchers with an ability to move beyond descriptions of 'what' to explanations of 'why' and 'how'; a means of setting out an explanation set that might be used to define and make sense of the data that flow from the research question; a filtering tool for selecting proper research questions and related data collection methods; a reference point and structure for discussing the literature, methodology and results; and the boundaries of the work (Maxwell, 2004 and Vaughan, 2008; Miles and Huberman, 1994).

The independent variable consisted of Lecturers' Beliefs on Teaching Functions (LBTF) including classroom management, pedagogical content knowledge, planning and presentation, teaching strategies, communication and relation with students, assessing students' learning, prior knowledge and experience, enhancing professional practices. The dependent variable refers to the Lecturers' Teaching Practices including problem tasks, activation, demonstration, application and integration. The moderator variable is the lecturer demographic information such as age, gender, qualification, length of tenure, employment status. The moderator variable of demographic factors was used to investigate how it significantly could moderate the influence of LBTF as an independent variable on LTP as a dependent variable in this research. Baron and Kenny (1986) further stressed that the moderating variables moderate the effect of independent variable on the dependent variable. The moderating variable serves to clarify the nature of relationship between the independent and dependent variables (MacKinnon, 2008). Moreover when most causal or structural models are examined, the moderating part of the model is the most interesting part of that model (Kline, 2005; Byrne, 2010; Kline, 2011).

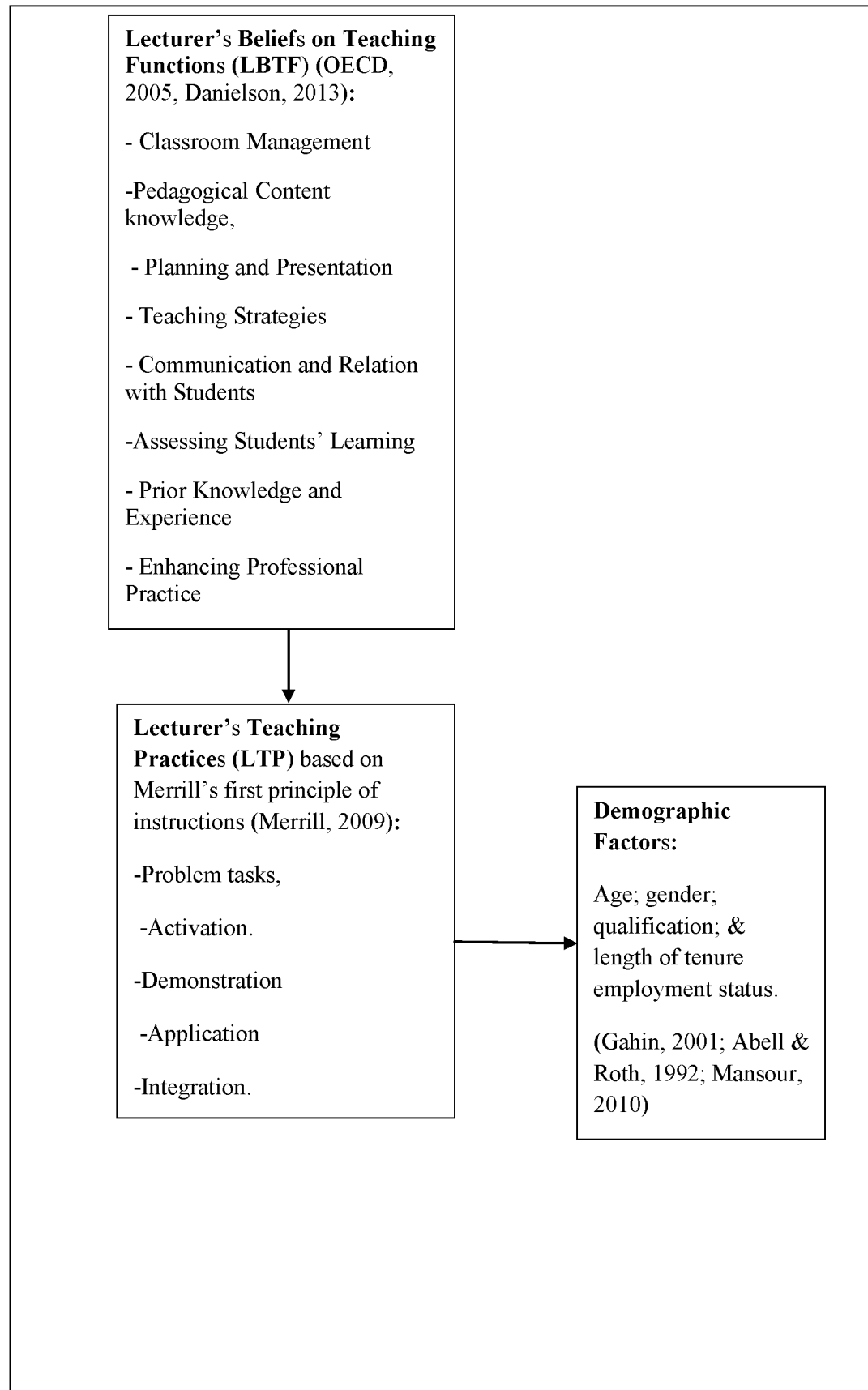


Figure 1.2: The research conceptual framework

1.12 Summary

This chapter has covered the background of the research, statement of the problem, aim of the research, research questions, significance of the research, constraints of the research and definition on specific terms and concepts of the research. Therefore, the purpose of the research described in this research is to develop an instrument to measure the lecturers' beliefs on teaching functions and practices. This research focuses on the relationship between lecturers' beliefs on teaching functions and practices, and the influence of the demographic factors on lecturers' teaching practices.

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