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**Implications of the Improvement of Teaching Quality
for Professional Development (PD) of Academics at
the Colleges of Applied Sciences (CASs) in the
Sultanate of Oman**

A thesis

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of the requirements for the degree

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Abstract

The Oman Accreditation Council (OAC), which is called later the Oman Academic Accreditation Authority (OAAA), designed a higher education institution (HEI) Quality Assurance (QA) framework for Omani public and private Higher Education Institutions (HEIs), starting with a quality audit process in 2008. The Colleges of Applied Sciences (CASs), as a public HEI, are required to ensure the quality of all services and activities to meet particular national standards (specified in the framework) in order to gain a HEI and programme certificate. In line with a quality audit scope, the quality of the fields of PD and related teaching quality should be ensured and enhanced by the promotion and contribution of the former field to the maintenance and improvement of the latter one.

The chief purpose of this study was to identify the uptake and implications of the growing requirement to improve teaching quality and the PD of academics at the CASs in the Sultanate of Oman especially in the context of the application of the QA framework. The study focused on examining the academics' participation in professional development programmes (PDPs) and current perceptions of PD with respect to the improvement of teaching quality improvement at these colleges. The current study also dealt with a reorganization and prioritization of academics' PD needs, barriers to effective PD, and factors to enhance PD of academics regarding teaching quality improvement in the colleges.

Based on the purpose and research objectives, the current study adopted both positivist (quantitative) and interpretive (qualitative) research paradigms. Because the study perused quantitative and qualitative data regarding certain variables, it

chose a mixed-research design. The researcher designed survey questionnaire to collect quantitative data and a semi-structured interview and a focus group discussion to probe and interpret quantitative findings. After fulfillment of the validity and reliability measurements, a self-completion questionnaire was distributed to a stratified random sample of academics (170) over the six CASs. A total of 150 questionnaires (out of 170) were completed and returned and the response-rate reached 88.2%. The quantitative data was analyzed by appropriate analysis using the Statistical Package for Social sciences (SPSS), while the qualitative data was analyzed by appropriate qualitative analysis.

The findings of the study showed that the level of academics' participation in PDPs to improve teaching quality in the last two years in the CASs seems to be unsatisfactorily low. The current perceptions of the PD situations in the colleges, relating to teaching quality improvement, signified a shortage in the number of available PDPs and/or a discouragement of academics' participation in these programmes in the last two years. The study also revealed all the 22 PD needs of academics regarding the improvement of teaching quality are significantly demanded by participants; the higher rated needs focused on a development of 'student centred' skills, such as critical thinking and problem-solving skills.

Furthermore, the study illustrated that the highest significant perceived barriers to effective PD in the CASs, as related to teaching quality improvement, focus on a lack of a clear institutional PD policy and a lack of appropriately systematic PD plans. The study also revealed all 10 perceived factors to enhance PD regarding teaching quality improvement are very important. The most significant factors represented and stressed particular problematic issues (the high rated barriers) and

a reduction of a heavy workload to enhance academics' participation in PD regarding the improvement of teaching quality.

Conclusions drawn from the discussion of the findings of study include a lack of a clear PD policy at national and institutional levels and absence of a particular authority/unit concerning PD issues in Omani HEIs. The two problematic issues resulted in a lack of systematic and realistic PD plans in the CASs, involving a lack of academics' involvement in PD plans, a misconnection of academics' PD needs to PD, inappropriate facilities and resources allocation, and inappropriate evaluation processes of PD. In addition, the conclusions also include that PD of academics regarding the improvement of teaching quality in the colleges requires more attention and focus to manage particular significant issues perceived by participants as both barriers and potential facilitators relating to PD of academics.

Based on identified conclusions, particular implications for policy and practice to enhance PD to improve teaching quality were set at three levels: governmental, institutional, and individual. Moreover, achievements of the current study according to the research questions were identified and contributions of the study to the fields of PD, teaching quality, and the context of QA and quality audit in HE were addressed. Based on the findings and conclusions, particular directions and recommended issues were suggested to be studied by further research to benefit the enhancement of PD and related teaching quality improvement.

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List of Acronyms and Abbreviations

ANOVA	Analysis of Variance
CAS	College of Applied Sciences
CASs	The College of Applied Sciences
CQI	Continuous Quality Improvement
GCC	The Gulf Cooperation Council
GDP	Gross Domestic Product
HE	Higher Education
HEI	Higher Education Institution
HEIs	Higher Education Institutions
HR	Human Resource
HRD	Human Resource Development
ICT	Information and Communication Technology
IMCO	International Maritime College of Oman
INQAAHE	The International Network for Quality Assurance Agencies in Higher Education
ISO	The International Organization for Standardization
IT	Information Technology
JUSE	The Union of Japanese Scientists and Engineers
LSD	Least Significant Difference Test
MoE	Ministry of Education
MoHE	Ministry of Higher Education
NZTEC	The New Zealand Tertiary Education Consortium
OAC	Oman Accreditation Council
OAAA	Oman Academic Accreditation Authority
OQN	The Oman Quality Network
PD	Professional Development

PDPs	Professional Development Programmes
QA	Quality Assurance
QC	Quality Control
QE	Quality Enhancement
QF	Quality Feasibility
QM	Quality Model
ROSQA	Requirements for Oman's System of Quality Assurance
SPSS	The Statistical Package for the Social Sciences
SQM	Strategic Quality Management
SQU	Sultan Qaboos University
TNA	Training Needs Analysis
TQM	Total Quality Management
UNESCO	United Nations Educational, Scientific and Cultural Organization

Chapter One

Introduction and Overview

Introduction

The current study focuses on the issue of teaching quality improvement and related professional development (PD) of academics in the Colleges of Applied Sciences (CASs). It explores the implications of the improvement of teaching quality for PD of academics in these colleges. In this chapter, the introduction and overview of the study are provided to understand the layout of the research problem. The following section discusses the background of the study.

1.1 Background of the Study

Higher education (HE) is a critical sector in society for economic and social developments and has encountered many changes in the latter part of the 20th and early 21st century. These changes can involve, but are not limited to an unstable economy, advanced technology, knowledge explosion and lifelong learning. According to Wilms and Zell (2003), “Rising costs, uncertain revenues, exponential growth in student demand, questions of quality, and an explosion of new technologies are forcing colleges and universities up a steep learning curve” (p. 16). Therefore, higher education institutions (HEIs) must take into account these real challenges and make great efforts in order to meet the expected needs of individuals and societies.

HEIs find themselves under a strong pressure to respond to accelerating changes in a modern society in order to enhance their educational services. The evolving

nature of academic work and innovations in teaching/learning put more emphasis on the improvement of teaching quality. In fact, HEIs have been recently forced to apply quality and quality approaches in order to take advantage of educational advances and improve teaching and learning processes. Rose and Kumar (2006) assert, “Indeed, quality education is being regarded as one of the basic necessities to give the nation the knowledge, skills, and competencies to meet the challenges brought by globalization and information and communication technology (ICT)” (p. 32). To maintain and enhance quality education, universities and colleges worldwide have adopted new approaches, such as Quality Assurance (QA) and Total Quality Management (TQM).

The adoption of new approaches in HE, in order to improve teaching quality, has paid more attention to sustaining the PD of academics. In other words, the improvement of HE teaching requires PD of faculty members, who are concerned with teaching. Kent (2004) stresses, “For professional growth, teachers must stay current in best teaching practices and overall improvement in program quality” (p. 428). Kuptarnond (2000) also believes that professional development programmers (PDPs) provide academic staff with needed and updated skills, helping them to work efficiently. PD of academics in HEIs is currently crucial to update knowledge and practice of academics in order to maintain and improve teaching quality.

More attention paid to the PD of academics in the Omani HE has been supported by the Government’s plans for human resource development (HRD). Sultan Qaboos bin Said Sultan of Oman, in his national speeches, focuses on the

development of this sector; he considers it among high priorities to build and develop the modern country. In the annual session of the *Majlis Oman* (the Council of Oman) on 11th November 2008, the Sultan states:

Therefore, we are sparing no effort and will continue to spare no effort in order to provide our human resources with all the help they will need to develop, hone and train. We will also provide educational opportunities for them in order that they may acquire useful knowledge, the required experience and the necessary technical skills that will be needed in the labour market and as are required by the sustainable development programmes in the various fields. (Ministry of Information, 2008, para. 3)

For this reason, every Omani higher education institution (HEI) should take into consideration the investment in developing their staff, including academics.

Based on the Government's call to invest in HRD, the HEI should play a distinctive role to respond to this call and develop their human resources. Great attention should be paid to develop academic staff, in order to enhance the quality of teaching in tertiary education. Craft (2000) emphasizes, "Faced with rapid change, demands for high standards and calls for improving quality, teachers have a need, as never before, to update and improve their skills through professional development" (p. 6). By focusing on and connecting PD of academics to the improvement of teaching quality, HEIs are able to enhance the quality of teaching.

The CASs (as one type of HEIs in Oman with a teaching-oriented mission) considers teaching as a central role of faculty work in addition to other roles: research and service. Along with the Government's attention paid to HRD, these colleges are concerned with the improvement of the quality of faculty roles, especially teaching practices. The improvement of teaching quality entails the appropriate development of academics in order to acquire new knowledge and advanced skills. To facilitate and enhance the knowledge and skills of academics, the implications of the teaching quality improvement (for the relevant PD of academics) should be addressed in these colleges. The identification of these implications will recognize the academics' PD needs and connect these needs to proposed PDPs, address barriers to PD of academics, and classify factors to improve teaching quality and related PD.

1.2 Statement of the Problem

The CASs in Oman were changed from Colleges of Education in 2005 and concerned with graduating an Omani qualified manpower (in the majors of applied sciences) instead of Omani school teachers. These colleges have been receiving more attention from the Omani Ministry of Higher Education (MoHE) to continue their development in order to meet demands of a new workplace in Oman. The establishment of the Oman Accreditation Council (OAC) in 2001, which is "a member of the International Network for Quality Assurance Agencies in Higher Education (INQAAHE)" (Oman Accreditation Council [OAC], 2008, p. 9), requires Omani HEIs to adopt a national QA framework. Since the establishment of this Council, the MoHE has put more emphasis on the adoption of QA systems in CASs in company with the OAC's requirements.

Further, Al Bandary (2005) points out that MoHE adopted QA previously in the Colleges of Education and currently in the CASs. To gain a HEI Accreditation Certificate (as indicated in an OAC's QA framework), the institution should implement and pass the first stage: a quality audit process (self-assessment and external review) and then, should implement and pass standards assessment (the second stage).

The application of QA in the CASs assumes and requires an enormous endeavour to ensure the quality of all aspects of their activities including teaching quality, which is focused on in the current study. Because the QA initiative (set by the OAC) is targeted to maintain and develop quality, the quality of teaching in these colleges should be improved along with the instructions and requirements of such a framework. Moreover, each of the six colleges must pay attention to the improvement of teaching quality, as well as other services, before the application of a quality audit, involving a self study of activities and an external panel review. Carroll, Razvi, Goodliffe, and Al-Habsi (2009) state, in this regard, that a quality audit for Omani HEIs focuses on "...evaluating the effectiveness of an institution's quality assurance and quality enhancement processes against its own stated goals and objectives, as well as requirements set by government and other external sources..." (p. 22).

In addition to the application of QA in the CASs and the requirements of a quality audit, the improvement of teaching quality will inevitably create potential implications for the PD of academics. Doring (2002) argues, "...changes such as gaining university status or the quality assurance process affected the priorities of many academic staff" (p. 141). These changes in

universities may create a need to develop skills and knowledge of academics in order to improve teaching practices and meet the requirements of educational changes. QA and quality audit underline the enhancement of teaching quality and hence, a development of faculty members who are concerned with a teaching role. Karagiorgi and Symeou (2006) also emphasize that teacher training worldwide (as an aspect of faculty development) has been critically influenced by some factors, such as the need for quality education.

Therefore, particular implications of the improvement of teaching quality on the PD of academics should be addressed in the CASs. Although little research in Oman focuses on this specific issue in the CASs, a few available studies refer to some findings and recommendations related to some situations of PD and/or teaching in these colleges and other Omani HEIs. For example, Al-Senaidi, Lin, and Poirot (2009) examined academics' perceptions about barriers to the adoption of technology in teaching in the CASs and concluded the degree of barriers is moderate, and more time and training are necessary for faculty to update their knowledge and skills in adopting technology in teaching. Al-Rabiey (2002) also found that the academics' implementation of instructional technology in their teaching in the colleges is below the expectations despite their positive attitudes toward its use. In addition, AlKeyoome (2002) advocated the adoption of TQM in these colleges requires a preparation for a quality culture to encourage staff to improve their academic and administrative roles. From the above, the first two studies revealed an insufficiently moderate level of adopting technology in teaching practice and more attention and training should be pointed to improve this adoption; the third study advocated more effort to

create a quality culture among staff to fulfill the adoption of TQM in staff practices.

Furthermore, the limited research currently available suggests that other Omani HEIs must focus on the improvement of PD of academics in order to improve the quality of teaching and learning. For instance, Al-Musawi (2008) pointed out that PDPs conducted at the Sultan Qaboos University (SQU) need improvements in their planning, implementation, and evaluation; he concluded that these programmes must be proposed to improve teaching and learning. Al-Kaabi's (1995) study also revealed that there is a lack of planning for PD and training at SQU; the study proposed a training approach to facilitate staff development and a transformation of the university to become a learning organization. The two mentioned studies recommended a need for particular improvements in emerging PDPs at the SQU.

The current study intends to build on the findings and recommendations of the few available studies addressing the status of PD and teaching quality in the Omani HEIs. The focus in this study is placed on issues relating to teaching (a core role of academics as stated in the goals and mission of the CASs) rather than the other roles of research and service. The focus on teaching quality is because of its importance as a highest priority of academics' roles in these colleges. Moreover, this study concentrates on issues concerning the improvement of teaching quality and related PD of academics, which were raised by the previous few studies. Those available studies revealed some drawbacks in teaching practices and PD in Omani HEIs. Some recommendations of those studies also suggested further research for teaching

and PD in order to improve these two critical fields in HEIs. Moreover, the researcher's academic experience in the CASs supports a need for a particular maintenance and improvement in teaching quality and related PD of academics. The current study stresses the importance of addressing potential implications of teaching quality improvement for the PD of academics.

This study, thus, is concerned with the issues of improving teaching quality and developing PD of academics in the CASs. Further, the current study supports further research, advocated by the few available studies, in the areas of the teaching quality improvement and PD of academics in these colleges. The study addresses the implications of the teaching quality improvement for the PD of academics in these colleges, based on the perceptions of academics themselves. The study deals first with recognizing the extent of the current involvement of academics in PDPs regarding teaching quality improvement. It also recognizes and classifies the expected PD needs of academics in relation to the improvement of teaching quality. In addition, the study addresses possible barriers to the PD for academics in the field of teaching quality improvement. The identification of these implications, finally, categorizes factors that enhance the PD of academics with respect to the improvement of teaching quality. The current study, therefore, will serve and contribute to the knowledge of the improvement of teaching quality and related PD of academics, particularly in the context of the application of QA in the Omani HE sector.

1.3 Purpose and Research Objectives

The main purpose of the study is to contribute to knowledge with respect to the improvement of teaching quality and related PD of academics in tertiary education. This study aims to examine the issues of academics' participation in PDPs, PD needs of academics, barriers to PD, and factors to enhance PD in the colleges. The investigation of these issues deepens understanding on how the PD of academics should be improved as a consequence of the implications of teaching quality improvement in order to improve both fields in the context of the application of quality approaches. Further, the current study proposes to help policy makers in the MoHE and administrations in the CASs to understand and improve the status of PD and teaching quality in order to develop them and thus to achieve the mission and goals of the colleges.

Furthermore, the study expands understanding on the current situation of PD and teaching quality by the investigation of the perceptions of academics to explore the implications of the improvement of teaching quality on their PD in the CASs. Thus, the sub-objectives of the current study attempt to comprehend issues of academics' participation in PDPs, academics' PD needs, barriers to PD, and factors to enhance PD; these sub-objectives can be specified as follows:

1. To provide the MoHE and the CASs with current information to explore the extent to which the CASs in Oman focus on the improvement of teaching quality in PD and to examine the extent of academics' participations in PD.

2. To undertake analysis of the academics' PD needs in the CASs with respect to the improvement of teaching quality to enable administrations in these colleges set realistic plans for PD related to the teaching quality improvement.
3. To help administrations in the CASs and Omani HEIs investigate and understand the possible barriers to the PD of academics in order to propose appropriate solutions to tackle these obstacles and hence, to improve teaching quality and related PD.
4. To gather real data for administrations in the CASs and Omani HEIs regarding key facilitators to enhance the PD of academics with respect to the improvement of teaching quality to set and facilitate an appropriate plan to improve teaching quality and PD in the future.
5. To benefit tertiary education in Oman in recognizing relevant issues regarding the improvement of teaching quality and related PD to develop them along with the principles of quality approaches, such as QA, TQM, and quality audit.
6. To set a base for the fields of teaching quality improvement and related PD in Omani HEIs in order to develop them via further research in harmony with educational innovations and developments locally and globally.

1.4 Research Questions

The study is concerned with studying a central role of academics in the CASs (teaching-oriented HEIs), teaching rather than research and service, and thus the research questions focus on issues regarding the improvement of teaching quality and related PD of academics. The aim of the current study is consistent with the vision of the CASs to maintain and improve the areas of PD and teaching quality in order to ensure their quality based on a QA framework and a quality audit process. The study seeks to address the current situation of the PD, as perceived by academics, concerning the issues of academics' participation in PDPs, PD needs of academics, barriers to PD, and factors to enhance PD in these colleges. The key question in the current study is concerned with 'What are the current perceptions of PD of academics in the CASs in relation to the improvement of teaching quality?' The study attempts to answer the mentioned key question by addressing the following questions:

- 1.** What is the extent of the academics' involvement in current PDPs related to the improvement of teaching quality in the CASs in Oman?
- 2.** According to the academics' perceptions, what are the PD needs of academics in the CASs regarding the improvement of teaching quality?
- 3.** Do academics' PD needs in the CASs related to the improvement of teaching quality vary significantly according to the variables of - gender, qualifications, experience, and specializations?

4. According to the academics' perceptions, what are the potential barriers to PD for academics in the CASs regarding the improvement of teaching quality?
5. Do the potential barriers to the PD of academics in the CASs vary significantly according to the variables of - gender, qualifications, experience, and specializations?
6. According to the academics' perceptions, what are the factors to enhance PD for academics in the CASs related to the improvement of teaching quality?
7. Do the factors to enhance PD for academics in the CASs regarding the improvement of teaching quality vary significantly according to the variables of - gender, qualifications, experience, and specializations?

1.5 Significance of the Study

The identification of the implications of the improvement of teaching quality for the PD of academics has been essential to ensure the quality of teaching and related PD in the context of accelerating changes and adopted quality approaches in HEIs. The identification of these implications is needed in the CASs, especially as they apply a QA framework and a quality audit process which require a facilitation and development of teaching quality and related PD. Therefore, the current study is important for several reasons.

First, the current study focuses on PD for academics and teaching quality improvement and these issues stress the attention paid by the government's

vision and policy regarding HRD. In the annual session of *Majlis Oman* Sultan Qaboos of Oman stresses a concentration on HRD by improving performance and capabilities and enhancing their creative talents and scientific qualifications as a foundation of progress (Ministry of Information, 2008). The government's attention paid to the HRD is indicated in this study, focusing on the improvement of PD for academics and teaching quality in the CASs. The study is concerned with a development of HE academics (as a vital human resource (HR)) through the identification of the participation level in PD, academics' PD needs, barriers to their PD, and factors to enhance their PD. This identification will serve and support the development of the academics professionally in HEIs to improve teaching quality as a core part of academic work.

Second, the adoption of a QA approach in the CASs is supposed to make some changes and require developments in the roles of the academic staff. Weinrauch (2002) argues that "Higher education is going through some tumultuous changes. These changes are culminating in both challenges and opportunities for business professors" (p. 81). Because teaching is regarded as a central role of faculty members in the CASs, this role should be developed along with the requirements of quality improvements demanded by a QA approach. In this study, the academics' PD needs in terms of challenges of the adopted approach will be identified by the academics themselves to explore reasonable and real needs relating to teaching quality improvement. The identification of these needs will be beneficial for the CASs' effort to improve teaching quality and related PD and thus, will fulfill the vision of a QA framework.

Another reason why this current study is important is the exploration of the possible implications of the teaching quality improvement for the PD of academics. According to Wetherill, Burton, Calhoun, and Thomas (2001/2002), faculty members must be supplied with relevant training and PD if HEIs desire to improve the quality of teaching and student achievement. For this reason part of the objectives of this study is to develop a better and more critical understanding of the nature of any connection between PD and teaching quality improvement. The study will investigate the current perceptions of the PD for academics in the CASs to identify potential weaknesses in PD and teaching quality as well. Therefore, the study will set a foundation for what the colleges' administrations can do to enhance teaching quality and PD consistent with both approaches of QA and quality audit.

Finally, hardly any available studies deal with the improvement of teaching quality and PD in the CASs in the context of a QA application. Further, relevant documents and writings in Oman have not yet developed a critical comprehension of any relationship between the improvement of teaching quality and the PD for academics. Thus, the current study can be considered as an essential addition to the sparse research in issues of teaching quality and PD in Oman, especially within the context of QA and quality audit. The findings of the study would benefit administrative efforts on the enhancement of teaching quality and the PD of academics in the CASs before the implementation of the second stage in a QA framework: standards assessment. The study also will set the base for future research in the areas of teaching quality and related PD of academics in the light of the findings and recommendations.

1.6 Research Approach

According to its purposes, the current study seeks to contribute to the knowledge concerning the issues of teaching quality improvement and related PD by investigating academics' perceptions. To answer research questions and to interpret quantitative findings, both positivist and interpretive research paradigms were adopted. The quantitative and qualitative approaches were used involving a self-completion questionnaire to collect quantitative data and a semi-structured interview and a focus group discussion to collect qualitative data. After the measurements of its validity and reliability, the researcher employed the survey questionnaire (designed by himself) to collect relevant data. The final draft of the questionnaire consisted of 46 items, with a five-point Likert scale, containing a cover letter, instructions, and definitions of terms and covering three sections: *section one*, demographic information (five questions); *section two*, academics' PD needs (22 items); *section three*, barriers to PD (14 items); and *section four*, factors to enhance PD (10 items).

The target population for the study involved all academics (427) who teach the majors of English Language, Business, Communication, Design, and Information Technology (IT) in the six CASs in Oman in the academic year 2009/2010. A 40 percent (170 academics) stratified random sample size of the total number of population in the colleges was chosen and the response-rate reached 88.2% (150 respondents of the sample size). To take into account any ethical consideration, Waikato University's Human Research Ethics Regulations was reviewed and applied and an authorization letter to gain approval to conduct the survey was submitted to the Director General of the Colleges of Applied

Sciences in Oman. In order to answer research questions, a descriptive statistical analysis by the Statistical Package for Social Sciences (SPSS) was used to analyze quantitative data and an appropriate qualitative analysis was used to analyze qualitative data. The features of methodology and research design will be discussed thoroughly in chapter four.

1.7 Outline of the Thesis

This thesis is organized into eight chapters, in addition to references and appendixes. This chapter has provided an introduction to the study describing the background and research problem, the purpose and research questions, and significance of the study. The following chapter presents an overview about the Sultanate of Oman and the history and development of the HE system and the CASs. Chapter three reviews literature and previous studies related to teaching quality and PD and relevant issues in HE (such as quality, quality approach, and teaching/learning). Chapter four displays and justifies the methodology and research design for the current study. Chapter five presents and describes the findings of the study according to the statistical analysis of research questions. Chapter six discusses and relates the findings to literature and previous studies with a focus on a real situation of teaching quality and PD in the Omani HE context. Chapter seven draws conclusions from findings and provides particular implications for policy and practice. The final chapter summaries what has been achieved in the study and contributed to knowledge and provides directions for future research based on key themes included in the study.

Chapter Summary

In this chapter, the background of the study and state of problem were described. Then, the purpose and research objectives, in addition to research questions were stated. Following that, the significance of the study was addressed by indicating the justifications and research contributions to the fields of teaching quality and PD of academics. An overview of the methodology and research design for the study was presented. Finally, the thesis outline indicating eight chapters was briefly displayed. The following chapter provides an overview about the establishment and development of HE in the Sultanate of Oman.

Chapter Two

Higher Education in the Sultanate of Oman

Introduction

The study examines the current perceptions of the teaching quality improvement and related implications on the PD of academics in the CASs in the Sultanate of Oman. This chapter presents certain topics related to the establishment and development of the HE sector in Oman. First, this chapter provides, in general, an overview of the Sultanate of Oman, followed by the history and development of the Omani HE system. The chapter also outlines the establishment and development of the CASs in Oman. Finally, the chapter also discusses the issues of the improvement of teaching quality and related PD of academics in these colleges. The following section presents the overview of the country: Sultanate of Oman.

2.1 The Sultanate of Oman

The Sultanate of Oman is a developing country and a member of the Gulf Cooperation Council (GCC) which consists of, in addition to the Sultanate, the countries of: the Kingdom of Bahrain, Kuwait, Qatar, the Kingdom of Saudi Arabia (KSA), and the United Arab Emirates (UAE). According to the Ministry of Information (2009), Oman has an area of 309,500 square kms covering a varied range of landscape, such as mountains, fertile plains and dry deserts. “Oman lies on the Tropic of Cancer in the extreme southeast corner of the Arabian Peninsula, covering an area (between latitude 16.40 and 26.20 degrees

north and longitude 51.50 and 59.40 degrees east), of major strategic importance” (Ministry of Information, 2006, p. 12).

Oman has an ancient history and has made broad relations with old civilizations, such as China and the United States. In other words, Oman is old as history and over the ages it has contributed to human civilizations by its important relations with the United States, China, Britain, France, and others (Ministry of Information, 2009). The Ministry of Information (2006) states that “...archaeologists have shown that civilization flourished in the area of modern day Oman at least 5,000 years ago and probably before, albeit under a series of names, the best known being Majan or Megan, and Mezoun” (p. 29). The name of ‘Majan’ refers to ancient copper mines in Oman and ‘Mezoun’ refers to the word ‘*Muzn*’ which means abundant flowing water, while ‘Oman’ (the current name of the Sultanate) is derived from ‘Uman’ (the Arab tribes who came from Uman region in Yemen). In fact, the old names of Oman stress the longevity of Oman civilization and its significant relations with ancient civilizations.

A foremost phase of social and economic developments in Oman dated from 1970. On 23rd July 1970 the Sultan Qaboos bin Said became the Sultan of Oman. Prior to 1970, “The country had only few basic roads, a tiny number of schools and little in the way of medical care; its people were poor and disadvantaged” (Ministry of Information, 2006, p. 31). Sultan Qaboos has promised to develop and transfer the Sultanate to be a modern country and to work for returning the historical status to Oman. This promise has been notably achieved through varied developments in different sectors of life throughout the country over the last 40 years. For example, while there were only three simple

schools before 1970, there are now over a thousand schools, one public university, few private universities and a number of public and private colleges in Oman.

The Sultanate, whose capital is Muscat, has eleven governorates as an administrative division: *Muscat, Dhofar, Musandam, Al Buraimi, Al Dakhiliyah, Al Batinah North, Al Batinah South, Al Dhahirah North, Al Sharqiyah North, Al Sharqiyah South, and Al Wusta*; these governorates consist of 61 districts or *wilayats* and twelve regional centres (Ministry of Information, 2002). The religion of Oman is Islam and the language is Arabic with a wide spread use of English in the sectors of education, the workplace, and the economy. The climate in Oman is generally hot and humid in Summer and moderately cold in Winter. The total population of Oman in 2008 was around 2.8 million people (the number of Omani people is about 2 million) (Ministry of Information, 2009). The Omani Government pays particular attention to distributing a social and economic development throughout the eleven governorates.

One of the most important objectives of the comprehensive development of the Omani government is the establishment of a modern country with different modern state institutions. “The Basic Law of the State [Oman], promulgated on 6th November 1996 and comprising 81 articles lays down a legal framework of reference governing the functions of the different authorities and separating their powers” (Ministry of Information, 2006, p. 54). According to the Ministry of Information (2006), the State’s organizational framework consists of: the ‘Sultan Qaboos bin Said’ (Head of State), ‘the Council of Ministries’, ‘the Defense Council’, ‘the National Security Council’, ‘the Financial Affairs and

Energy Resources Council', 'the Supreme Judicial Council', and 'Higher Committees, Secondary Councils and Public Authorities'. These different councils have been established by the government to apply and manage a comprehensive development all over the Sultanate.

Development of the economy in Oman has been considerably encouraged by the Omani government since the First Five-year Plan started in 1976. The main source of the national income is oil production in addition to other sources, such as natural gas production, mining, and tourism. The Ministry of Information (2006) reports that "The long-term development strategy (1996-2020) established a stable, all-inclusive framework for the Omani economy that provided for steady growth and a calculated improvement in the individual citizen's share of the national income" (p. 198). The Omani Gross Domestic Product (GDP) reached about 23 million Omani rial in 2008 (Omani Rial= US\$ 2.60), while the total government revenue and total public expenditure, in the same year, equal 7,984.5 and 6,403.4 million Omani rial (Ministry of Information, 2009). The government plays a major role in diversifying the resources of the economy in order to increase the Omani national income.

The education system, of course, has received great attention from the Omani government in order to improve the life of the public and status of the country. Prior to 1970 there were only three public schools of education enrolling about 507 students. However, recently, the Omani education system has developed to include various types of schools such as public schools (basic education: grades 1-10, and post basic education: grades 11, 12); private schools (including pre-schools, basic education schools, and international schools); and special schools.

According to the Ministry of Information (2009), the statistics of the academic year 2008/2009 illustrate that the total number of students reached 541,436 in a total number of 1,050 schools in Oman, and the number of teachers totaled 43,672. Education in Oman has been receiving more attention from the government to meet accelerating numbers of Omani students.

2.2 History and Development of the HE Sector

HE in Oman has developed rapidly because of the Sultan's interests in developing the Omani human resource with much needed skills in the workplace. In reality, there was no secondary and post secondary education (a higher education level) in Oman before 1970. Later, the Omani government has paid more attention to developing the education system and building more schools throughout the country in preparation for the next stage: tertiary education. Carroll and Palermo (2006) states, "The 1970s and 1980s were marked by the development of government-run colleges, primarily offering vocational (up to certificate level) and technical (up to undergraduate diploma level) programs" (p. 2). The government puts more emphasis on developing the Omani HE system to provide the workplace with a required workforce.

HE system in Oman has experienced a modern phase, especially when SQU commenced in 1986 based on the Sultan's directions. Al Shmeli (2009) reports that SQU started with a few hundred students, but this number has exceeded tens of thousands over the past 23 years; the current number of students enrolled in the university is about (17,000). According to the Directorate General of Private Universities and Colleges (2008), SQU has nine colleges, namely

Education, Arts and Social Sciences, Engineering, Agriculture and Marine Sciences, Sciences, Medicine and Health Sciences, Commerce and Economics, Law, and Nursing. These colleges provide four levels of degree certificates (PhD, Master, Bachelor, and Diploma). Following the establishment of SQU in 1986, many public HEIs were established under different ministries, such as Colleges of Education (under the MoHE), Technical Colleges (under the Ministry of Manpower), and Nursing Institutes (under the Ministry of Health).

Further, Omani private HEIs have been established to serve HE students and equip graduates with new and required skills for their careers. Carroll and Palermo (2006) demonstrate that in order to provide sufficient HE for increasing numbers of Omani students, in the mid 1990s, the Omani government began to establish private HEIs and imported credible degree programmes from foreign countries such as the UK and Australia. Al shmeli (2009) states that from one private college in 1995, Oman now has 24 private HEIs, enrolling (33,5210) students based on statistics for March 2009; few private HEIs will be established in the near future. Al shmeli confirms that Oman in 2009/2010 has more than 60 HEIs which provide diplomas or degrees; public institutions report to different ministries or agencies and totals two-third of the percentage of both types of HEIs (Table 1). Table 1 illustrates numbers and types of public and private Omani HEIs which are under the jurisdiction of different ministries.

Table 1: Government and Private HEIs in the Sultanate of Oman

Under the jurisdiction of	Higher Education Institution
Independent (1)	Sultan Qaboos University (Government)
Ministry of Higher Education (30)	(6) Colleges of Applied Sciences (Government)
	(5) Private Universities
	(19) Private Colleges, two of which are designated as University colleges
Ministry of Manpower (7)	(1) Higher College of Technology (Government)
	(5) Colleges of Technology (Government)
	Oman Tourism College (Private)
Ministry of Health (16)	(11) Nursing Institutes (Government)
	(5) Health Science Institutes (Government)
Ministry of Defense (5)	(4) Academics/Training Centres and the Command and Staff College (Government with restricted admission)
Ministry of <i>Aqaf</i> and Religious Affairs (1)	The Institute of <i>Shari'</i> a Sciences (Government)
Royal Oman Police (1)	The Royal Oman Police Academy (Government, with restricted admission)
Central Bank of Oman (1)	The College of Banking & Financial Studies (Quasi-Government)

Source: Al Shmeli (2009, p. 3)

To meet a growing number of Omani students, the Omani Government also provides them with internal and external scholarships. Scholarships are provided annually by the government to Omani students to pursue their graduate and postgraduate studies overseas, such as New Zealand, Australia, the UK, the USA, Canada, and Germany. In addition, “The government also awards scholarships for private university and college courses within the Sultanate to

the sons and daughters of families on social security benefits” (Ministry of Information, 2006, p. 141). In the academic year 2007/2008, there were (1,021) Omani male and female students enrolling in the programmes of external scholarships and fellowships, and (2,421) internal scholarships provided to Omani students of families on social security benefits and with hardship cases (Ministry of Information, 2009). By providing internal and external scholarships, the government is able to help Omani students gain graduate and post-graduate certificates.

Currently, Omani HEIs provide different local and international degree programmes. Carroll et al. (2009) affirm, “in addition to local diploma and degree programmes, there are now over 200 diploma and degree programmes currently on offer in Oman, sourced from over a dozen countries” (p. 18). These varied programmes are supposed to meet the developments in industry and the economy in Oman. Al shmeli (2009) believes that in the past few years, the most significant progress in Omani HE is “increasing diversification of program offerings, both through new specialized institutions such as IMCO (the International Maritime College of Oman)...and through changes and additions to the spectrum of programs offered by established colleges, including the Colleges of Applied Sciences” (p. 3). It is clear that HEIs in Oman attempt to diversify their programmes and majors to fulfill the requirements of rapid industrial and economic developments.

To ensure the quality of HE in Oman, the government has concerned with the establishment of a national QA framework. Carroll and Palermo (2006) point out that in addition to importing higher educational opportunities, Oman

imported different QA systems, “including wide variances in standards, data, approval mechanisms, transnational quality assurance mechanisms and transparency” (pp. 2-3). The development of increasing public and private HEIs in Oman with importing educational programmes and different QA systems requires an accreditation for these institutions by developing a national QA framework. According to Goodliffe and Razvi (2008), QA in Oman has been developed through three phases: first, the establishment of public institutions in the seventies and eighties to offer post-secondary education and the government supervises them to ensure quality of programmes; second, the establishment of locally private colleges and universities and the MoHE supervises them to assure their affiliation to foreign HEIs; third, the establishment of the OAC in 2001 to externally manage QA of Omani public and private HEIs. The Omani QA system has been developed through different periods but the third stage (in 2001) is considered as the most important one because of the establishment of an independent organization (OAC) for external QA in Oman.

Since its establishment, the OAC has paid more attention to setting appropriate policies and frameworks to develop national QA for Omani HEIs. The Directorate General of Private Universities and Colleges (2008) reports, “On 27th June 2002, the Oman Accreditation Council (OAC) was established as per the Royal Decree No: 74/2001” (p. 3). The OAC, which is a member of the INQAAHE, carries out particular procedures and processes to develop a comprehensive national QA to assure quality in both public and private HEIs. For example, the OAC, by international support from 2001 to 2004, set up a framework of standards for HEIs and a programme of accreditation processes

(Carroll et al., 2009). In 2004, the OAC set out an initial version of the Requirements for Oman's system of Quality Assurance (ROSQA), specifying the framework of Oman qualifications, the classifications of HEIs, institutional standards, and programme accreditation. Moreover, "In 2006, the OAC Board commissioned an international consultant to undertake an analysis of progress to date, and to make recommendations for further development [of HEIs in Oman]" (Carroll et al., 2009, p. 18). All of the above procedures have been carried out by the OAC in order to structure a comprehensive national QA framework for public and private HEIs in Oman. In addition to the OAC's endeavour, the Oman Quality Network (OQN) was established in 2006 (which involves representatives from Omani HEIs) to manage and undertake training programmes and activities and organize conferences on quality audit and quality enhancement for HEIs.

A national QA framework for accrediting HEIs and their programmes in Oman involves two steps: Quality Audit and Standards Assessment. A HEI QA framework starts with a quality audit process (including self-assessment and external review) conducted by a licensed HEI in order to implement the second stage: standards assessment. Following the two stages, the institution whether will pass to gain an accreditation certificate or fail to be placed on probation for reassessment standards (OAC, 2008). A quality audit process has been implemented in 2008 and the second stage will be carried out in the future (maybe after 2014), after finishing the schedule of the first stage. The OAC has suggested that Omani HEIs have not been prepared yet to implement standards assessment and therefore, preferred to start with a quality audit process. As

stated in the OAC (2008), “Quality Audit involves a Self Study of the HEI’s activities, resulting in a Quality Audit Portfolio, and then external verification of that Portfolio by an external Audit Panel convened by the OAC” (p. 10). A quality audit process is a good chance for an HEI to assess the status of QA according to its stated goals (by providing a quality audit portfolio) and then to receive productive feedback from the OAC (in a quality audit report) before the implementation of standards assessment. The OAC (2008) declares that a Quality Audit scope includes every aspect that HEIs are responsible for as is detailed in (p. 2):

1. ‘Governance and Management’.
2. ‘Student Learning by Coursework Programs’.
3. ‘Student learning by Research Programs’.
4. ‘Staff Research and Consultancy’.
5. ‘Industry and Community Engagement’.
6. ‘Academic Support Services’.
7. ‘Students and Student Support Services’.
8. ‘Staff and Staff Support Services’.
9. ‘General Support Services and Facilities’.

The above list of a Quality Audit scope covers all features of HE services provided by institutions. However, the current study focuses only on the issues of teaching quality and related PD rather than others because of the purpose of the study, identifying implications of the teaching quality improvement for PD in the CASs. The second element of the scope (Student Learning by Coursework Programs) refers to teaching quality as a sub-section in the list. The scope

indicates that every HEI should pay attention to ensure teaching quality by focusing on particular issues such as, ‘pedagogic frameworks’, ‘teaching methods’, and ‘student evaluation of teaching’ (OAC, 2008). In terms of the PD for academics, this topic is included in the sub-sections of the eighth element of the scope (Staff and Staff Support Services). The OAC (2008) states that PD for academics should be updated with skill-based requirements by certain tools such as, ‘aggregated and individuals training needs’ analysis, ‘generic skills training’, ‘teacher training’, and ‘departmental seminars’. The Quality Audit scope underpins the importance of teaching quality and the PD of academics in order to ensure and improve the quality of these two critical areas.

2.3 The Establishment and Development of the CASs

A historical background of the CASs was originally based on training and graduating Omani teachers to meet accelerating demands for teachers for the school education system. The colleges were established initially as centres to offer three-year and one-year teachers training programmes for the holders of Preparatory School Certificate and Secondary School Certificate respectively. Two Teachers Colleges were established in 1983, with two-year teachers training programmes and in 1990, seven more colleges were created; two of these colleges (Nizwa and Rustaq) were upgraded to offer a Bachelor degree in 1994 (College of Applied Sciences [CAS]-Sohar, 2009).

In the mid 1990s, six Colleges of Education in different areas in Oman were established to offer four-year Bachelor degrees. The CAS-Sohar (2009) states that in 1995, the supervision of colleges was transferred from the Ministry of

Education (MoE) to the MoHE and these colleges were upgraded from 9 intermediate colleges to 6 Colleges of Education located in six areas: Ibri, Nizwa, Rustaq, Salalah, Sohar, and Sur. Al Bandary (2005) asserts that “All of the colleges [Colleges of Education] offer a four-year degree covering both specialized subject knowledge and education in pedagogy. Two of the colleges are all female, two are all male and two are co-educational” (p. 182). Al Bandary affirms that the cooperation between MoHE and MoE has remained regarding teacher professional programmes and upgrading two-year teacher training to a degree level. From their names, the Colleges of Education are concerned with graduating Omani teachers with a four-year Bachelor degree.

Over the past five years, the MoHE decided to transfer five out of six Colleges of Education to the CASs. The five transferred colleges are Ibri, Nizwa, Salalah, Sohar, and Sur; only Rustaq College of Education had been left untouched to graduate teachers in demanding subjects for the school education field. The Directorate General of the Colleges of Applied Sciences (2009) states that the Royal Decree (No. 62/2007) was issued on 3rd July 2007 to authorize the transformation and organization of the CASs. The CASs have been considered as HEIs and overseen by the Directorate General of Colleges of Applied Sciences (a managerial institution that belongs to the MoHE). The Directorate General of the Colleges of Applied Sciences (2009) reports that “In its first meeting in the academic year 2007/2008 the Board of Trustees of the CAS decided to transform Rustaq College of Education into a CAS as of the academic year 2008/2009” (p. 5). Recently, all six colleges have been

transformed into CASs and provide Bachelor degrees in certain majors of applied sciences.

A transition to the CASs has aimed to qualify appropriate Omani manpower and human resources for the mobility of jobs. This mobility has influenced the Omani workplace to attract a new workforce and professionals as a result of advanced industry. In other words, the development of industry and the economy in the Sultanate has generated new professions in the workplace and hence, has required a qualified workforce with new skills and competencies. The previous colleges (Colleges of Education) were concerned with graduating teachers to 'Omanise' the academic staff in schools. This purpose has been completely achieved in particular subjects. In addition, continuous developments, especially in business and industry, generate new professions which need qualified human resources. Academic Programmes Department (2005/2006) states that the new colleges' (CASs) purpose is to advance in "...science, technology, culture and thinking and strive to enrich the human civilization, enlarge the horizons of human knowledge, contribute to the fulfillment of the comprehensive and on-going development in the Sultanate of Oman..." (p. 1).

The CASs started their programmes of study in 2005 through new majors in applied sciences. "The first cohort of the five CAS was 1650 students in the academic year 2005/2006 and then more students were admitted every year. Rustaq CAS's first cohort was admitted in the academic year 2008/2009" (Directorate General of the Colleges of Applied Sciences, 2009, p. 5). The CASs started in 2005/2006 with four major academic degree programmes (including

sub majors) in: “1. Communication Studies: (International Media, Media Management, Digital Media, Journalism, Public Relations); 2. Design: (Digital Design, Graphic Design); 3. Information Technology [IT]: (IT Security, Software Development, Computer networks); and 4. International Business Administration: (International Business, Tourism Management, Hospitality Management)” (Directorate General of the Colleges of Applied Sciences, 2009, pp. 14-15). These new programmes and majors offered by the CASs would supply the Omani workplace with a competent new workforce.

The CASs have been paid more attention by the MoHE for the purpose of maintaining their progression and quality of services. Because of the establishment of the OAC in Oman in 2001 for the external quality assurance of HEIs and their programmes, the MoHE requires these colleges to adopt a QA framework and related procedures. The OAC, which is concerned with accrediting and ensuring quality of HE services, demands all public and private HEIs in Oman to follow a comprehensive QA approach along with national standards set by the council. The adoption of a national QA framework needs an appropriate effort by the CASs to apply the requirements of such an approach and to provide a quality audit portfolio in order to receive feedback from the OAC before the application of external quality audit by the same council. The MoHE has established a new administrative section for QA in each college to make sure that the procedures of assuring quality of services are applied and maintained along with the requirements of a comprehensive national framework specified by the OAC. In addition, the administrations of the CASs have been required by the ministry to form a particular committee concerning and

monitoring a quality audit and any process related to QA. The MoHE also collaborates with the OQN to help staff in the CASs attend seminars and training activities of a quality audit process and to participate in local and international conferences regarding QA and quality enhancement in HEIs.

Furthermore, the MoHE has prepared to expand the CASs' programmes so as to develop Omani HR for the growing workplace. The Directorate General of the Colleges of Applied Sciences (2008) affirms that the MoHE signed a contract for academic cooperation with The New Zealand Tertiary Education Consortium (NZTEC) to provide high-quality programmes in CASs and to generate highly-skilled professionals. In order to extend the range of programmes in these colleges and meet the demands of the labour market, the ministry introduced new majors, such as Engineering (Mathematical, Electrical, and Chemical) at the CAS-Sohar in September 2009 (Directorate General of the Colleges of Applied Sciences, 2009/2010). Additionally, the MoHE will sign an agreement with Aachen University of Applied Sciences in Germany in order to supply the new Engineering Programme. The MoHE also plans to offer, at the CASs, foreign language studies such as German and Mandarin (Directorate General of Colleges of Applied Sciences, 2009/2010). The CASs may introduce in the future a number of different new majors consistent with the accelerating needs of the Omani labour market.

2.4 The Improvement of Teaching Quality and PD of Academics in the CASs

Because QA is concerned with ensuring quality of services, the CASs have been requested to set up appropriate plans in order to attain the requirements of this

approach. Further, each of the six colleges must prepare a suitable environment to assure quality in their various services in order to be ready for a quality audit process. The OAC (2008) declares that a quality audit for a HEI focuses on assessing the effectiveness of the system, which is implemented by the institution, aligned with its mission and objectives; the process of quality audit involves a self study by a HEI and an external review based on national and international peers.

The scope of a quality audit is concerned with particular activities and services, including teaching quality and related PD. The current study focuses on the issues of teaching quality and PD of academics because teaching is considered as a vital academics' role and a significant objective of the CASs (a teaching-based mission institutions). The critical role of faculty and related PD requires maintenance of standards and improvement to meet the requirements of a national QA framework and to achieve a ministry's relevant vision. In fact, the findings and recommendations of the available limited studies and the researcher's experience support the required maintenance and improvement of teaching quality and related PD in the colleges. Indeed, teaching quality is provided as a subsection in section 2 of the scope (student learning by coursework programs). The OAC (2008) states in the sub-section (teaching quality), "The HEI should describe and evaluate its system for ensuring that the quality of teaching is appropriate" (p. 21). PD is also provided as a sub-section in section 8 (staff and staff support services). The statement of PD in the scope refers to the fact that "The HEI should describe and evaluate its policies, resources and processes for ensuring that staff are up to date with the

professional and skill-based requirements for their areas of responsibility” (OAC, 2008, p. 30). The two statements regarding teaching quality and the PD of academics in a quality audit scope underlines the significance of the improvements of these two important areas.

The improvement of teaching quality and PD in the CASs should be taken into account so as to achieve the requirements of QA in a teaching/learning setting. A required improvement of teaching quality is stressed by the CAS’s objective of “Continuous updating of curriculum and teaching programmes to cope with the mega paces of knowledge expansion and future challenges at the local and global levels” (Directorate General of Colleges of Applied Sciences, 2009, p. 8). The objective is directly pointed to developing teaching programmes to follow growth of knowledge and to meet local and global challenges. The Directorate General of Colleges of Applied Sciences (2009) states that among the objectives of the CASs is “Delivering new fields of learning, research and methods of teaching...” (p. 7). This aim underlines the importance of updating learning, research, and teaching methods and hence, the CASs’ should put more emphasis on the innovation and integration of these dimensions in the context of teaching/learning. In line with QA to achieve the objective of teaching, teaching quality in the CASs must be maintained and improved through different means, particularly the PD of academics.

Furthermore, the transfer of the CASs from the Colleges of Education, to provide new applied majors, requires more focus on the improvement of teaching quality and related PD. The collaboration between the MoHE and the NZTEC to provide these colleges with high quality programmes (including

learning materials) in majors of Business, Communication, IT, and Design may put a pressure on the PD for academics concerning teaching quality improvement. According to O'Rourke and Al Bulushi (2010), "Professional development is highlighted as difficulties in the delivery of the programme [focused on Communication as an example in the CASs] suggest that staff may need assistance with *how* they are teaching as much as with *what* they are teaching" (p. 202). In addition, most of academic staff in the colleges have different nationalities, particularly the Middle East ones (such as India and Malaysia), and thus they may have different backgrounds and experiences. The different backgrounds and experiences of academics in these colleges would require more attention paid to PD and training programmes concerning the improvement of teaching quality. O'Rourke and Al Bulushi (2010) argue that "The variety of backgrounds in the teaching team [in the CASs] also suggests that professional development plans should be provided to ensure a common understanding among staff on pedagogical issues" (p. 202).

Therefore, the PD for academics in the CASs must be applied and improved in order to enhance teaching quality. In fact, the objectives of these colleges include a clear statement about PD as is detailed in "Contributing to sessions for training and teaching as well as on-going education" (Academic Programmes Department, 2005/2006, p. 1). In this respect, Rowland (2002) believes because of existing different roles and relationships in an academic context, academic work needs to be formed according to the new structure. According to Kent (2004), PD is regarded as a means to put theory into practice in a teaching process; administration should effectively connect PD to the quality of faculty to

support student accomplishment. More attention paid to PD would help academics update their knowledge and skills in order to improve teaching quality and serve student learning.

The application of QA in the CASs and the requirements of a quality audit, focusing on the improvement of teaching quality will inevitably create potential implications for the PD of academics. Karagiorgi and Symeou (2006) argue that teacher training worldwide (as an aspect of faculty development) has been critically influenced by some factors, such as a need for quality education. Doring (2002) also believes, "...changes such as gaining university status or the quality assurance process affected the priorities of many academic staff" (p. 141). Despite the priorities of faculty members in HEIs, the adoption of a QA approach requires particular improvements to ensure the quality of the academic work. Among the objectives of the application of QA and related quality audit in the CASs is to ensure the enhancement of teaching quality and hence, a development of faculty members who are concerned with a teaching role.

In spite of the scarcity of research in relation to the improvement of teaching quality and PD in the CASs, there are a few studies which refer to some relevant themes. For example, Al-Senaidi et al. (2009) found there is dissatisfaction among faculty about adopting technology in teaching practices and the barriers of a 'lack of time' and a 'lack of institutional support' were perceived as the most significant barriers to this implementation. Al-Senaidi et al. recommended the CASs should emphasize PD for academics relating to technology adoption in teaching practices, and focus more on technology training and allocation of time in order to help academics gain more knowledge and practice in technology

adoption. Moreover, Al-Musawi (2007) addressed the current and future views on educational technology in Omani HEIs, including the CASs; the study revealed a need for training on educational technology and recommended intensive and systematic PDPs for staff in this area. Al-Rabiey (2002) also examined the implementation of instructional technology in the Colleges of Education (currently the CASs) and found that “several items of instructional technology were under-used by faculty, and that faculty attitudes appeared to be largely positive towards instructional technology and its use in teaching” (p. 10). The above studies advocated more attention to practicing technology in teaching and a need for more focus on relevant academics’ training.

Furthermore, one available study referred to the importance of the establishment of a quality culture among academics and other staff in order to adopt TQM in the CASs. Alkeyoome (2002) assessed the possibility of implementing particular TQM concepts in the Colleges of Education (currently the CASs); he suggested that a promotion of this implementation needs an establishment of a quality culture, which forces all staff (including academics) to achieve ongoing-improvement in the academic and administrative processes. Although the CASs did not adopt the TQM approach, Alkeyoome’s study aimed to assess the possibility of the adoption of this approach and suggested that a TQM framework needs a quality culture among all academic and administrative staff. The suggestion reflects a lack of a ‘quality’ atmosphere in these colleges, which would be needed to support the adoption of quality approaches such as TQM and QA.

It can be concluded from the above that those previous studies were carried out to address the status of the use of educational technology in teaching practices and the possibility of TQM adoption in the CASs. Even though these studies did not clearly focus on the improvement of teaching quality and related PD, they found the adoption of technology in teaching practice, to some extent, unsatisfactorily low. The previous studies also revealed that faculty members call for more training on the use of IT in teaching in these colleges. The significant recommendation of the studies was to provide concentrated and periodic PD for academics in the adoption of IT in teaching practices. Moreover, Alkeyoomi's study stressed a demand for creating a quality culture to facilitate TQM adoption in the CASs and this culture is also demanded among academics to sustain QA adoption. Therefore, teaching practices in the CASs requires more effort to be improved and related PD should be focused on how to respond effectively to the teaching quality improvement.

Other studies focusing on other Omani HEIs, such as the SQU, revealed there are some weaknesses in PD and advocated relevant further research. For instance, Al-Musawi (2008) demonstrated that in spite of academics' satisfaction with PD workshops conducted at the SQU, improvements should be attained in planning, implementation, and evaluation. Al-Musawi also concluded, "There is a need to set up a full-fledged systematic professional development program specially oriented to teaching and learning development" (p. 101). In addition, Al-Kaabi's (1995) study confirms that planning for staff development (including academics) and training was deficient at the SQU; the study developed a general approach of training in order to enable the university

to become a learning organization for its staff. Al-Ghanboosi (2002) also found the application of TQM in the SQU faces some obstacles, such as a lack of a strategic plan for employees training.

The above studies found PD in the SQU lacks a strategic plan in spite of the implementation of TQM (as mentioned in Al-Ghanboosi's study). The result stresses more attention should be paid by administration to preparing an appropriate context and monitoring the adoption of any quality approach in HEIs. These studies also concluded (as in Al-Musawi's study) a demand for carrying out PDPs in the SQU with respect to the improvement of teaching and learning, and particular improvements should be achieved in planning, implementing, and evaluating these programmes. Thus, the CASs should take into consideration the importance of preparation and setting a strategic plan and suitable environment for the adoption of QA in order to cope with any probable challenges and hence, to facilitate and fulfill the goals of this adoption to ensure a compliance with standards. The application of TQM in the SQU will help the CASs to take advantage of the implementation of quality approaches in order to set an appropriate context and avoid any predictable obstacles.

Some studies also revealed there are certain problems in teaching practices in Omani HEIs, Al-hashmi's (2002) study found "...most of faculty members [at the SQU] used educational technology without any formal knowledge or background in learning and teaching theories" (p. 3). Moreover, Al Haribi (2005) explored students' perceptions about the effect of external QA on their learning experience in Omani HEIs. Al Haribi suggested that the "...quality assurance in Omani HE needs significant improvement in two main areas;

Teaching & Learning and educational facilities” (p. 9). Al-Musawi’s (2008) study also recommends extensive endeavors in teaching research in order to enhance PDPs for academic staff. The three studies mentioned above suggest that teaching practices require improvements in some ways in order to enhance teaching quality in Omani HEIs. The need for the teaching quality improvement can also be focused on in the CASs because of the adoption of a national QA and a related quality audit process. To compliance to national standards, the colleges should follow a quality audit process (first stage in a QA framework), entailing a review and improvement in teaching quality and related PD for academics before implementing standards assessment.

Chapter Summary

From the above, it is clear that HE in Oman has radically developed since the commencement of the SQU in 1986. The establishment of OAC in Oman in 2001 influenced Omani HEIs to adopt QA to ensure compliance to national standards. A quality audit process requires HEIs to review and improve their services, including teaching quality and the PD of academics. Based on limited research regarding teaching quality and PD in Oman, particularly the CASs, teaching practices need some improvements and systematic PD should be provided to academics to improve teaching quality. In addition, existing PDPs for academics lack a strategic plan and therefore, these programmes should be supported with appropriate planning, implementation, and evaluation. The findings and recommendations of previous studies advocate the need for further research to enhance the quality of teaching and PD in Omani HEIs.

The current study fills gaps raised by the few available studies and explores academics' perceptions of the status of their PD as a consequence of the improvements in teaching quality in the CASs. Further, the study examines the current perceptions of PD, relating to teaching quality in these colleges by addressing an academics' participation level in PD, academics' PD needs, barriers to PD for academics, and factors to enhance PD for academics. This study compares the current findings with the previous studies to provide relevant recommendations and to suggest further research in order to improve teaching quality and PD in Omani HEIs. These recommendations would help the MoHE and the CASs (administration and academic staff) put more emphasis on the improvement of teaching quality and related PD to fulfill the purpose of the adoption of a national QA framework and accreditation.

Chapter Three

Literature Review

Introduction

Societies all over the world have appeared in a rapidly changing context. A context generates particular revolutions in many facets of life, such as a knowledge explosion, an unstable global economy, an advanced ICT, and a changeable labour market. This changing environment requires a highly skilled workforce and therefore, puts a pressure on HE in order to qualify new human resources to deal with these revolutions. Thus, HEIs need more consideration to improve the quality of education and meet the requirements of a modern society. To develop quality of HE, many HEIs adopt and take advantage of particular quality approaches, such as QA and TQM. The adoption of quality approaches demands a maintenance and improvement of educational activities, including teaching quality. Therefore, teaching quality should be maintained and improved in HEIs to fulfill the objectives of the adoption and prepare an appropriate learning environment. The quality of teaching will not be improved unless its implications for the PD of academics are addressed. The literature indicates relevant themes and a connection between the improvement of teaching quality and the PD for academics.

This chapter outlines a literature review, providing a theoretical framework for the current study. The framework indicates profound changes in a modern society which challenge HEIs to develop their educational services to meet

accelerating demands of society and individuals. These changes evolve the nature of academic work and put more emphasis on teaching and learning. To develop teaching and learning, HEIs adopt particular quality approaches (QA and TQM), requiring new knowledge and practice and adding more responsibilities and tasks to the academics' profession. Because teaching serves student learning, teaching quality should be improved through well-planned PDPs. HEIs' effort to improve teaching quality generates potential implications for the policy and practice of PD for academics. This literature review develops a theoretical framework for the current study and discusses related topics as follows: 1) challenges for HE in a changing world, 2) the evolving nature of academic work in HE, 3) theories and relationship between teaching and learning in HE, 4) definitions and characteristics of quality and quality approaches in business and industry, 5) the adoption of quality, QA, and TQM in HE, 6) the improvement of teaching quality in HE, and 7) the need for PD of academics to improve teaching quality in HE. The following section addresses a number of challenges for HE in a changing world.

3.1 Challenges for HE in a Changing World

In recent years, societies all over the world have encountered accelerating changes. These changes, such as advanced technology and knowledge explosion, seem to intervene in all dimensions of society and transform several facets of life. Duderstadt (2002) argues, "Clearly we live in a time of very rapid and profound social transformation, a transition from a century in which the dominant human activity was transportation to one in which communication has become paramount..." (p. 2). According to Carroll and Palermo (2006), the

future of Oman has changed, in a short age, to be a chief exporter of oil (first exports were in 1967) instead of a village-based and aqua-cultural nation. In the context of rapid and extraordinary changes, societies worldwide need to react and deal with this changeable environment. Thus this environment should be addressed and adapted to accommodate different aspects of life in the modern world. By adaptation, many sectors in society can be developed in order to meet the various needs of people.

The features of a changing world can be viewed as profound challenges for a lot of sectors. These changeable aspects of a global economy can be represented by, but not limited to, fiscal crises, political issues, advanced technology, labour market issues, knowledge society, and demographic trends. Each of these factors may significantly impact many fields of life in a modern society. One sector, that is considerably affected, is HE which has been influenced by several evolutionary changes. For example, Doring (2002) states, “There is little doubt that given the current changes taking place within universities in both Australia and the UK, the academic workplace will continue to involve ongoing change” (p. 139). The Omani HE sector witnesses some changes, such as an increase in the number of private universities and colleges and types of academic programmes and majors. As stated in Goodliffe and Razvi (2008), “Today, there are more than 60 public and private institutions [in Oman] offering over 200 diploma and degree programs” (p. 131).

Wilms and Zell (2003) claim that the global economy impacts on universities through certain factors: “Rising costs, uncertain revenues, exponential growth in student demand, questions of quality, and explosion of new technologies...” (p.

16). Salmi (2000) also demonstrates that the systems of HE have witnessed particular reforms such as new trends in funding and governance, technological advancement and evaluation, and accreditation standards. Those forces are influencing HEIs in many countries and demanding particular changes, so as to develop educational services. Vessuri (1998) argues that the HE sector has been relied on to endorse developments in a rapid and changeable social and natural context. For instance, Oman encounters a crucial challenge of providing a highly-skilled workforce because of a growing economy and escalating population; this context has put an enormous stress on the Omani HE sector to develop highly-qualified graduates (Goodliffe & Razvi, 2011).

In an increasingly competitive and uncertain global economy HEIs may be forced to reorganize their policies in order to work within more restrictive budgets. According to Burkhalter (1996), "...the world will continue to change in an economy that is reshaping education worldwide" (p. 159). The fiscal challenge for universities and colleges, as a consequence of a global competitive economy, is to be more sophisticated while facing a decline in financial support by governments. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2004), along with a decrease in public funds and reasonable economic trends, the role of a governmental fund for HE is smaller compared to the private support. However, because the Omani government considers HE as a very important investment for a national growth and social and economic developments, public HEIs are fully supported by the government's subsidies and incentives.

In the context of changeable patterns of financial support, HEIs have been obliged to generate new economic resources. Ischinger (2006) believes that universities and colleges all over the world must rely on non-state finances to develop and sustain their resources. Vessuri (1998) believes that the roles of government and HEI must be restructured with a move to more freedom and independence because of decreased funding for HE from governments. Hence, many states have emphasized marketing their HE locally and internationally in order to produce new financial resources, and solve the problem of decreased public funds. Vessuri also stresses that “Most countries appear to be seeking market-oriented economic policies and the political structures and institutions to promote and support them” (p. 381). In the case of HE in Oman, even private universities and colleges obtain annually financial support from the government, in addition to their own resources. The governmental funds encourage private HEIs to develop their facilities and programmes and to ensure the quality of educational services.

Furthermore, different governments may have different purposes and desired outcomes for HE, which create challenges for this critical sector. Rowland (2002) points out that the purpose of HE, as a present assumption, is to increase a state’s affluence, and the government strategy reveals this assumption. From this perspective, some nation states have a tendency to govern and fund universities and colleges to develop HE in order to be as a national income. Coble (2001) claims that Governors in the U.S. consider public HEIs as assistance to address the state issues, such as training and research. Coble emphasizes, “They [governors in the U.S.] seem willing to put more money into

higher education, but they are also demanding increased accountability, just as they did in the drive for public school reform” (p. 18). Similar to the U.S. situation, the Omani government completely funds the one public university and other colleges and these institutions are expected to develop their programmes and quality of services in order to meet the needs of the government and public.

However, many governments view HE as a consumption, rather than investment, requiring far more state funds. Therefore, many states attempt to reduce the level of public funds to HEIs and encourage them to generate new revenues and resources. Duderstadt (2002) claims that the public support for HE, from several governments, decreases owing to higher priority given to other social services. Thus, Kwiek (2001) assumes, “In the situation generated by the emergence of the global market, the global economy, and the withdrawal of the state..., a constant deliberation is needed about new relations between the state and the university in the global age” (p. 36). Vessuri (1998) argues that, in this sense, the government should set the principle of institutional autonomy to provide HEIs with independence in processing their issues, such as the selection of staff and students and funds allocation and expenditure. Even though the Omani government totally funds and governs public HEIs, these institutions have some degree of independence and a self-governing administration.

Another challenge for HEIs is a development of ICT and its implications for educational services progress. As Ma and Runyon (2004) point out, “The ever-changing developments in communication and IT present universities with new opportunities and challenges. Traditional universities are facing competition from nontraditional institutions that offer distance learning academic programs”

(p. 368). The revolution in ICT provides HEIs with opportunities to enhance the effectiveness of their educational processes, namely teaching/learning and research. However, technological advances put a strong pressure on universities and colleges, particularly traditional ones, to embrace such developments and compete with virtual HEIs in the rapid global market. Public and private HEIs in Oman have been obliged to update their ICT facilities and services and to train academic staff in order to meet the requirements of a national QA framework and a quality audit process set by the OAC.

Ma and Runyon (2004) assert that incorporating IT in the HE sector with the revolution of the Internet is regarded as a major challenge. As the revolution in ICT is developing rapidly, some HEIs (especially in developing countries) may not produce appropriate mechanisms and facilities to incorporate such technological advancement in the context of academic work. Fahmi (2004) claims, it is very necessary to allocate appropriate resources to put into practice new IT in order to institute any change. According to Ma and Runyon (2004), “However, at present, there seems to be a lack of consensus, both in theory and in practice, on how technology should be integrated into universities” (p. 371). Therefore, the most significant challenge for HEIs in this regard can be indicated in how to prepare various staff to use and embrace the advantages of advanced technology. HEIs in Oman have paid attention to the adoption of ICT to promote their educational activities, particularly teaching/learning. However, the implementation of technology in teaching practices in these institutions is still unsatisfactorily low and needs more attention to provide extensive and

systematic training for academic staff (Al-Musawi, 2007; Al-Senaidi et al., 2009).

A changeable labour market is swiftly evolving, requiring new skills and competences, especially in the arena of a global economy. In fact, the character of existing workplace worldwide has changed because of the emergence of new technology and the need for a high-skilled workforce. Desrochers (2006) points out that because of the modern economy, new jobs have been generated requiring employees with high professional skills. Salmi (2000) believes, “competencies such as learning to work in teams, peer teaching, creativity, resourcefulness, and the ability to adjust to change are also among the new skills which employers value in the knowledge economy” (p. 7). The Ministry of National Economy (2010/2011) reports that ‘The Vision for Oman’s Economy: Oman 2020’ proposes the establishment of a distinctive education system which achieves equity of opportunity among Omanis and reacts to the demands of the labour market.

A changeable labour market put a great pressure on HEIs to update their plans to meet the new requirements of the workplace. Desrochers (2006) argues, “Changes in the structure of work have dramatically increased the demand for higher education” (p. 3). As Yorke (1999) claims, because of the relationship between HE and the labour market, the former is under a pressure to generate effective and special workers in order to meet the requirements of a new economy. Vessuri (1998) believes that “Countries should create ‘observatories’ to monitor changes in the labour market in order to facilitate the elaboration of national educational plans and to improve the capacity of HE institutions to

align their policies with national priorities” (p. 385). The CASs in Oman, for instance, have been established to meet the new Omani workplace which requires professionals with new skills aligned with developments in the labour market.

The consequences and needs within a knowledge-based society may be also regarded as a challenge for HE. The new knowledge environment requires qualified human resources with new skills in order to deal with a knowledge revolution. Teichler (2006) states, “Consensus prevails that knowledge will determine economic growth and societal well being to an increasing extent” (p. 459). Moreover, the expansion of knowledge has generated new concepts such as ‘lifelong learning’ and ‘learning society’. These concepts focus on the notion that more attention should be paid to educating community and valuing continuing learning; HEIs should take into consideration and raise such concerns among their graduates. As Araszkievicz (1985) suggests, HEIs must qualify their students to be lifelong learners as lifelong learning becomes an essential need for all people. In the Sultanate, the government puts more emphasis on a concept of lifelong education by demanding HEIs and, even, other civil work institutions to prepare an appropriate environment, qualifying and updating all people’s knowledge and skills in order to be lifelong learners.

Duderstadt (2002) advocates the idea that the responsibility of HE will be largely widened in a new arena of knowledge advancement. Naidoo (2003) argues that “The centrality of skills and knowledge to national prosperity has led to increased control by the state and market forces over the content, process and assessment of teaching and learning” (p. 252). In the current knowledge society,

HEIs are obliged to produce operational knowledge, which qualifies professionals who are capable of dealing with industrial machines and digital devices. Muller and Subotzky (2001) assume that recently a purpose of HE has evolved to be more pragmatic, generating productive knowledge and qualifying skilled manpower. HEIs in Oman, like others all over the world, should prepare a suitable environment concerning the explosion of productive and practical knowledge in order to provide qualified and skilled graduates for a knowledge-based society.

Enrollment growth in HE is seen as a challenge for universities and colleges.

Individuals all over the world are willing to enroll in HEIs to graduate with accredited certificates; a talent pool in a changeable labour market encouraging students to qualify at universities with new skills. Coble (2001) reports that “The U.S. Department of Education says full-time college enrollment has risen 11 percent nationwide since 1990 and will increase another 19 percent by 2010” (pp. 17-18). Such an enrollment boom of university students puts pressure on HEIs to reshape their programmes and set up new and appropriate facilities.

Moreover, HEIs should hire adequate numbers of administrative and academic staff to meet the increasing number of students. Al Shmeli (2011) argues the HE sector in Oman faces a challenge “as it strives to increase the gross enrolment rate of the population aged 18 to 24...from 25 per cent in 2007 to 50 per cent by 2020” (p. 181). The increase in Omani student numbers in recent times has encouraged a private sector, with a governmental support, to establish new private universities and colleges and offer more types of programmes.

Diversity of student populations within HEIs creates a challenge for HE worldwide. Demographic trends in countries, in recent times, have produced multicultural populations based on different characteristics such as backgrounds, beliefs, languages, cultures, and religions. Those diverse people increasingly enrol in universities and colleges and thus, need particular changes in the structure and policy of these institutions in order to meet diverse needs. Kelly (1999) stresses, “One of the most promising trends in education is one that will move U.S. schools beyond token acknowledgement of multiculturalism” (p. 428). Gurin, Dey, Hurtado, and Gurin (2002) conclude that diversity should be reflected in the curricula and programmes of HEIs, as well as, the exchange of different experiences among students. For the context of HE in Oman, the mass majority of students in HEIs are still Omanis and diversity of student population cannot be regarded as a challenge in recent times.

HEIs also find themselves under a great pressure to deal with issues of sustainability inside a society or all over the world. Stephen, Hernandez, Roman, Graham, and Scholz (2008) define the concept of ‘sustainability’ as an urgent call for acknowledging a move to sustainable practices in order to cope with societal challenges, such as ‘species extinction’ and ‘social injustice’. The scholars suggest that HEIs can contribute to the societal sustainability by certain procedures, such as the promotion of sustainable activities and awareness among students and conducting relevant research to solve sustainability problems. Wende (2007) advocates the notion that HEIs should be sensitive to global sustainability by addressing the side effect of globalization, in addition to the beneficial side. The ‘Vision for Oman’s Economy’ underpins the development

of human resources with a capability of dealing with rapidly continuous changes locally and internationally (The Ministry of National Economy, 2010/2011).

Wende (2007) recommends, “They [HEIs] will also have to be responsive to the more difficult sides of globalization, for instance, problems that exist between and within countries related to migration and social exclusion” (p. 285).

From the review of challenges encountered by HE all over the world, it is obvious that the Omani HE sector has been influenced, to a large extent, by these challenges. As a developing country, the Sultanate of Oman takes into consideration the importance of economic and industrial developments in order to improve the situations of life for its citizens. Therefore, the profound challenges of a knowledge explosion, advanced ICT, a changeable labour market, and an increase in student enrolment confront HE in Oman. Like other HE sectors worldwide, the Omani HE has been demanded to deal with these challenges in order to accomplish the government’s goal in developing a modern society. It would be important for HEIs in Oman to update and develop their educational services and activities in harmony with the requirements of changes in society and, even, worldwide. For instance, sophisticated and new jobs in the modern labour market require new professionals and experts and thus, influences HE to generate a new generation workforce with high skills and competencies. Regarding the challenge of an uncertain global economy, the Omani government completely subsidizes public HEIs and provides financial support to private institutions. However, these institutions (particularly private ones) should take into account a phenomenally unstable economy in order to deal with this phenomenon and generate and diversify financial revenues and

resources. In short, the HE sector in Oman has been influenced by changes in society and hence, it needs to take advantage of challenges in the development of its different services and activities.

As far as rapid changes in the current society have created challenges for HE to be developed, there are some critics of HEIs and their services. For instance, Doring (2002) argues that HE is extremely likely to replicate itself in spite of the passage of time. Rowland (2002) also supports the critics of HE by stating “There is a lack of confidence in a Higher Education system that has become obsessed with narrow measures of accountability, standardisation and managerial control” (p. 52). It appears that HEIs may not monitor and modify their programmes to deal with accelerating changes in a modern society. Thus, HEIs have found themselves under a great pressure to restructure their policies and renew their programmes in order to meet the needs of individuals and societies. As Al-Lamki (2002) suggests, a public and private HE system in Oman needs to be developed and diversified in order to meet the needs of post-secondary students.

Therefore, HEIs worldwide have been required to enhance the quality of their services. Owing to the challenges of globalization in a rapidly changeable education context, individuals and societies require a high-quality level of HE services. Michael (2004) emphasizes, “Given the critical role that higher education performs for society and given that today’s knowledge/education lays a foundation for tomorrow’s world, society demands that the citadel of learning be founded upon one important criterion- excellence” (p. 132). The fulfillment of such demands and the enhancement of quality, especially of educational

practices, will promote the reputation of HEI locally and globally. Michael (2004) believes the survival of HEIs in a market setting will depend upon the achievement of a high-quality standard of services. According to Goodliffe and Razvi (2008), to meet increasing demands for HE in Oman, a private sector was allowed in the 1990s to establish privately-owned local HEIs with imported foreign programmes.

To enhance the quality of their services and activities, HEIs have adopted new quality-related approaches established in a business context, such as QA and TQM. “Indeed, quality education is being regarded as one of the basic necessities to give the nation the knowledge, skills, and competencies to meet the challenges brought by globalization and information and communication technology” (Rose & Kumar, 2006, p. 32). Kettunen (2008) stresses that according to its autonomy, every university and college in Finland is responsible for setting their own independent QA system with their own plans and processes. Helms and Key (1994) report that in the USA HEIs have found that TQM can help them to meet changeable demands of students, lack of governmental fund, and increasing competition. The OAC is concerned with establishing and monitoring a QA framework and an external quality audit for public and private HEIs in Oman in order to ensure the quality of educational services and programmes corresponding to national standards.

The global changes pushing HEIs to enhance the quality of their services have accordingly affected the nature of academic work. The nature of academic work has been influenced by profound and rapid changes that have emerged in a modern university. As Marginson (2000) argues, “At the same time

globalization also increases the day-to-day pressures of academic life. It creates a faster and more complex existence” (p. 26). Indeed similar to HEIs, their academic staff should react to the challenges of societal and global changes, such as advanced technology, explosion of knowledge, and a growing population, and a changeable labour market. These challenges and others generate pressure to reshape the nature of academic work and related professional issues in the context of HE. HEIs should deal with this evolving nature of academic work and address issues such as academics’ identity, motivation to work, and tension between teaching and research. The following section highlights the issues relating to the evolving nature of academic work in HE.

3.2 The Evolving Nature of Academic Work in HE

The academic profession has changed in the era of accelerating global education and a changeable society. Henkel (2007) states, “Academe is seen not as a separate set of institutions operating in a bounded world but as embedded in the larger social and economic system” (p. 191). Although academics work in universities, they are considered as a part of a society and their profession is influenced by rapid societal changes. Massey (1997) stresses that over the past decades, the academic profession has transformed considerably in line with most HEIs. The mission and context of universities has apparently changed according to substantial changes in the nature and purposes of HE. According to Carroll et al. (2009), “Higher education provision in the Sultanate of Oman has undergone strong growth in a relatively short period of time [initially started in the 1970s]” (p. 17). For instance, the CASs have been developed through different stages

(from Centres of Teacher Training, Teacher Colleges, Colleges of Education, and currently to the CASs) and hence, these developments would inevitably influence the context of related academic work.

Furthermore, the academic work and its outcomes are not associated to only academic staff but, maybe, to other groups in HEIs and society. Henkel (2007) suggests that implications for the academic profession in HE have emerged because of "...increased permeability of boundaries, between the market and the state, between the university and other forms of organisation, between disciplinary communities and between academics and other occupational groups" (p. 201). Because the academic profession serves many groups (such as the state, institutions, academics, and students) tensions may appear between the aspirations of these particular groups. Further, developments in academic work, such as the adoption of quality approaches (like the adoption of QA and quality audit in the CASs), may be driven by one of these groups and this may not fulfil what other groups aspire to fulfil. Considering such problematic issues within an academic profession, the need and importance of professional ethics is emphasized in order to manage academic work in HEIs.

Therefore, professional ethics regarding academic work in HE has become a central concern because of the changes and developments in the academic profession. Henderson, Antelo, and Clair (2010) argue that it is very important to gain productive knowledge and experiences regarding the significance of diverse ethics and values in secondary schools and HE in a 'global education society'. Academic teaching in HE, for example, has been influenced by many changeable factors in a new society and hence, it is necessary for professional

ethics to be considered for academics in HEIs. Lueddeke (2003) asserts that HE teaching practice as a profession has grown to be fundamental because HEIs pay more attention to react to "...an increasingly diverse and discerning student population, issues relating to standards and quality, growing international competition, and generally 'doing more with less'" (p. 213). For the context of the CASs, the adoption of a QA framework to comply with national standards puts more emphasis on the improvement of teaching quality to meet what a quality audit process requires in the area of improvements.

Ethics for professional academic work in HE could indicate issues related to the academics' roles, including teaching practice. Schuck, Gordon, and Buchanan (2008) suggest that ethical issues regarding academics in HE are clarified at three levels: 'Teacher ethical practices', 'Institutional ethical practices', and 'Teacher professional communities'. The first level underpins "...what individual teachers teach, how they teach, how they will assess learning and evaluate teaching, and whom they will consider in developing their curriculum and approaches" (p. 543). Ethical issues of HE academics must deal with every dimension relating to teaching practices, as a central role of a teacher. This is particularly stressed in the context of the CASs (teaching-oriented HEIs) because teaching is more focused on in these colleges and is considered as a core role of an academic. However, to what extent do professional ethics for academic work in HE pay attention to the identity and authority of academics (or academic freedom)?

One of the ethical issues for academic work in HE should be the preservation of identity and freedom for academics. Schuck et al. (2008) point out that

“Research studies moved away from process-product studies that attempted to match overt teaching behaviours with learning outcomes, towards an emphasis on the ‘self’ or professional identity of the teacher” (p. 537). However, a degree of professional autonomy of academics in HE seems to be diminished by administrative and institutional control and therefore, academic identity could be negatively affected. Terhart (1998) believes that the control of institution and administration appears to conflict with teachers’ work. The conflict may not provide academics an opportunity to take advantage of and enhance their academic work. O’Rourke and Al Bulushi (2010) claim that academic freedom is one among several concerns for academic staff in the CASs and that their autonomy (focusing on the degree of communication) is limited. This is because all types of learning materials used for modules of courses provided in these colleges were developed by the New Zealand universities based on the contract between the MoHE and the NZTEC.

Thus, the pressure of accountability in HE academic work should not diminish freedom and identity of academics. Welch (1998) argues, a measurement of academics’ work in HE relies on performance indicator in the light of accountability. It is critical to take care of accountability for teaching quality in a HE environment, however, it is also necessary to not ignore the idea that HE academics are not primary school teachers. For this reason, it is irrational to measure academics’ performance according to learning outcomes because their role includes, in addition to teaching, research and service. HEIs’ administrations should take into consideration the multiple roles of academics when they evaluate their teaching performance. According to Scriven (1982),

“The standard division of labour for the professor distinguishes three major tasks; teaching, research and service. The service role should be subdivided into service to the campus, service to the community, and service to the profession” (p. 311). Because of the multiple dimensions of an academic’s role, conflict has arisen between these role dimensions, especially teaching and research.

Because HEIs have been considered as teaching and research institutions, this view affects a relationship between the two roles of university academics: teaching and research. The relationship between these two core roles is supposed to be balanced; however, there is an appearance of tension between teaching and research among academic staff in HEIs. Bleakley, Carson, and Bassett (2006) claim, “There may be a lack of shared understanding about the language of learning and a fragmented perception about the relationship between research, scholarship and teaching” (p. 391). Rowland (2002) points out that there has been a growing argument regarding the relationship between teaching and disciplinary research. According to Kemp and O’Keefe (2003), “...faculty members, in general, want to be regarded as excellent teachers, recognize the synergistic relationship between teaching and research, and are willing to improve” (p. 112). The question is what are the possible reasons beyond a fragmented perception about the relationship between research and teaching in HEIs?

The fragmented relationship between teaching and research is based on possible concrete benefits for academics regarding the concern for these two roles. Many academics consider research as an important and profitable resource, influencing their recognition and promotion. Lemass and Stace (2010) support the view that

teaching does not provide benefits in comparison to research. Therefore, academics feel that more attention paid and time spent to teaching would detract from conducting research and publication and could affect their opportunities for promotion. Doring (2002) assumes, "In some cases, the time spent with students in teaching and associated activities may be seen as sacrificing research output or at least antagonistic to research in the lack of tangible productivity" (p. 142). Skiba (2007) also argues that more time spent to improve teaching compared to less time for research will put promotion and tenure at risk. The negative view towards teaching with respect to its influence on research may not be obviously indicated in the CASs because academics' gain a high salary for their academic work, focusing on teaching (as a major mission of the colleges and a core role of academics).

The question raised with regard to this issue is what HEIs should do to deal with the conflict based on less attention paid to teaching? Serow (2000) surveyed 29 faculty members at Sun Belt University (SBU) in USA to examine the tension between research and teaching and revealed the participants are primarily agreed that "...research outranked teaching in the university's faculty reward system" (p. 453). HEIs, therefore, ought to prepare an appropriate context and ways which value excellence in teaching and reward excellent academics. According to Lemass and Stace (2010), Australian and international HEIs should be overt in recognizing and rewarding quality teaching if teaching is to be as appreciated as research. It is easy to value excellence in teaching by a means of quantitative performance indicators in order for it to be compared with research performance indicators. The measurement of teaching quality would encourage academics to

put more emphasis on the improvement of teaching and create a balance with research publication.

The HEIs' endeavour to measure and reward quality of teaching means that more attention should be paid to a related issue: academics' motivation. Rowley (1996) points out that a mission of most HEIs focuses on providing high-quality learning to their students; academics who are the chief interface with students need to be critically motivated in order to enhance student learning. According to Hongping (2006), "...the performance quality of the working staff is correlated to staff's motivation. In modern educational research, motivation has attracted educators' attention" (p. 37). It is thus very important for HEIs' administrations to put more emphasis on dealing with motivating academic staff to improve teaching quality and hence, to enhance student learning. Because the CASs have adopted QA (to comply with national standards) and the related quality audit process (to review and ensure quality of services), it is useful for their administrations to motivate faculty members to enhance teaching practices in a learning environment, at least by recognition and appreciation.

To recognize the importance of motivation and possible ways to motivate academics, it is imperative to understand related motivation theories. Hongping (2006) states, "Thanks to many researchers, various human motivation theories have been delved into from the perspectives of social psychology and social behaviourism" (P. 39). Hongping argues although it is difficult to identify an exact definition for motivation as a complex concept, most studies conducted in the frame emphasize that this concept entails motives and needs. Rowley (1996) provides four models of motivation indicating that the first three models belong

to the content theory of motivation and the fourth one the process theory of motivation; these models are explained as follows (pp. 12-14):

1. *'The rational-economic model'*: proposes that people are willing to work in order to gain financial rewards.
2. *'The social model'*: suggests that accomplishment of social needs (such as acceptance and friendship) motivates people at work.
3. *'The self-actualizing model'*: developed by Maslow indicates that human needs are ranked into a hierarchy; people are motivated to reach the top of the hierarchy - self actualization needs.
4. *'The complex models'*: suggest that in order to motivate people at work, it is imperative to fulfill what they need and expect from their job.

It is essential for HEIs, thus, to prepare an appropriate environment to boost academics' motivation with respect to the improvement of teaching quality. Rowley (1996) points out that the management of motivation which creates a suitable environment and culture for motivating academics staff should put emphasis on: 'Financial rewards', 'The culture of teaching and higher education', 'Diversity of staff experience and roles', 'Personal autonomy', and 'Organizational structure'. Rowley's view indicates that every aspect of work environment should be employed if the management in HEIs seeks to increase academics' motivation. Feldman and Paulsen (1999) believe because academics are a part of an organization, its culture could impact their motivation positively and negatively. The scholars assume that a 'supportive teaching culture' is

necessary to motivate academics to teach and improve teaching quality; this culture, based on research literature, is characterized by the following eight principles (Feldman and Paulsen, 1999, pp. 71-74):

- 1) High-level administrative commitment and support.
- 2) Faculty involvement, shared values, and a sense of ownership.
- 3) A broader definition of scholarship.
- 4) A teaching demonstration or pedagogical colloquium as part of the hiring process.
- 5) Frequent interaction, collaboration, and community among faculty.
- 6) A faculty development program or campus teaching centre.
- 7) Supportive and effective department chair.
- 8) Connecting rigorous evaluation of teaching to tenure and promotion decisions.

Therefore, many HEIs in recent times have been concerned with recognizing the value of teaching quality (as well as research) in their mission and plan. Lemass and Stace (2009) state that “All Australian universities recognize the importance of quality teaching, and provide support to their staff on quality practice in teaching and learning” (p. 24). Lemass and Stace provide the University of Wollongong (UOW) as an example of those universities, its ‘Strategic Plan 2008-2010’ focuses on ‘high-quality teaching’ and ‘excellence and innovation in teaching and learning’. However, the issue is whether the importance of

teaching quality (indicated in a policy statement) is reflected in what these universities do in practice.

Furthermore, particular frameworks have been set by some nations for HEIs to motivate and reward excellent teachers in order to promote the status of teaching (relative to research). For example, Lemass and Stace (2009) point out that ‘The Teaching Quality and Reward Framework’ has been released throughout Australia, describing quality guidelines and indicators for teachers to measure and reward the performance of teaching quality. A scheme for measuring and rewarding teaching quality (as in Australia) could be helpful for the Omani HEIs (including the CASs), especially when the OAC focuses on the improvement of teaching quality to ensure compliance with the national standards.

Administrations of HEIs also put more emphasis on connecting research to teaching by the encouragement of their faculty to conduct research on scholarship of teaching and improvement of teaching quality. To define teaching quality, it is important first to define teaching and identify theories of teaching. It is also important to understand student learning and theories of learning and the association to the theories of teaching. The following section discusses definition and theories of teaching and the relationship between teaching and learning in a HE environment.

3.3 Theories and Relationship between Teaching and Learning in HE

Even though the current study does not focus on teaching and learning directly, it does deal with the improvement of teaching quality. To understand and deal with such improvement, it is important to acknowledge teaching as a significant

concept and an academic activity within HEIs. The recognition of teaching requires a comprehension of the theories of teaching. Because teaching is strongly associated to student learning, it is also very important to understand the theories of learning and their connection to the theories of teaching. By understanding this connection, it would be helpful to identify the role of a teacher and a learner in the context of teaching/learning. Thus, the improvement of teaching quality will be served by advancing the teacher's role with the improvement of teaching practices in a way which promotes student learning. The section defines teaching and learning, identifies theories of teaching and theories of learning, and discusses the relationship between these two types of theories.

Teaching is considered as one of the core academic services provided by HEIs. In addition to research and service, teaching is a fundamental academic role of academics in HE. According to Martin (1999), "Teaching is only a part of the work of an academic member of staff, but for most it is a vital part" (p. 48). Further, teaching as a central role of academics focuses on providing students with relevant knowledge, skills and competencies which are expected of graduates. Sims and Sims (1995) believe that teaching in HEIs is considered as an essential means to accomplish the goals of institutional effectiveness and student achievement. In the context of the CASs, which are not classified at present to offer higher degrees, teaching is regarded as a central role of faculty members in spite of some attention paid to other roles: research, consultancy, and service. In order to understand the purposes of teaching, theories of teaching practice in HE should be recognized.

To facilitate teaching and thus, serve student learning, it is essential to identify relevant theories of teaching in HE. In fact, each theory can provide adequate knowledge about the possibility of how teaching could be performed to enhance a learning process. According to Ramsden (2003), the role of teachers in universities and colleges can be explained according to three different theories: ‘Teaching as telling or transmission’, ‘Teaching as organising student activity’, and ‘Teaching as making learning possible’. Ramsden summarizes these theories by emphasizing that teachers must concentrate on corresponding strategies in each theory, with association to appropriate actions and expected reflection (Table 2). The theories of teaching in HE may reflect different phases of the development of a teaching focus and how it relates to a learning process. As indicated in Table 2, Theory 3 (Teaching as making learning possible) seems to be more comprehensive than the other two theories because it focuses more on the relationship between students and subject matters.

Table 2: Theories of University Teaching

	Theory 1 Teaching as telling	Theory 2 Teaching as organizing	Theory 3 Teaching as making learning possible
<i>Focus</i>	Teacher and content	Teaching techniques that will result in learning	Relation between students and subject matter
<i>Strategy</i>	Transmit information	Manage teaching process; transmit concepts	Engage; challenge; imagine oneself as the student
<i>Actions</i>	Chiefly presentation	‘Active learning’; organising activity	Systematically adapted to suit student understanding

Reflection	Unreflective; taken for granted	Apply skills to improve teaching	Teaching as a research- like, scholarly process
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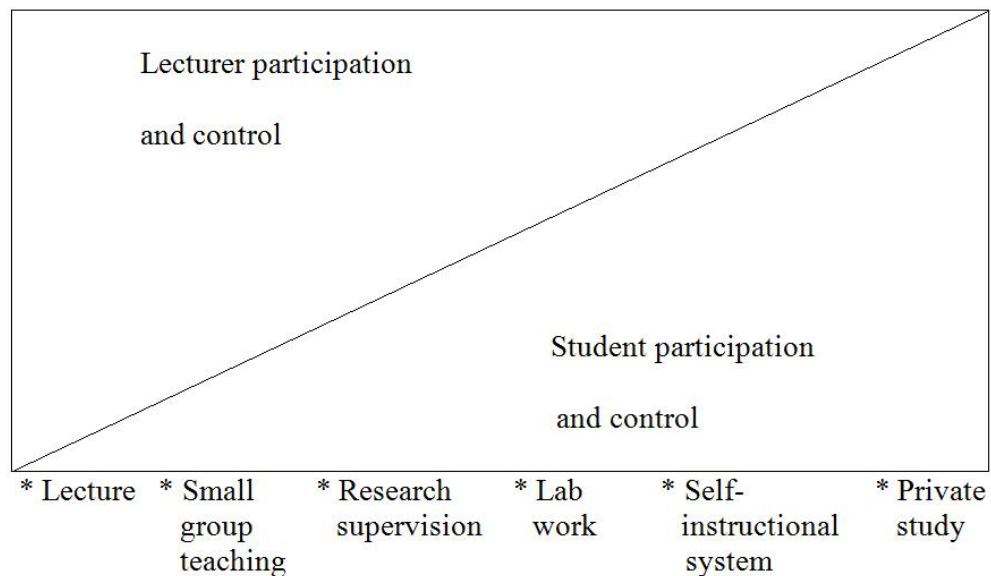
Source: Ramsden (2003, p. 115)

Based on theories of teaching, HE teaching may involve different methods and forms in a context of teaching/learning. Sims and Sims (1995) suggest six modes of teaching: “lecture and discussion; programmed instruction; mastery learning; problem-centered seminar, laboratory, workshop; experiential learning; and system analysis” (p. 15). Sims and Sims suggest each style of teaching is based on a student’s perspective and is fitted to particular teaching strategies. In Cox’s (1994) view, teaching methods in HE involve three types: a lecture form, a group form (such as tutorials and seminars), and an independent form (such as open education and computer-assisted education). Academics in modern HEIs (the CASs as example) are encouraged to vary their teaching methods depending on the nature and objectives of the subject, especially in the age of digital-driven education and the adoption of quality approaches. The OAC (2006) cites (in the Quality Plan set by the MoHE and the OAC) some examples of different pedagogies to be used by teaching staff: “...rote learning; problem-based learning; student-centred learning; industry-based learning; experiential learning” (p. 48). In fact, even though each method of teaching involves practices of the teacher, each also reflects a learner’ role.

It is generally accepted that each teaching method involves the roles of both teacher and learner. Brown (1993) points out that teaching is regarded as an interaction, involving teacher, learner, and tasks; teaching methods are

considered as the most common level in this interaction. The level of expected task of either teacher or student in a teaching/learning setting depends on the type of teaching method. It is important, then, to involve students in a teaching/learning context when using any type of teaching method in order to provide subject matter based on a learner’s perspective. Brown claims that teaching methods can be located on a continuum which indicates the level of predicted participation and control of both teacher and learner (Figure 1). For example, the minimum level of student control and participation is exposed in a lecture, whereas the same minimum level of control and participation from the lecturer is illustrated in private study.

Figure 1: A Continuum of Teaching Methods



Source: Brown (1993, p. 214)

Effective teaching basically relies on particular characteristics and relevant skills used in a teaching/learning environment. As Trigwell (2001) argues, “Good teachers recognize the importance of context, and adapt their teaching

accordingly; they know how to modify their teaching strategies according to the particular students, subject matter, and learning environment” (p. 69). Effective teachers, therefore, should make a particular connection between what they want to teach and what the learners want to learn to provide appropriate and productive knowledge and practice. Trigwell also describes good teachers as those who are good learners through different means such as reading, sharing ideas, and participating in PD. The Quality Plan states that the goal of QA teaching in Omani HEIs (including the CASs) is to reach international standards levels in providing students with the best possible education (OAC, 2006). It could be assumed that effective teachers are those who prepare and adapt teaching practices to a learning context in order to benefit their students. Brown (1993) points out that the fundamental skills of teaching are as follows (p. 215):

- Preparing and structuring teaching materials;
- The interactive skills of explaining, listening, questioning, responding to students’ comments and answers, providing and giving guidance, assessing and providing feedback, monitoring one’s own teaching.

From the above, teaching as a practice is based on different constant theories. These theories determine what an academic in HE should do in the context of teaching/learning. This means that the academic should use particular teaching methods and strategies to provide appropriate subject matter to students with stated and reasonable objectives. To achieve a process of teaching, the academic should acquire and employ certain skills and competencies, helping them to

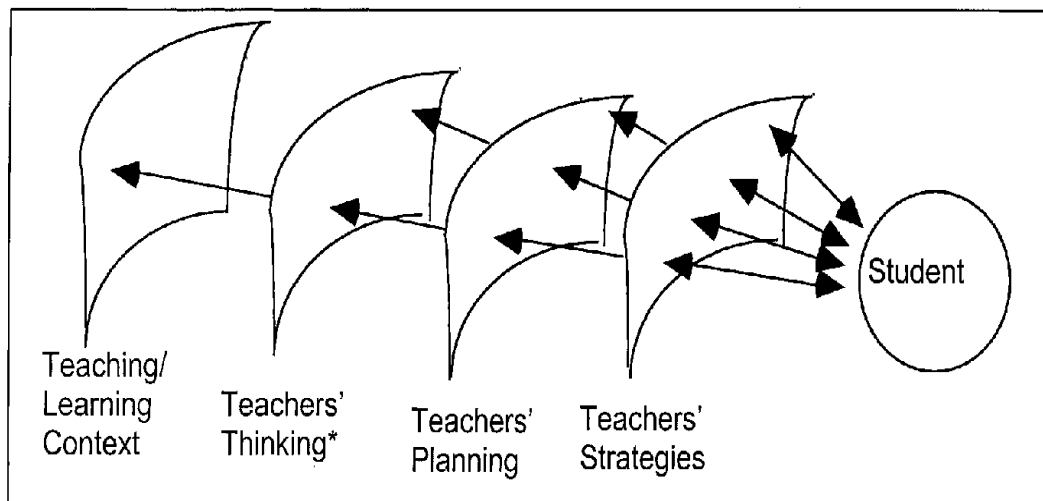
facilitate teaching and promote student learning. The skills relating to a teaching process could include, for example, goal-setting, preparation for lessons, development of curriculum, time management, use of IT, and use of appropriate assessment methods. By using these types of skills, the academic would be able to support and enrich the environment of teaching/learning within HEIs.

The acquisition and use of those skills is not enough, it is critical to develop the academic's knowledge and advance their practice in order to improve teaching quality. A development of the academic's realization and practice of teaching skills reflects the importance of the improvement of teaching quality. The improvement of teaching quality puts more emphasis on potential implications for the PD of academics with respect to the area of teaching quality improvement in HEIs. Therefore, the academics' PD needs relating to the teaching quality improvement should be identified, which the current study proposes to achieve in the CASs, in order to ensure the quality of teaching. The study also focuses on identifying potential barriers to the PD of academics and potential factors to enhance the PD of academics with respect to teaching quality improvement in order to develop the knowledge and practice of teaching skills in the CASs. The improvement of teaching quality, hence, deals with updating academics' knowledge and teaching skills with the aim of supporting teaching and promoting learning. To promote student learning, it is important to identify the role of a learner in the context of teaching/learning.

To judge university teaching, it is essential to consider teaching as an integrative process, involving certain elements in a teaching/learning setting. Trigwell (2001) provides a model of teaching, positioning a student as a centre, who is a

closely situated to four different areas of a teaching portfolio: ‘teachers’ strategies’, ‘teachers’ planning’, ‘teachers’ thinking’, and ‘teaching/learning environment’ (Figure 2). Trigwell believes that the four teaching portfolios, in addition to the student are “(a) considered to be a part of teaching, and all may be used in judging and advising on teaching; and (b) are logically aligned, and evidence of this alignment may be also used in judging and advising on teaching” (p. 67). The Trigwell’s model of teaching shapes teaching around a student, whom each element in a teaching/learning environment should serve. The model is compatible with the approach of ‘student-centred teaching’.

Figure 2: A Model of University Teaching



Source: Brown (1993, p. 219)

*Includes teachers’ knowledge, conceptions and reflections.

The student-centred teaching approach focuses on the role of the student in a teaching/learning context. All aspects of the teaching/learning environment are directed to the student to play a central role in choosing and practising appropriate learning situations consistent with his/her needs. The student-

centred teaching approach is based on the paradigm that the student is the centre of the teaching/learning process who participates effectively in all aspects of the process (such as goals, content, materials, activities, and assessment) and the teacher is considered as a facilitator in a supportive learning environment.

Motschnig-Pitrik and Holzinger (2002) argue that students in the student-centred approach "... not only achieve higher academic results but also experience an increase in personal values, such as flexibility, self-confidence, and social skills" (p. 161). Because teaching is student-centered and aims to enhance student learning, it is imperative to understand the theory of learning.

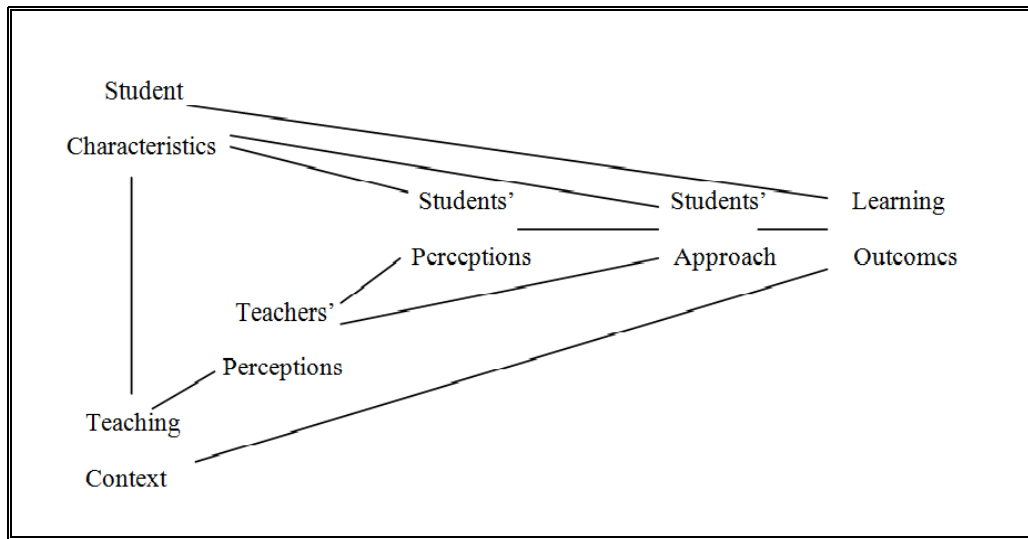
In order to effectively teach students in educational settings, it is essential to understand learning theory and learning styles. Student learning is assumed to be the basis for preferred teaching methods and strategies. Ramsden (2003) states, "The aim of teaching is simple: it is to make student learning possible" (p. 7). Because teaching is pointed to facilitate student learning, understanding of learning theory and learning styles will help academics in a university to create an appropriate and effective learning context. Sims and Sims (1995) claim that high achievement by HEIs can be distinguished by their academics' efforts to enhance student learning. For this reason, there is no doubt that teaching and learning are strongly correlated and it is necessary for teaching practices to support student learning.

Student learning can be recognized by a comprehension of a learning theory. A formulation of learning activities, according to an adult learning theory, relies on "learners' needs and interests so as to create opportunities for the learners to analyze their experiences and its application to their work and life situations"

(Sims & Sims, 1995, p. 3). By understanding adult learning theory, teachers can choose an appropriate teaching method or methods which match learner's needs. Sims and Sims (1995) demonstrate that the stimulus-response and cognitive theories indicate how people learn; the former theory reinforces step-by-step learning and the latter focuses on cognitive processes as a learning source. Therefore, it is very important for teachers to understand learning theory in order to choose what is helpful and beneficial for students.

It is also important to distinguish different styles of learning with the aim of choosing appropriate teaching methods and strategies. Student learning occurs in three main different styles: surface, deep, and strategic (Shankar, Dubey, Binu, Subish, & Deshpande, 2006). Different learning styles mean students are unique individuals and thus need different methods within an instructional environment that conforms to their styles. Cox (1994) believes, "teaching methods and a learning environment tend to be the major determining factors, as most people can adapt their learning style" (p. 55). Gibbs (1995) reports that earlier research assumed that facets of teaching and traits of students influence learning outcomes, but the current research (Interactive Model of Learning) presumes that the learning style of students (student's approach) significantly impacts on such outcomes (Figure 3).

Figure 3: An Interactive Model of Learning



Source: Gibbs (1995, p. 26)

The three learning styles are based on different considerations with regard to student learning. While a surface learning style provides students with factual knowledge but not with a deep understanding, a deep learning style enables students to reach a high level of content comprehension. Newble and Cannon (1995) suggest that in a strategic learning style, students may use the same procedures as in the other two learning styles, but the difference is that a great importance of reaching high scores in assessment is focused on in a strategic style. Brown (1993) argues that students (as 'reproducers' or 'understanders') have different achievement motivation levels; learning situations and assessment may influence a predominant learning style for most students (Table 3). It is argued that a learning setting and an assessment type could affect a student's preference of an appropriate learning style. Rowley, Lujan, and Dolence (1998) stress, therefore, that new students are primarily concerned with searching for appropriate sources, supporting their understanding in one new area of

knowledge successfully, and then following with the development of analytical skills.

Table 3: Orientations to Learning

<i>Knowledge seeker</i>
Adds to store of facts, concepts, and so on.
Collect skills, procedures.
Breaks down problems and tasks into separate sub-units.
Makes links within units of knowledge.
Uses memorizing skills.
Analyses.
Use systematic trial and error.
Evaluates data.
<i>Understanding seeker</i>
Tries to relate information or task to own experience.
Makes links to other bodies of knowledge.
Restructures for personal meaning.
Synthesizes.
Likes to work from 'whole' picture.
Searches for underlying structure, purpose, and meaning.
Intuitive use of evidence.
Uses analogies, metaphors.

Source: Brown (1993, p. 219)

The review of the theories of learning and learning styles indicates a strong connection between teaching and learning. To provide an appropriate context of teaching, it is imperative for academics in HEIs to understand the students' needs and interests and the type of a learning style for each student or group of students. Understanding these factors would help academics to choose particular teaching methods and strategies to match certain types of learning styles of

students. In addition, this understanding would enable academics to use appropriate teaching skills to meet students' needs and interests and thus, to promote student learning. To serve student learning, academics in HEIs should focus on certain teaching skills related to a learning process, such as connecting course objectives to students' needs, associating course materials to the local environment of students, using appropriate communication means, developing student critical thinking and problem-solving skills, and adopting a 'lifelong learning strategy.

To promote student learning, it is also imperative for academics to design and practice 'creative teaching' in the classroom. The faculty are requested to use creative teaching in a learning environment in order to enable students achieve high-quality HE. Morris (2006) points out that creative teaching could be used to describe two ways: first, 'teaching creatively' when teachers apply imaginative approaches to prepare attractive, engaging, and efficient learning and second, 'teaching for creativity' when teachers employ particular shapes of teaching in order to develop creative thinking and behavior of students. The two ways of creative teaching focus on a preparation of a creative learning environment helping students to develop their own creative abilities. Morris (2006) states that the following practices could be performed by creative students in the classroom: 'question and challenge'; 'make connections and see relationships'; 'envision what might be'; 'explore ideas and options'; and 'reflect critically on ideas, actions and outcomes'.

Furthermore, academics in HEIs should pay attention to the use of imagination in education to improve teaching and provide high-quality learning. Eisner

(2002) asserts that “Good teaching depends on sensibility and imagination. It courts surprise. It profits from caring. In short, good teaching is an artistic affair” (p. 577). It is critical for academics to take advantage of imagination used in artists in order to prepare an artistic teaching/learning in the context of HE. With this regard, Alphen (2011) argues that ‘imaginative teaching’ can assist to “*humanize* educational experience, by involving the whole human being in the process of learning. The integration of intellect with emotions has the potential to develop a strong *will* to learn – a gift for life for learners and teachers alike” (p. 32). In imaginative teaching, academics constitute a creative and innovative context of learning to help students learn with inspired thinking and aptitude in an emotional and enjoyable environment.

The teaching skills relating to learning styles and students’ needs and interests should be developed to improve teaching quality and thus, to promote student learning. The improvement of teaching quality (including teaching skills) with respect to students’ needs and their learning styles should be supported to serve teaching/learning in HEIs. The improvement requires the identification of academics’ PD needs relating to teaching quality in order to advance academics’ knowledge and practice of these types of teaching skills. The identification of these PD needs is one of the purposes of the current study to examine the extent to which academics in the CASs use these types of skills in the context of teaching/learning. Moreover, the study identifies barriers to the PD of academics and factors to enhance the PD of academics in the CASs with respect to the improvement of teaching quality. The identification would deal with the issue of the improvement of teaching skills, including those which relate to student’

needs and learning styles in order to promote teaching quality and student learning.

To conclude, the theories of teaching indicate that teaching focuses on providing opportunities for students to learn. Effective teachers are those who prepare content through appropriate teaching practices in order to benefit student learning. If a teaching practice is considered an essential influence to promote a learning process, it is critical then to improve teaching quality. The OAC (2006) advocates the notion that teaching should be developed for the purposes of the adoption of QA in Omani HEIs by stating “Oman is transitioning from a history in which rote learning/memorization was the dominant pedagogy, to one where critical enquiry, problem solving skills and a commitment to lifelong learning are emphasized” (p. 48). The improvement of teaching quality would develop teaching practices and provide academics in HEIs with appropriate and advanced professional skills in order to support student learning. To improve teaching quality, quality approaches such as QA and TQM have been adopted in HEIs, such as the CASs which have adopted QA.

In order to take advantage of quality systems in HE, the roots of these systems should be firstly understood in an original context. The concept of quality and the approaches of QA and TQM have been initially created in business and industry. Therefore, it is important to provide a general idea about the origins of QA and TQM and aspects of similarities and differences between these approaches. The understanding of these approaches in their own environment will help HEIs to become aware of the basics of quality and the advantages and difficulties of its implementation in HE services and activities. The following

section explores the origins of quality, and quality approaches (QA, and TQM) in business and industry by indicating their definitions and similarities and the differences between these two approaches.

3.4 Definitions and Characteristics of Quality and Quality Approaches in Business and Industry

Because the concept of ‘quality’ has been used initially in business and industry, it is important to understand this concept in its original context. Understanding quality in the environment of business and industry will be helpful to realize the importance and consequences of the application of quality approaches in achieving progress in work and fulfilling particular objectives. Although the current study does not focus directly on the application of quality approaches, it does relate to quality and quality approaches in HE teaching and it needs to define and understand characteristics of quality in business and industry.

Understanding quality and quality approaches will enable HEIs to take advantage of quality systems which are applied in industry by preparing an appropriate context for a new adoption. Moreover, many HEIs adopt quality approaches (such as QA and TQM) to improve teaching quality and any improvement with this adoption would create potential implications for the PD of academics. To realize and identify these implications, it is important to understand characteristics of the quality approaches in their original context: business and industry. The following paragraphs provide definitions and an explanation of the importance of quality in business and characteristics of QA and TQM as common quality approaches adopted in industry.

‘Quality’ in business and industry is considered as a fundamental requirement and a desired target in a global economy. Many organizations all over the world have paid more attention to quality in order to maintain a competitive advantage. Forker, Vickery, and Droge (1996) state, “Quality is consistently listed as one of manufacturing’s top competitive advantage priorities and has become a prerequisite for success in the global marketplace” (p. 44). Reeves and Bednar (1994) believe that throughout history, the concept of ‘quality’ has been valued and it will be an imperative priority these days. In recent times, business and industrial firms have extensively focused on improving the quality of products and services. The concentration on quality is because of a strong propensity to enhance organizational performance and productivity in the global marketplace. In business and industry, the definition of ‘quality’ has been developed in many ways to refer to different ideas. “Traditionally, quality has been equated with ‘innate excellence’, a property considered to be absolute and universally recognizable” (Maguad, 2003, p. 413). The traditional definition of ‘quality’ focuses only on ensuring the distribution of goods to gain profits, regardless of any other considerations surrounding the marketplace, such as a customer’s satisfaction. On the other hand, Maguad (2003) points out that the concept of ‘quality’ has developed over the time to consider particularly customer expectations. Hutchins (1993) argues that quality does not mean only a level of ‘excellence’ or ‘closeness to specifications’, it is concerned with a customer. The new definition of quality takes into consideration the needs of the customer who is a primary part in a business cycle.

Recently, quality has been defined in business and industry from different perspectives consistent with the vision and system of organizations. For instance, Jager and Nieuwenhuis (2005) define quality as a “dynamic state associated with products, services, people, processes and the environment that meets or exceeds customer expectations” (p. 252). Manyaga (2008) also refers to quality as the level of arranged excellence which is achieved by satisfying consumers; this level needs to be measured and assured by setting appropriate quality standards. Woodhouse (2003) believes that quality is used to refer to “...excellence, value for money, conformance to specifications, transformation, and value added” (p. 133). It appears that quality can be defined as excellence of products and services which meet customers’ expectations along with agreed standards. According to Storey (1993), quality service can be defined by meeting three criteria: ‘fitted to purpose’, ‘satisfactory to the client’, and ‘of a quality grade equivalent to suppliers’ (p. 41). Storey’s definition of quality service focuses on the achievement of particular standards.

As a result of the concern for the quality of products and services, organizations have adopted a QA approach. According to Fuentes, Benavent, Moreno, Cruz, and Val (2000), “...the importance of quality assurance systems has increased over the last decade in all industrialised countries...” (p. 229). By implementing QA, organizations can improve the quality of outcomes when the assessment will be made against specific standards. Manyaga (2008) points out that through systematic practices of QA, the quality of products or services is judged according to particular determinants. QA focuses on evaluating the company according to arranged standards, as well as evaluating product or service. By

relying on QA, organizations can ensure the quality of their services and/or products through particular measurements to pre-established standards. Ellis (1993a) indicates that the characteristics of QA are: specification of standards, identification of critical functions to achieve standards, constant recourse to the consumer, documented clarity regarding standards and functions, a cybernetic approach to standards and functions, and involvement of personnel and commitment to development and training.

To be concerned with quality, QA focuses on meeting a customer's satisfaction along with pre-established specifications and a conformance to quality. Talha (2004) advocates this view by stating "It [QA] gives the customer a guarantee of quality by measuring product conformance with processes and performance specifications" (p. 17). Talha describes a concept of 'conformance to quality', which is managed in QA, as achievable performance associated to a specified design of product or service. Grocock (1999) points out that Conformance to specifications would ensure the quality of products and enable a customer to judge the suitability of products to their situation by 'customer-friendly specifications'. The pre-established specifications used in a QA approach will support organizations to ensure the appropriateness of their products to customer needs. Dolmans, Wolfhagen, and Scherpbier (2003) suggest that advantageous consequences, such as continuous improvement, would be gained from the adoption of QA if the assessment process is implemented systematically, structurally, and incorporated in all patterns of a day work.

The adoption of QA in organizations requires particular relevant mechanisms to be implemented: Quality Control (QC), Quality Assessment, and Quality Audit.

The implementation of these methods can help an organization to better apply and monitor QA processes in order to enhance quality of products. As Manyaga (2008) states, “QC includes day-to-day supervision and monitoring of the quality assurance processes and activities” (p. 167). While QC focuses on monitoring of QA processes, quality assessment focuses on measuring such processes by self-assessment or peer-review assessment. By applying QC, a company can follow the whole processes of QA and make necessary modifications before the conduct of a quality audit. Woodhouse (2003) claims that companies are concerned with a deployment of quality when they attain their given goals and the efficiency of this accomplishment can be measured by a quality audit. To facilitate QA adoption in manufacturing industries, Ellis (1993b) identifies seven steps for this adoption: knowing the customers’ needs, meeting the needs in a product design, guaranteeing product performance, providing clear instructions for a product use, delivering the product on time, providing a back-up service, and using customer feedback.

In order to assure quality and develop the organization’s system, certain standards have been established. These standards have been considered as measures to identify the degree of quality of products and/or services in any company that follows the agreed standards. Brown and Wiele (2001) states, “The International Organization for standardisation (ISO) developed the ISO 9000 series in the mid 80s...” (p. 58). According to Ferguson (1996), ISO 9000 certification was established in 1987 by 89 member nations; this certification is concerned with the quality of products and services among member countries by taking care of QA and quality management. The QA ISO 9000 certification is

concerned with accrediting a company's compliance to particular international standards for the quality of products and/or services.

QA has been adopted by many business organizations to improve the quality of products and services. The approach focuses on guaranteeing quality with compliance to pre-established standards. To assure conformance to those standards, certain mechanisms (such as QC, quality audit, and quality assessment) could be applied in the management and supervision of production. In HEIs, teaching quality could be improved by relying on pre-established standards in order to ensure compliance to these standards. The improvement of teaching quality, thus, should be measured and assessed in the light of specified teaching standards set by these institutions.

While QA is adopted to enhance the quality of products and/or services corresponding to pre-specified standards, some organizations adopt TQM to enhance continuous quality improvements throughout the whole process of production. Along with a growing call for ensuring the quality of products, industrial and business firms pursued a new approach concerning this call to satisfy customers' needs. Further, Ehigie and McAndrew (2005) suggest that the importance of a competitive advantage in the global marketplace has influenced organizations to improve quality, and this influence led to the establishment of TQM. According to Martinez-Lorente, Rewhurst, and Dale (1998), "TQM started to be used in the mid-1980s and only became a recognized part of the quality-related language in the late 1980s" (p. 378). However, many companies still adopt QA as a suitable approach to ensure the quality of products relying on

specific standards. Before discussing the distinction between these two approaches, a philosophy of TQM will be explained in the following paragraphs.

There are different frameworks in an industrial setting, which are set out to describe the TQM approach. In other words, in the literature of business and industry, TQM has been presented in different terms or frameworks, such as “Continuous Quality Improvement (CQI), Strategic Quality Management (SQM) or Total Quality Management (TQM)” (Venkatraman, 2007, p. 94).

Venkatraman asserts the term ‘TQM’ is more prevalent and broad to focus on quality improvements in spite of some differences between all terms. From these terms, it is indicated that these different frameworks of TQM describe the approach from different points of view, regardless of its purpose of ensuring a quality improvement. However, TQM is a favoured concept which is utilized by business organizations to concentrate on the enhancement of the quality of products and services.

TQM, as a philosophy, is derived from the original development of quality in industry. Powell (1995) states, “TQM’s origins can be traced to 1949, when the Union of Japanese Scientists and Engineers (JUSE) formed a committee of scholars, engineers, and government officials devoted to improving Japanese productivity, and enhancing their postwar quality of life” (p. 16). Boaden (1997) argues that the term ‘total’ was not originally included in the initial term ‘quality management’. Deming, Juran, and Crosby are considered as proponents of ‘quality management’, setting the base of TQM. Biggar (1990) points out that TQM involves certain principles and in order to comprehend it, it is necessary to return to the initiator of quality, Edwards Deming. Regardless of the history of

the beginning of TQM as a quality system, it is generally accepted that TQM was originally established to manage and ensure the quality of industrial production in Japan after the second war.

TQM has been defined as a systematic and disciplined management approach of quality improvements to meet a customer's needs. "TQM is primarily concerned with increasing customer satisfaction through an integrated framework that examines the relationships between various systemwide elements and makes data-driven decisions to reduce errors and waste in processes" (Hogg & Hogg, 1995, p. 35). This definition characterizes TQM as an integrated system of all parts in a production process, aiming to satisfy a customer's needs. Doherty (2008) also defines TQM as a "holistic management system requiring the development of a system-wide culture" (p. 261). Doherty believes that everybody in an organization, regardless of his/her role or location, has a responsibility to manage his/her contribution to the totality in production. The two definitions of TQM above refer to the development of a system-wide environment for quality improvements within an organization.

Despite the subsequent different frameworks of TQM, it is based on particular principles to develop a quality culture throughout an organization and improve quality through the whole process. Cardy, Dobbins, and Carson (1995) demonstrate that TQM is a special approach, focusing on quality improvement by utilizing statistical process control among other instruments. The scholars argue that this approach takes care of preventing mistakes rather than detecting them, and satisfying and considering customers as a standard. Chizmar (1994) summarizes a TQM approach in the following characteristics: "Asks customers

what they want and satisfies their requirements, Attacks processes, not employees, Instills teamwork and creates an atmosphere for innovation and continuous quality improvement, Empowers people, Strives for continuous organization-wide improvement” (p. 182). From Chizmar’s point of view, TQM underpins a customer’s satisfaction and at the same time, it values staff and control processes to create a context of continuous quality improvement.

From the above definitions of TQM, it could be indicated that this approach focuses on satisfying customers’ needs as a standard to improve quality of products. The satisfaction of these needs requires establishing a systematic management and special culture concerning quality improvement. Boaden (1997) studied surveys about definitions and elements of TQM and has developed a set of principles of TQM with corresponding practices to be integrated in an organization’s culture (Table 4). Boaden’s study considers customer focus as the main principle of TQM, requiring an investment in training and education. Table 4 illustrates that in addition to a customer focus, TQM also focuses on commitment and involvement of everyone in the whole process of continuous quality improvement; all these principles require particular and relevant practices to be achieved.

Table 4: Principles and Practices of TQM

<i>Principles</i>	<i>Practices</i>
Customer focus, with emphasis on the customer-supplier relationship, internally and externally	Training and education considered as an investment

The commitment of everyone to total quality improvement, especially managers	The use of teams and teamwork
The involvement of everyone within the organization in quality improvement	The use of appropriate tools and techniques, reviewed regularly
A focus on processes	Goal-setting, measurement and feedback for all aspects of the business
Continuous improvement as a philosophy	

Source: Boaden (1997, p. 167)

In brief, it is clear that TQM is adopted in business organizations to foster quality improvement throughout the process of production. The approach is concerned with creating quality culture to ensure a participation of all departments and staff in all stages and processes of a development. In addition, TQM requires a commitment of all staff to continuous quality improvement and constant training for those staff to develop their professional skills. In HEIs, the adoption of TQM to improve teaching quality requires involvement and commitment of all departments and staff to the improvement of teaching quality. The approach focuses on continuous training for all staff, especially academics, to develop their knowledge and skills with regard to teaching quality improvement.

As far as both approaches of QA and TQM are concerned with quality, each concept deals with it from a distinctive perspective. Rehani (1995) states that “Traditional QA focused and took corrective actions on outlying values; however CQI [TQM] seeks to act on the entire process” (p. 15). While QA was

concerned with the improvement of specific values, TQM focuses on the improvement of all actions throughout the process. Talha (2004) emphasizes the distinction between the two concepts by indicating that a QA approach focuses on the assurance of production in parallel to pre-established specifications, whereas quality improvement involves any effort pointed to increasing the effectiveness of the satisfaction of customer's expectations. It is seen that Rehani's viewpoint focuses on the actions through the process as a distinction between QA and TQM, while Talha's viewpoint focuses on a distinction of the target of the process.

The differentiation between QA and TQM can also be recognized by comparing the latter approach to a certification of ISO, a model for QA systems. Brown and Wiele (2001) demonstrate that a model of ISO and the TQM approach have distinct goals and perspectives (Table 5); "ISO 9000 is part of the total quality concept and may or may not be seen as a pre-requisite for broader issues of quality" (p. 59). Whereas QA focuses on the achievement of quality internally according to specific standards, TQM exceeds an internal to external environment in order to achieve quality according to the customer's comments and opinions. Talha (2004) points out that an ISO certification, comprising different standards for quality, is regarded as an extension of TQM. The extension, in Talha's point of view, could mean that TQM focuses on the improvement of quality and QA also focus on the same target, but by using a different means: ISO standards.

Table 5: Differences between ISO and TQM

<i>ISO 9000 Certification</i>	<i>TQM Approach</i>
Standardization of activities	Continuous improvement
Audits to ensure compliance	Self-assessment to find opportunities for improvement
Statistical tools as techniques	Statistical tools to understand variations in processes
Bureaucratic because of written down procedures & quality manual	Culture orientation & high involvement of people
Responsibility of quality (assurance) manager	Responsibility & role of top management
Conformity to specifications	Customer satisfaction & customer enlightenment
ISO certification gives a concrete goal	A never ending TQM journey
Internal orientation on processes	Orientation on organization & relations within & outside the organization
Focusing on quality goals based on internal capabilities	Focusing on goals based on external benchmarks

Source: Brown & Wiele (1996, p. 60)

In spite of the successful adoption of QA and TQM, there are some criticisms of these two quality approaches in business and industry. The adoption of QA could encounter particular barriers and create problems for organizations. Dissanayaka, Kumaraswamy, Karim, and Marosszeky (2001) examined the adoption of a QA ISO 9000 certification in Hong Kong construction organizations and revealed that the disadvantages for implementing this certification are: ‘More paperwork’, ‘More time spent in management’, and ‘Higher overall project cost’. Mo and Chan (1997) also found that ISO 9000

registration for small manufacturers faces particular technical obstacles: “high implementation costs, inadequate resources and insufficient external assistance” (p. 144). Some studies also found that the adoption of TQM in business face problems and difficulties, especially for small organizations. For example, Goh and Ridgway (1994) addressed the implementation of TQM in 48 small and medium manufacturing companies in the UK; they found that the implementation is inappropriate (according to top management’s perceptions) because operations require creative technologies and innovations, and customer satisfaction requires a formal scheme. In addition, Yusof and Aspinwall (2000) argue, that TQM has been adopted in many large multinational organization but small companies still struggle when trying to implement new approaches such as TQM.

On the other hand, the adoption of QA and TQM in business and industry has generated positive outcomes and has assisted organizations to enhance the quality of products and services. Anderson, Daly, and Johnson (1999) studied 514 large public firms having ISO 9000 certification in U.S. and Canada and concluded, “Thus, ISO 9000 is being adopted as one tool in a large strategy of achieving competitive advantage through quality management and communicating quality results” (p. 41). Moreover, Mo and Chan (1997) found the implementation of a QA ISO 9000 certification in small manufacturers generates quantitative benefits, such as (‘expand market share’; ‘reduce scrap rate’; and ‘reduce work’) and non-quantitative benefits, such as (‘increase employee morale’; ‘minimize role ambiguity’; and ‘better control of suppliers). The adoption of TQM in business is also assessed by some studies and is found

to be a beneficial approach for organizations. For instance, Abdullah (2010) measured a TQM implementation in eight small and medium business companies in Malaysia and found that “The integration between functional areas in the factory, formalization of activities and clear strategy were present at the TQM business and resulted in effective and efficient systems of customer service, operational excellence and human resource integration” (p. 3). Yusof and Aspinwall (2000) also reviewed and measured a TQM implementation, as a case study, in a small company (PT Ltd) in Birmingham, and found among positive intangible outcomes of the implementation are: (improvement of teamwork and communication, appreciation of the value of quality improvement, and considering quality improvement as a component of the culture) and among the tangible outcomes are: (improvement of product quality, increasing workers’ involvement in improvement activities, improvement of the satisfaction of customers and workers).

From the perceptions and results above regarding the implementation of QA and TQM in business organizations, it can be concluded that the adoption, to some extent, is successful. Although the adoption of two approaches creates certain problems and encounters some difficulties, it provides organizations with positive outcomes. Further, the adoption of QA and TQM can benefit business firms, particularly large ones, in raising their competitive advantage and to enhance the quality of products and/or services. The adoption would also help organizations to increase the satisfaction of employees and customers by applying quality improvement in all activities and generating a quality culture. For the case of small and medium companies, the adoption of QA and TQM

could be beneficial if these companies establish a formal and systematic system for the adoption after undertaking extensive and planned research.

The success of the implementation of QA and TQM in business to ensure quality encourages policy and decision makers in HE to take advantage of these two quality approaches in order to improve the quality of educational activities. Reddy (2008), for example, supports the adoption of QA in HE by stating, “The liberalization of trade in higher education necessitates strong quality assurance arrangements” (p. 61). Coates (2005) also claims that QA has emerged to be a vital part of the system in HEIs because students, academics and administrators, institutions, and governments and other bodies need accurate information about quality education. Moreover, the adoption of TQM in HE has been advocated in some arguments to maintain and improve the quality of educational services in order to cope with societal changes and meet the requirements of individuals and societies. According to Hogg and Hogg (1995) and Venkatraman (2007), HEIs can solve their problems with the assistance of TQM which focuses on continuous improvement and meeting stakeholders’ demands. However, can quality, as an initial business system, be applied embedded in a learning environment in HE which deals with humans rather than products or services?

The previous question has created a debate between educational leaders and scholars around the possibility of adopting QA and TQM (as quality approaches) in a HE environment. Although the adoption of QA in HEIs has been supported in order to enhance quality education, some doubts have arisen around its effectiveness. For example, Gosling and D’Andrea (2001) refer to some doubts about the effectiveness of QA in HE in the UK by suggesting that

“Despite the enormous growth in national quality assurance processes in the UK, serious doubts remain about their effectiveness in achieving lasting quality improvement” (p. 7). With respect to the implementation of TQM, some scholars (Edmonds, 2007; Ho & Wearn, 1996; Vazzana & Winter, 1997) support the application of this approach in HE to improve the quality of education. In contrast, the others (Helms & Key, 1994; McNary, 1994; Tang & Zairi, 1998) claim that the application of TQM in HE, to improve the quality of teaching/learning, faces many challenges because of the differences between business and education. To understand quality and teaching quality and their connection to quality approaches in HE, it is critical to discuss the possibility and difficulty of the adoption of quality and related approaches in a HE context. The following section defines quality and quality approaches (QA and TQM) and discusses their implementation in a HE context.

3.5 The Adoption of Quality, QA, and TQM in HE

The ‘quality’ system has been applied in HE because of its successful implementation in business and industry. Koslowski (2006) claims as a history of quality in business, quality in HE has a similar one. Many HEIs worldwide have been concerned with quality to enhance administrative and educational services and thus, to meet the needs of individuals and societies. Lundquist (1998) believes, “Quality has become a common element in the current discussion in higher education” (p. 51). According to Koslowski (2006), it is imperative for universities and colleges to gain the benefits of quality experienced in industrial settings. It is indicated that there is a high call to implement quality approaches in a HE environment. However, the question is to

what extent can quality approaches used in industry be appropriately defined in an education context?

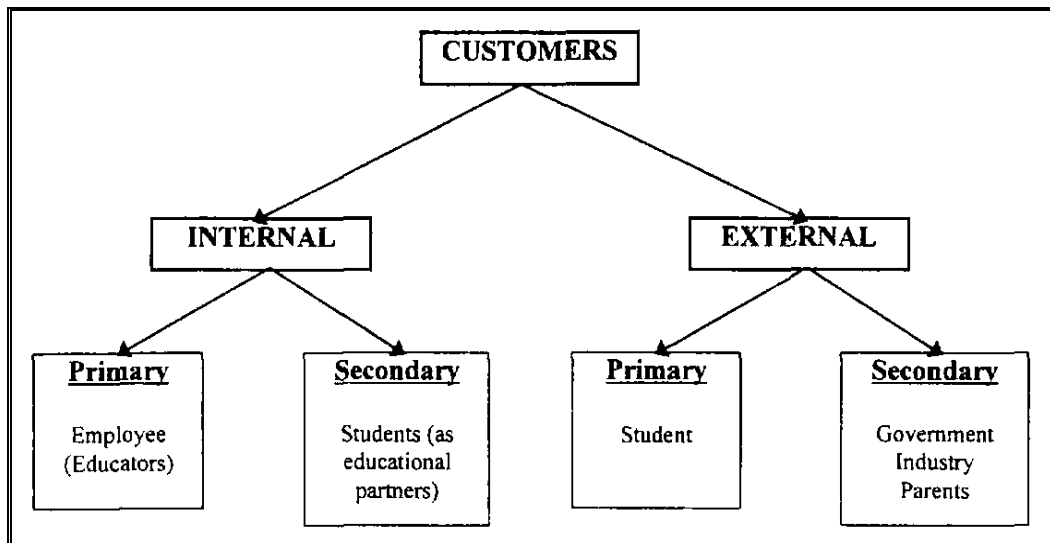
Based on its different definitions in industry, quality in HE is described from different perspectives. Schuck et al. (2008) assume that the term ‘quality’ relating to education is attributed as a product but not a process. Because quality is basically related to industrial environments and defined from different perspectives, it is perhaps difficult to define it in education (a different setting). Koslowski (2006) argues, “Concrete definitions of quality in the context of higher education are not universally accepted by those who feel that the academic enterprise is wholly different from any other enterprise, with ‘end-products’ too discrete for quantitative measurement” (p. 281). Reddy (2008) believes that quality in education is considered as a multi-dimensional concept and it can be defined from different views. Therefore, it is difficult to accept a particular definition of quality in the context of education, as in industry, because of differences between the two environments.

However, there have been attempts to define quality in HE by modifying its characteristics to be applicable in an education context. According to Harman and Meek (2000), quality in HE refers to a “judgment about the level of goal achievement and the value and worth of that achievement” (p. 9). Harman and Meek’s point of view regarding quality in HE underlines the level and value of goal achievement. In addition, Jager and Nieuwenhuis (2005) believe that quality education involves every element in an education setting in order to meet customer expectations and that continuous improvement within the whole education system is needed to fulfill customers’ needs. Jager and Nieuwenhuis’s

definition connects quality in education to the achievement of customers' expectations. Although this viewpoint attempts to provide a special definition for quality in education, the definition still focuses on meeting customers' needs. In this regard, the issue raised is who are the potential customers in an education context?

Because HE is different from business and serves many groups and bodies, there is no agreement on the potential customers who seek quality education. Sirvanci (2004) states, "Among the main groups within the higher education institutions- namely faculty, students, and administrators - there is not much agreement on who the customers are" (p. 383). According to Kanji and Tambi (1999), there are primary and secondary groups of the customers of HE, based on their locations (Figure 4). As shown in Figure 4, the customers of HE are grouped mainly as either internal or external (divided to primary and secondary in each group). Students are regarded as internal secondary customers (as educational partners) and also as primary external customers (as a principal beneficiary of HE). Therefore it appears that there are different customers for quality education in HE, based on their positions and purposes.

Figure 4: Customers for Higher Education



Source: Kanji & Tambi (1999, p. 131)

The issue raised regarding the identification of customers of quality in HE is maybe because of the use of particular concepts relating to quality and different purposes for quality education. Frazer (1992) points out that QA in HE is needed to attain accountability and raises a relevant question, ‘accountable to whom?’; the answer would be QA is accountable to three different groups: (society and government), (students and employers of graduates), and (professions and colleagues). Frazer’s point of view indicates that a difficulty in identifying who are the customers for HE results from the use of accountability. From Owlia and Aspinwall’s (1996) perspective, the identification of customers of education is different from that in business and general services because “...groups such as students, employers, academic staff, government and families are all customers of the education system with a diversity of requirements” (p. 18). Owlia and Aspinwall claim that quality dimensions (Tangibles, Competence, Attitude, Content, Delivery, and Reliability) in HE are not all of

the same degree of interest for different groups of customers (Table 6). Table 6 illustrates that students are customers for all six dimensions of quality, while staff are customers in four dimensions and employers are customers only in the dimensions of content and reliability.

Table 6: Quality Dimensions and Customer Groups

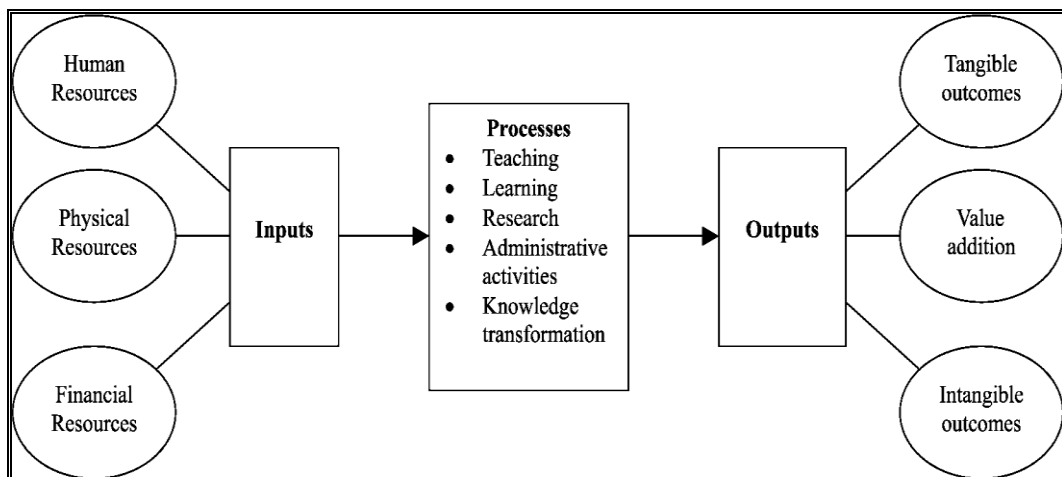
No.	Dimension	Customers
1	Tangibles	Students, staff
2	Competence	Students, staff
3	Attitude	Students
4	Content	Students, staff, employers
5	Delivery	Students
6	Reliability	Students, staff, employers

Source: Owlia & Aspinwall (1996, p. 19)

Quality in HE is also considered as a transformative process consistent with a view of education as a transformation. Sahney, Banwet, and Karunes (2004) argue that education can be regarded as a transformation system (Figure 5), which transforms inputs (such as human resources) into outputs (such as tangible outcomes) through certain processes (such as teaching and learning). From this perspective, Horsburgh (1999) assumes quality in HE should be viewed as a process of transformation; “it cannot be separated from learning, teaching, assessment, institutional practices and structures and the institutional, departmental and faculty culture and climate” (p. 10). Horsburgh claims that a

transformative process is impacted by each part involved in the education environment that transforms students into graduates. A viewpoint of Horsburch considers quality as a transformative process, utilizing all elements and factors in an education context to achieve a production of graduates. In spite of the difficulty in defining quality and identifying customers for quality education, HEIs have been encouraged to implement quality approaches in the HE context.

Figure 5: Education as a “Transformation System”



Source: Sahney, Banwet, & Karunes (2004, p. 153)

In order to ensure the quality of their services, many HEIs have implemented QA as an appropriate quality system. In fact, emphasis has been placed in governmental agendas with the purpose of enhancing HE according to the requirements of a society in a global arena. Gibson (1993) states that in the beginning of the 1980s, HEIs paid more attention to the adoption of a QA system. According to Segers and Dochy (1996), “As a number of European countries moved to a more market-oriented steering policy for higher education with an emphasis on accountability through external quality assurance systems,

there was a growing interest in the American accreditation systems” (p. 115). HEIs adopt a QA system in order to enhance the quality of education by focusing on accreditation and standards.

By implementing QA, HEIs expect to enhance the quality of their services as a response to regional and global necessities. Harman and Meek (2000) emphasize, “In many countries, managers of higher education systems and institutions are concerned about quality and how to put in place appropriate quality assurance mechanisms” (p. 7). Lenn (1994) demonstrates that internationally QA has been required owing to internal reasons within HEIs, such as a growing demand and market promotion for HE, and external reasons, such as international cooperation between agencies of HE, requiring the assurance of education. The internal demands of individuals and societies and collaborations between organizations on the application of international standards force HEIs to implement QA systems. However, can QA, as an industrial approach, be understood and used properly in a HE context?

In line with the debate about defining quality in an education context, and even in an industrial one, there have been different perspectives on defining QA. Kettunen (2008) considers QA in HE as a “holistic approach providing a philosophical framework for the development of HEIs” (p. 323). Kettunen’s definition focuses on developing universities and colleges in general, without referring specifically to the term ‘quality’ and this is maybe because of a difficulty in defining quality education. However, Segers and Dochy (1996) assert that QA in an educational environment is concerned with assuring quality by planned activities. Hall (2010) states, “More specifically, when something is

said to be ‘quality assured’, the presumption is that it has satisfied a relevant standard or test that is specified in the quality assurance framework of an institution” (p. 4). The two above points of view stress the assurance of quality in the context of education by the use of a planned framework. QA in HEIs, therefore, assumes the necessity of movements and practices towards ensuring the quality of the various services involved in HE settings.

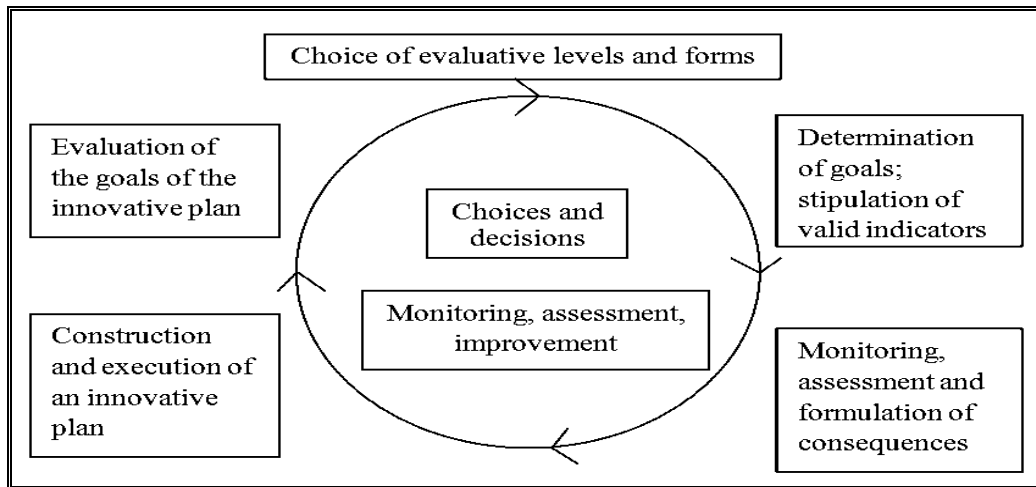
QA within HEIs puts emphasis on particular principles such as accountability and commitment to manage and enhance quality education. In the context of QA in HE, there is a need for a “commitment of everyone in the institution to an organizational culture that prizes quality, relentlessly improving in search of perfection” (Tam, 2001, p. 49). Through QA processes within HE potential faults should be at least reduced if not prevented to ensure quality education. Further, Hodson and Thomas (2003) suggest there has been great importance placed on compliance and accountability with respect to QA processes in HEIs. As in a business context, QA in a HE context also focuses on accountability, compliance, and commitment to maintain and enhance quality education. Green (1994) points out that QA can achieve accountability in HEIs internationally if it recognizes the principles that: HEIs must be open to external scrutiny, quality improvement is the responsibility of HEIs, self-regulation is desirable to HEIs, different purposes and interests of stakeholders in assessing quality of HEIs, and recognition of tension between external accountability and quality improvement.

The adoption of QA in HEIs is manifested in different methods and activities related to all components of an education context. Harman and Meek (2000) describe certain primary mechanisms of QA in HE: “self studies or self

evaluation; peer review by panels of experts; the use of relevant statistical information and performance indicators; and surveys of key groups, such as students, graduates and employers” (p. 21). These methods can serve the vision of a HEI by assuring the quality of educational services corresponding to pre-specified objectives and standards. Sanyal and Martin (2007) suggest that a QA system uses three mechanisms: quality audit, quality assessment, and accreditation. QA agencies of HE usually apply more than one method to analyze certain units such as institutions and programmes.

To ensure a proper implementation of QA in HE, an appropriate context should be prepared in HEIs. Dolmans et al. (2003) point out that sometimes there were unsuccessful outcomes in evaluation practices within HEIs and QA did not effectively lead to improvement. Dolmans et al. suggest that “To ensure improvement, quality assurance should be a cyclic process. This process consists of three steps: (1) measuring, (2) judging and (3) improving” (p. 211). Moreover, in order to attain positive outcomes within HEIs, Segers and Dochy (1996) proposed a certain cycle for QA which includes, at least, three critical stages: monitoring, assessment, and improvement (Figure 6). The cycle should start with a choice of the type of evaluation, such as an institutional level, and finish with the evaluation and development of an innovative plan in order to enhance quality according to the first choice of evaluation in the beginning of the process. These two points of view indicate that a QA process in HEIs should be cyclical, beginning with a measurement of activities through appropriate assessments to achieve improvement of quality education at the end.

Figure 6: Cycle for Quality Assurance



Source: Segers & Dochy (1996, p. 119)

In addition to the adoption of QA, HEIs implement TQM in order to enhance quality education, as well as to develop a quality culture within an education environment. Barnett (1992) argues that TQM is considered as a development of QA in HEIs; it seeks to generate a wide commitment to QA within these institutions. Holloway (1994) states, “TQM has an obvious appeal for higher education institutions today as they are being encouraged to compete actively for students (their primary ‘customers’ or beneficiaries)” (p. 107). Ho and Wearn (1996) emphasize a need for the adoption of TQM in HEIs because of its successful application in commercial organisations. HEIs adopt TQM to take advantage of its principles to enhance quality education in order to meet the needs of their customers, in particular students. However, an issue is in what area(s) could TQM principles be applied in HEIs to enhance quality education?

The adoption of TQM in an educational context could be applied in different areas in HEIs. Presutti, Buzzi, and Heckman (1995) stress this point by

providing a view that “Most of the literature argues that TQM principles may be applied to both the academic and the administrative activities of colleges and universities” (p. 135). Therefore, TQM principles can be implemented in academic and administrative areas in HEIs in order to enhance the quality of services and activities provided in these two fundamental areas. Hebert, Dellana, and Bass (1995) also argue that TQM can benefit university environments when its principles are integrated in four areas: administration, curriculum, classroom, and research. In addition, education settings can embrace benefits of TQM in “analysis, design, development, implementation, and evaluation processes” (Osman, 1997, p. 365). These viewpoints argue that TQM can be beneficial for education through an integration of its creative principles in various educational areas. In reality, would the adoption of TQM principles in a HE setting encounter particular barriers or challenges?

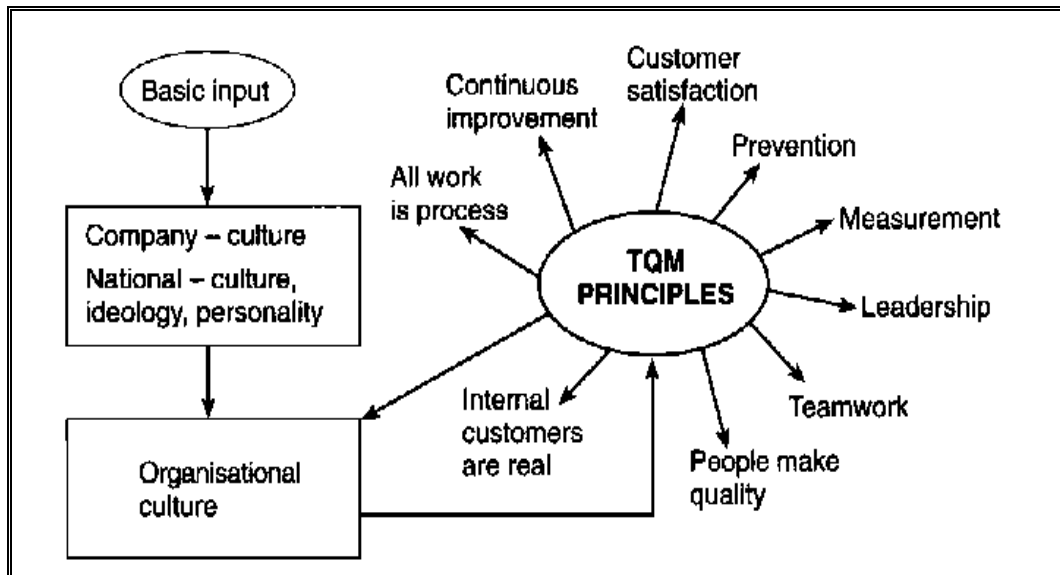
On the other hand, there is an argument that the transference of TQM, as an industrial approach, to HE may encounter possible challenges. The claim is based on the expected difference between industry and education. According to Venkatraman (2007), the application of TQM in education may face particular obstacles such as a misapprehension of TQM because of limited relevant knowledge, an opposition to change among employees, a shortage of adequate financial resources, and the complexity of measuring quality in HE. Sirvanci (2004) believes that a TQM implementation in HEIs is different from in business firms and thus, faces particular challenges, such as a lack of an essential authority for university leaders, a resistance to cultural and organizational change, a difficulty in customer identification, and the debatable

issue of a students' role. Rowley (1995) also suggests some barriers to the adoption of TQM in HE, such as a resistance to the industrial language of TQM and considering students as customers, ambiguous commitment through management, and time necessities. It seems the implementation of TQM principles in a HE environment is not an easy task because of the difference between education and business. Hence, the application of TQM may require a suitable and prepared environment in order to transfer an industrial approach to a new setting such as education.

In spite of the claim that some challenges are facing the adoption of TQM in education, many HEIs worldwide have implemented and benefited from TQM principles. Idrus (1996) investigated literature about the adoption of TQM in HE and found that the adoption of this approach in HEIs has been advocated by lots of studies. Sirvanci (2004) also reports that many HEIs all over the world have successfully adopted of TQM. The University of Wisconsin-Stout, for instance, won in 2002 the 'Baldrige education award'. Moreover, Hogg and Hogg (1995) note that IBM has granted one million dollars to eight American HEIs to adopt TQM in their curricula. The grant stresses IBM's concern with the adoption of TQM approaches in education and encourages these HEIs to take advantage of this approach in curricula. As Sherr and Lozier (1991) state, "Now some colleges and universities are beginning to recognize that TQM values are more compatible with higher education than many existing management systems" (p. 3). These examples of supported and successful TQM adoption stress the importance of preparing an appropriate context for the adoption in HEIs.

A proper adoption of TQM in education necessitates a prepared culture and a suitable context. According to Jager and Nieuwenhuis (2005), the key factors for the adoption of TQM in education involve leadership, teamwork in a problem-solving approach, and scientific techniques and tools. Osman (1997) believes that a productive application of TQM in education relies on certain core principles such as "...monitoring and assessment, a holistic approach to quality control and assurance, responsiveness to customers needs and satisfaction, focusing on system outputs' requirements, and empowering both teachers and students" (p. 373). Greenwood and Gaunt (1994) suggest that, in order to successfully embrace TQM in education settings, it is necessary to develop 'corporate culture' and change the school's organizational structure before constructing the desired culture. While Jager and Nieuwenhuis, and Osman focus on the facilitation of implementing TQM principles and values in an education context, Greenwood and Gaunt focus on changing a school's structure and establishing a corporate culture in order to achieve successful adoption. Kanji, Tambi, and Wallace (1999) generate a particular quality culture to be customized in a HEI in order to take advantage of TQM principles (Figure 7). As illustrated in Figure 7, a basic input (company and national culture, ideology, and personality) forms an organizational culture, which incorporates TQM principles in order to create and support a TQM organizational culture.

Figure 7: Creating Quality Culture



Source: Kanji, Tambi, & Wallace (1999, p. 365)

To successfully embrace potential advantages of TQM principles within a HE setting, there is a need to develop relevant frameworks. Venkatraman (2007) suggest the core values for the TQM framework in HE include: “leadership and quality culture; continuous improvement and innovation in educational processes; employee participation and development; fast response and management of information; customer-driven quality; and partnership development, internally and externally” (p. 100). Vazzana and Winter (1997) emphasize a need for implementing TQM, as an integrative approach, to enhance the teaching/learning process in HEIs; such an approach relies on the efforts of academic and support staff and other stakeholders to improve the quality of teaching/learning. In order to adopt TQM, universities should establish a particular framework to take advantage of this approach in educational activities.

From the above, it is concluded that quality and quality approaches (QA and TQM) have appeared in industry to improve the quality of products and services in order to meet customers' expectations. To improve educational services, many HEI have adopted these approaches although their application in education faces barriers and challenges because of differences between the two contexts. HEIs should prepare the context of education and establish particular frameworks to adapt QA and TQM to the new situation and take advantage of these quality approaches. For example, a classroom setting and a learning environment should be prepared to benefit from the principles of quality approaches in order to improve teaching quality. The improvement of teaching quality would develop teaching practices and provide academics with appropriate and advanced professional skills. The issue of teaching quality improvement in HE will be discussed in the following section in order to identify the implications for the PD of academics.

3.6 The Improvement of Teaching Quality in HE

In a global and competitive market of HE, HEIs must take into consideration the importance of teaching quality. Cochran-Smith (2003) claims, "...it has become commonplace to presume that matters of teaching quality figure largely in the ultimate improvement of education" (p. 95). Cochran-Smith suggests that according to common agreement, teaching quality significantly influences learning and school effectiveness in spite of different assumptions regarding the educational purposes and measurement of teaching effectiveness. According to Kyrkjebo (2006), the learning process would be negatively influenced if academic staff do have insufficient role models and inadequate advanced

knowledge and skills. Teaching quality in HE is considered as a major factor, affecting student learning. The following sub-section sets out a definition of teaching quality.

3.6.1 Definition of Teaching Quality

It seems difficult to define teaching quality because of its inter-correlation with different components within a learning environment. Other than a complex definition of teaching as a multi-dimensional term, the difficulty in defining teaching quality is also derived from a debate about the definition of ‘quality’ and ‘quality of education’. For example, Harvey and Green (1993) argue that “Quality can be viewed as exception, as perfection, as fitness for purpose, as value for money and as transformative” (p. 9) and the assessment of quality in HE should consider the understanding of these different definitions of quality. Johnston (1994) maintains the debate on defining ‘quality’ by identifying four definitions for the term of quality, which can be applied to higher education: ‘Quality as standard’; ‘Quality as ‘value for money’; ‘Quality as ‘fitness for purpose’; and ‘Quality as ‘value-added’’. Barandiaran-Galdos, Ayesta, Cardona-Rodriguez, Campo, and Olaskoaga-Larrauri (2012) acknowledge a difficulty in the identification of particular factors shaping quality of education because of: an avoidance of analytical approaches in the nature of education, a lack of a well defined concept of ‘quality of education’, and the importance of things depending on human attributes. The issue may not rely only on a debate on the definition of ‘quality’ and ‘quality of education’ but also on the use of different terms to refer to the term of ‘teaching quality’.

The terms ‘effective teaching’, ‘good teaching’, and ‘teaching excellence’ are possibly used to refer to teaching quality. Lally and Myhill (1994) raise this issue by asking “Is ‘quality teaching’, for example, synonymous with ‘good teaching’ and is this the same as ‘effective teaching’?” (p. 6). Devlin and Samarawickrema (2010) argue that to ensure the quality of teaching and learning in HEIs, it is necessary to understand effective teaching. In addition to those two concepts, ‘teaching excellence’ is also used in literature and maybe understood as a ‘teaching quality’ term. Hammer et al. (2010) demonstrate that teaching excellence can be defined differently depending on various factors “...such as who is defining it, the learners (eg, students vs. colleagues), subject matter, methods used, and many other factors” (p. 2). These viewpoints stress a difficulty in determining a distinctive definition of teaching quality because of a multidimensional learning environment which integrates all elements related to teaching/learning. However, characteristics of teaching quality could be determined based on particular criteria or standards used by a HEI.

Regardless of the complexity in defining teaching quality, the concept can be associated, to some extent, to an efficient learning context. Kaplan and Owings (2001) believe teaching quality involves “creating a positive learning climate, selecting appropriate instructional goals and assessment, using the curriculum effectively, and employing varied instructional behaviors that help all students learn at higher level” (p. 64). Clearly, Kaplan and Owings connect quality of teaching, which integrates different elements of an educational process, to the ability of students to reach high levels of learning. Spooren, Mortelmans, and Denekens (2007) established an instrument to evaluate teaching quality in HE

from a student’s perspective. The scholars suggest that a theoretical construction of teaching quality includes eight main dimensions and 22 sub-dimensions (Table 7). Although the instrument is mechanical and detailed, it could be considered as a feasible indication (from a scholars’ perspective) of what should be involved in the evaluation of teaching quality.

Table 7: Theoretical Construction of Main and Sub-dimensions of Teaching Quality

Main dimension	Sub-dimension
1. <i>Course objectives</i>	(1) Clarity of objectives (2) Quality of objectives
2. <i>Subject matter</i>	(3) Value of subject matter (4) Attractiveness of subject matter (5) Build-up of the subject matter
3. <i>Course structure</i>	(6) Linking up with advance knowledge (7) Harmony with other courses in the programme (8) Linking up with social reality and future profession
4. <i>Teaching activities</i>	(9) Presentation skills (10) Harmony between objectives and organization of the course (11) Harmony between organization of the course and learning process of the students
5. <i>Course materials</i>	(12) Contribution to understanding the subject matter (13) Contribution to preparing for examination(s) (14) Link-up with organization of the course
6. <i>Course feasibility</i>	(15) Course difficulty
7. <i>Coaching</i>	(16) Help of the teacher during the learning process (17) Contribution of the teacher to prepare for examination(s) (18) Stimulation of the teacher in order to learn to be self-responsible
8. <i>Evaluation</i>	(19) Transparency of the examination(s)

- | | |
|------|--|
| (20) | Authenticity of the examination(s) |
| (21) | Content validity of the examination(s) |
| (22) | Formative examination(s) |

Source: Spooren, Mortelmans, & Denekens (2007, p. 671)

Recently, it has been a growing demand and aspiration from stakeholders to improve the quality of teaching in HE. The desired improvement is due to existing regional and global challenges that put pressure on HEIs to enhance and ensure the quality of student learning. McLoughlin and Samuels (2002) report that in the UK, USA, and Australia, research is increasing to establish appropriate approaches which can help improve teaching quality in HE. As Boore (1993) claims, “Various approaches are being used throughout higher education to attempt to ensure that students receive high quality teaching within well planned courses...” (p. 194). It appears that HEIs pay attention to implementing different approaches (such as QA and TQM) to improve teaching quality in order to enhance student learning.

In conclusion, although different terms have been used to define teaching quality, a definition of it could be determined by particular criteria or standards set by a HEI. The terms of good teaching, effective teaching, and teaching excellence could be used to refer to teaching quality. However, it has a distinctive nature because of its association to a term of ‘quality’. The association with ‘quality’ means that teaching quality should be defined as a comprehensive concept, integrating all elements of a context of teaching/learning and relying on particular standards and criteria. Teaching quality, thus, would be defined differently from one scholar to another and from

one HEI to another, depending on different perspectives and related standards. However, teaching quality should include any factors and aspects applied by academics (relating to the context of teaching/learning and based on a HEI's vision) to enhance student learning. To improve teaching quality, HEIs adopt particular quality approaches (such as QA and TQM) to take advantage of the benefits of these approaches in the context of teaching/learning in order to enhance student learning.

3.6.2 The Application of Quality Approaches to Improve Teaching Quality

As mentioned in section 3.5, HEIs adopt quality and quality approaches in order to improve educational services and activities. By this adoption, HEIs attempt to take advantage of quality approaches in the context of HE to improve teaching quality. The improvement of teaching quality, based on principles of quality and quality approaches, requires a preparation of an appropriate environment of teaching/learning. A new context should adapt quality principles to be compatible with processes of teaching and learning. Although HEIs pay more attention to preparing a suitable environment of teaching/learning for the adoption of quality approaches, particular difficulties and problems arise such as the identification of the chief customer of a quality education.

The adoption of QA and TQM in university teaching requires an identification of a direct customer in the context of teaching/learning. Sirvanci (1996) states, "Without a well-defined customer focus, quality efforts can easily be disused" (p. 99). Despite different internal and external customers of HE (such as government, society, institution, employers, parents, academics, and students),

the most direct internal customers of HE teaching are students. Sirvanci (1996) argues that students, in general, are assumed to be the direct customers of HEI in spite of the complexity in this assumption. Because QA and TQM approaches underpin customer focus as a very important principle, teaching quality should satisfy students as a primary customer in HEIs. Glaser-Segura, Mudge, Bratianu, Jianu, and Valcea (2007) believe that “A TQM approach to business higher education involves the opinion of the student as a principal customer and co-participant in the educational process” (p. 123). Therefore, the improvement of teaching quality should be oriented to satisfy students, as a main and direct customer of HE teaching.

Teaching quality, based on a QA approach, may require a set of particular standards to practise teaching in a learning context in accordance with these standards. Boore (1993) believes it is essential to establish certain standards for teaching methods in order to attain a high quality in such methods through QA. These designed standards will be then utilized as measures to assess teaching performance. By setting these standards, a suitability of teaching method(s) to match different learning styles will be achieved in order to assure teaching quality and serve students as principal customers. Schacter and Thum (2004) used a teacher behaviour and qualification research, and teaching strategies and models to develop twelve ‘teaching performance standards’ to evaluate teaching quality; these teaching standards are: “Teacher Content Knowledge, Lesson Objectives, Presentation, Lesson Structure and Pacing, Activities, Feedback, Questions, Thinking, Grouping Students, Motivating Students, Classroom Environment, and Teacher Knowledge of Students” (p. 416). The development

of particular standards for teaching quality could rely on the purpose and need for setting such standards in every HEI. Boore (1993) believes that guiding principles to set the standards for teaching methods could be included in structure, process, and outcome.

To improve teaching quality by a QA approach, it would be essential to choose appropriate principles and mechanisms to be applied in a teaching/learning context. The appropriateness would ease the integration of QA principles in teaching practices in order to maintain and improve teaching quality. Biggs (2001) claims by reliance on a type of quality to be guaranteed, QA could be 'retrospective' or 'prospective'; the former checks and judges quality against specified external standards and the latter underlines the assurance of teaching and learning in current and future situations and improve teaching continuously via quality enhancement (QE). Thus it would be necessary for a HEI to apply QA principles and tools in teaching practices to take advantage of this approach to the improvement of teaching quality. Biggs (2001) argues that in order to take advantage of QA to improve teaching quality, a HEI (like teaching staff) should pay attention to three aspects of QA: 1. Quality Model (QM), to focus on adopted theory of teaching; 2. Quality Enhancement (QE), to set built-in mechanisms to improve teaching practice continually; and 3. Quality Feasibility (QF), to employ certain procedures to remove obstacles to teaching quality. In short, QA principles and tools should be applied properly in a teaching context to facilitate and improve teaching quality.

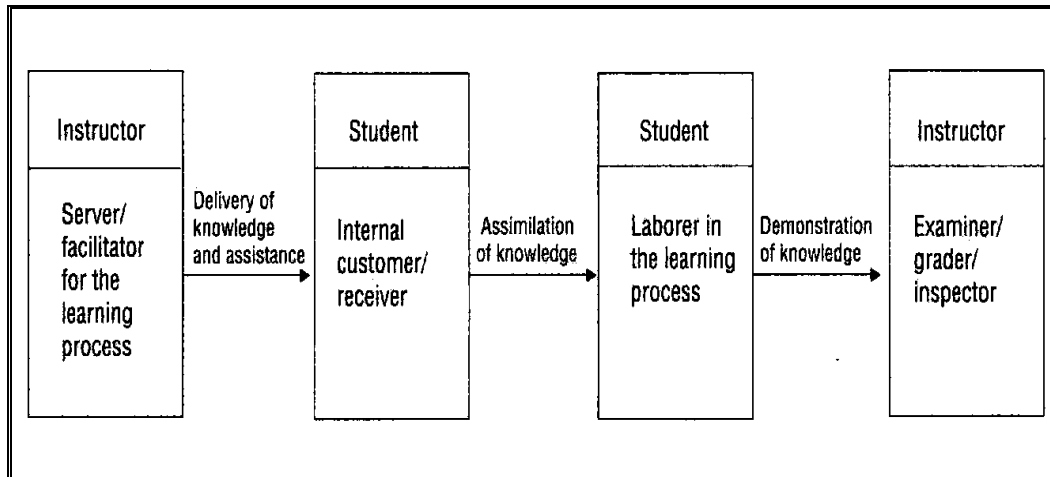
Although QA is needed in HE, literature shows that TQM has been adopted widely in many HEIs with the aim of improving teaching quality. For example,

Helms and Key (1994) argue that classroom teaching strongly demands the productive outcomes of TQM more than anywhere else. Moreover, Vazzana and Winter (1997) claim, “With its focus on quality, involvement and continuous improvement of both the product (student achievement) and the process (teaching and learning), the principles of TQM contribute to the improvement of higher education” (p. 314). By implementing TQM in HE teaching, particularly in the classroom, the learning environment would embrace advantages of this concept to enhance the quality of teaching. McNary (1994) believes the adoption of TQM can encourage classrooms to be “more democratic--more informal, team oriented, and collaborative--than traditional classrooms” (p. 121). The question then will be how academics can apply and deal with TQM principles in a classroom setting.

In the context of a TQM adoption in classroom teaching, it would be necessary to take into consideration the dual roles of students and academics. Meirovich and Romar (2006) argue that a misunderstanding of the dual roles of learners and instructors leads to a difficulty in the application of TQM in HE teaching. Sirvanci (1996) argues that both student and teacher have multiple roles within a learning environment; while the instructor is a facilitator and the learner is a customer, the former becomes an examiner and the latter becomes an employee in a different stage of the learning process (Figure 8). Helms and Key (1994) claim that from a TQM perspective, the student must be treated in the classroom as more than just a customer, but also an employee. According to Chizmar (1994), a teacher should seek feedback from students as customers, and empower and involve them in relevant decisions as workers. It is very important

for academics to treat students as more than learners (customers) in classroom teaching within a TQM context.

Figure 8: Dual Roles of the Instructor and the Student in the Classroom

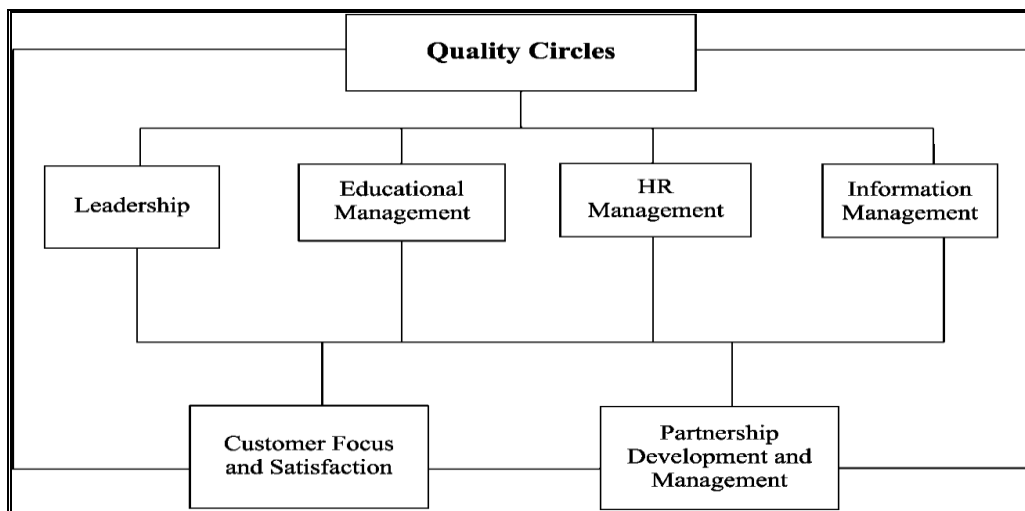


Source: Sirvanci (1996, p. 101)

A proper application of TQM in HE teaching needs an appropriate and a well-prepared instructional environment. Without preparing a teaching/learning setting to be adaptable to TQM principles, the expected advantages may not be attained. Byrnes, Cornesky, & Byrnes (1994) identify six conditions that teachers should create within the context of TQM teaching: “1. Education and Commitment of the Teacher, 2. Education and Commitment of Students, 3. Education and Commitment of Parents, 4. Establish Trust, 5. Establish Pride In Workmanship, and 6. Change the Classroom Culture” (p. 192). These six conditions assume that the appropriate setting for TQM teaching requires the participation of all groups (teachers, students, and parents). A well-prepared context for TQM to be adopted in HE teaching would enhance the quality of teaching and therefore meet students’ expectations.

The application of TQM in HE teaching should involve and match particular principles to a teaching/learning context. Venkatraman (2007) proposes a TQM framework to be applied in HE programmes, which is based on six elements: “leadership and quality culture, continuous improvement and innovation in educational process, employee participation and development, fast response and management of information, customer-driven quality, and partnership development, internally and externally” (p. 100). Venkatraman suggests that the six elements should be associated with quality circles to monitor and investigate the factors that influence teaching quality (Figure 9). According to Venkatraman’ perspective, teaching quality should be monitored by a quality circle, involving certain principles of TQM in order to check and improve teaching quality by embracing these principles.

Figure 9: TQM Framework in Higher Education



Source: Venkatraman (2007, p. 101)

From the discussion of the adoption of QA and TQM in HE teaching, it is necessary to prepare a particular context and/or framework to take advantage of

their principles. To effectively benefit from the advantages of QA and TQM, their principles should be appropriately applied in teaching practices and a learning environment. The application of these two approaches puts a pressure on academic staff to be responsible for adapting the principles and tools of QA and TQM to teaching practices in a learning context. For example, academics should be familiar with teaching standards and quality models and strategies to choose and adapt appropriate ones to teaching methods in the application of QA. Moreover, the principles of TQM such as a customer focus, continuous improvement and evaluation, teamwork, and open communication, need to be implemented in classroom teaching.

In order to improve teaching quality, it is essential to take care of those responsible for the role of teaching: academics. Further, the context of QA and TQM in classroom teaching creates additional responsibilities for academics to react to and achieve the goals of the application. In addition to those further tasks, academics in HEIs have been required to update their knowledge and develop their teaching practices consistent with constant innovations in the evolving nature of academic work. Therefore, the improvement of teaching quality should be fostered in HEIs by way of PD for academics.

The improvement of teaching quality requires more emphasis on the PD of academics in HEIs. Paying more attention to the PD of academics would support their focus on the improvement of teaching quality in order to enhance student learning. PDPs would give academics opportunities to advance their professional knowledge and skills. Further, these programmes will allow academics to be exposed to and practice up-to-date pedagogical experiences and

thus, enhance their instructional skills. In fact, through their participation in appropriate PD activities, academics in HEIs will have an opportunity to improve the quality of teaching. To date have HEIs taken into consideration the imperative need for the PD of academics in HE? And have those institutions focused on the improvement of teaching quality in available PD activities?

3.7 The Need for PD of Academics to Improve Teaching Quality in HE

Because of the adoption of new quality approaches to deal with innovations and to improve HE teaching/learning, a strong emphasis has been placed upon PD. Karagiorgi and Symeou (2006) believe that teacher training has been critically influenced by technological progress, economic growth, and a rising need for quality education. As Zuber-Skerritt (1992) states, “During the last twenty years or so, most higher education institutions in North America, Europe and Australia have established units or centres with the general aim of improving learning and teaching” (p. 145). Thanks to the requirement of accountability in HE teaching and the necessity to react to teacher change, HEIs have paid more attention to the PD of academics. Thus, PD has been required to improve the quality of teaching and learning by improving teachers’ skills and knowledge.

Boud (1999) advocates the need for restructuring the concept of academic work, relying on PD. Further, academic work in a context of HE should be reshaped by promoting PD for academics to improve teaching/learning. Collinson et al. (2009) argue that in a changeable world, academics and administrators demand continuous PD similar to other knowledge workers. As Rose and Kumar (2006) claim, “To optimize the effort to improve the quality of education, it is

necessary to improve the quality of educators in all aspects of their functions” (p. 32). While Collinson et al. stress a demand for PD for academics and administrations to deal with change, Rose and Kumar focus directly on the improvement of quality of academics as an implication for PD. PD for academics is viewed as an imperative component of the whole improvement process in HE, introducing up-to-date knowledge and skills to academics within the changing world of education.

3.7.1 Definition, Purposes, and Forms of PD for Academics

Regardless of the use of different terms to refer to ‘PD’, the concept of ‘PD’ in HEIs is generally concerned with the improvement of academics’ knowledge and skills to develop their academic roles. In literature, ‘PD’ is defined by different terms such as ‘staff development’, ‘faculty development’, ‘in-service training’, and ‘lifelong learning’. However, these different terms focus on the development of academics in order to improve their roles and functions related to the academic profession. According to Dean (1991), “The terms ‘staff development’, ‘professional development’, and ‘in-service education’ tend to be used interchangeably for both the process of individual development and that of organizational growth” (pp. 4-5). Dean believes that compared to the other terms, ‘PD’ is more related to a ‘profession’ and deals with teachers as professionals. Partington and Stainton (2003) point out that lifelong learning is concerned with continuous career-long learning to boost capabilities of flexibility, creativity and adaptation. In the current study, the term PD is adopted and will be used interchangeably with the terms of faculty development, staff development, in-service training, and lifelong learning.

PD is generally concerned with the improvement of individuals or groups in their work settings. Dean (1991) defines PD as an "...increase in some aspect of professionalism and can legitimately be applied to the development of individuals or of groups if the purpose of the activity is the increase of professionalism" (p. 5). Dean's definition of PD focuses on the improvement of staff work (as individuals or groups) in association with their distinctive profession. Browell (2000) also interprets continuing PD as a "...constant updating of professional knowledge throughout an individual's working life requiring self-direction, self-management and a responsiveness to the development opportunities offered by work experience" (p. 58). It appears that Browell's point of view refers to PD for individuals rather than groups. Based on its purpose, the current study defines PD for academics as systematic and continuous development efforts to improve academics' knowledge, skills, beliefs, and attitudes leading to the enhancement of teaching quality and student learning.

Collinson et al. (2009) point out that PD for academics could be shaped into "three emerging trends designed to broaden and enhance teachers' learning through continuous professional development: glocalisation, mentoring (in the form of induction), and re-thinking teacher evaluation" (p. 3). Collinson et al. explain that 'glocalisation' combines global and local concepts and values, such as in curricula, whereas 'mentoring' involves formal and informal patterns to enhance the experience of novice teachers; 'rethinking teacher evaluation' embraces and goes beyond traditional assessments to develop teachers' practices and improve instruction. These three trends in PD, based on Collinson's et al.

point of view, would enhance teacher learning according to the purpose of PD. Therefore, PD for academics embraces relevant aspects in an educational context globally and locally in different patterns to improve teacher development.

PD for academics, and even for general staff, is presented in different forms and activities. These activities could involve seminar, workshops, short-term courses, fellowships, and long-term programmes (Steinert, et al., 2006). These PD activities for academics have been extended to involve new forms and programmes. According to Steinert (2000), "...we should consider the development of 'formal' mentorship, integrated longitudinal programs, decentralized activities, self-directed learning initiatives, and computer-based faculty development" (p. 45). Given the advances and innovations in ICT, PD for academics can take advantage of advanced technologies to vary and promote PD activities and forms. The type of a professional activity could be determined according to the purpose of the improvement, the number of expected participants, and the nature of available facilities and resources.

It is suggested that PD for academics in HEIs has been advocated to enhance theoretical and practical knowledge of teachers with regard to their academic roles, including the practices of teaching. According to Collins (1999), "Professional development is about change-change in what you know and believe about teaching and learning and in what you can do in the classroom" (p. 25). Collins's view of PD emphasizes a change which should be involved in the development of teaching and learning to enhance teaching practices. PD has been needed not only to improve teaching quality, but to improve the quality of

learning as well; the quality of student learning is accordingly influenced by teaching quality. Holloway (1994) demonstrates there is an assumption that new skills acquired by a teacher would improve student learning if they are practiced in the classroom. To improve student learning, it is important for academics to be reflective practitioners, making change in their teaching practices and achieving PD.

3.7.2 The PD of academics through Reflective Practice

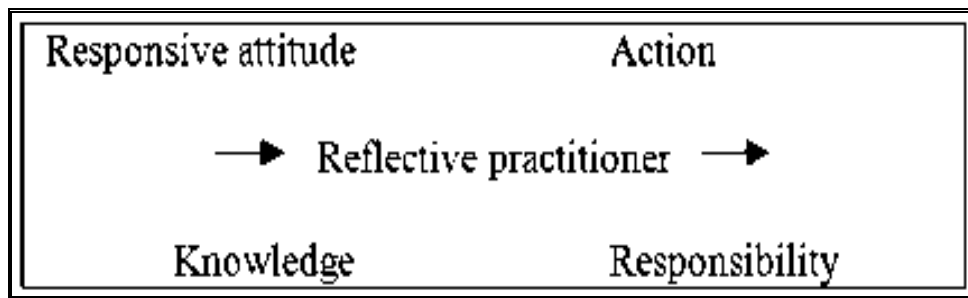
Reflection on teaching practices is considered as an important means to improve the quality of teaching and learning in the HE setting. By the use of reflective practice in the PD in HE, academics will be interested in applying changes initiated by themselves rather than others. Richardson (1998) stresses this notion by stating that “Teachers often resist change mandated or suggested by others, but they do engage in change that they initiate: What I call voluntary change” (p. 1). For this reason, reflective practice in the PD of academics is advocated to improve teaching quality in HE. Ferraro (2000) maintains that reflective practice could be considered as beneficial form of PD for teachers to gain understanding of their teaching practices in order to improve the effectiveness of teaching in the classroom.

The inquiry may be raised about a particular paradigm that reflective practice relies on. Osterman and Kottkamp (1993) point out that reflective practice is based on ‘experiential learning’ traditionally and ‘situated cognition’ recently. The scholars state that experiential learning stresses that effective learning begins with problematic experience in the learning process, while situated

cognition stresses the importance of the process and context of learning. The base of reflective practice emphasizes the importance of ‘lifelong learning’ for academics in making meaningful change in their teaching practices in order to improve the quality of teaching/learning. According to Yates (2006), “Yet we know that lifelong learning is essential: a good teacher is also a good learner, and so it is crucial that we build opportunities for reflective professional development into our working lives” (p. 1).

Reflective practice provides teachers with opportunities to enrich their awareness and understanding of teaching practices. The awareness and understanding will help academics to make desired change and develop their professional roles. Osterman and Kottkamp (1993) define reflective practice as a “means by which practitioners can develop a greater level of self-awareness about the nature and impact of their performance, an awareness that creates opportunities for professional growth and development” (p. 2). To be a practitioner, there are three characteristics of reflective individuals have been identified by Dewey and still useful for academics: ‘open-mindedness’ (viewing the issue from more than one perspective); ‘responsibility’ (considering the consequences of the action); ‘wholeheartedness’ (evaluating the practice to make meaningful and desired change) (Farrell, 2008). Broeder and Stokmans (2012) suggested that the teacher, as a reflective practitioner, should create a dynamic learning environment involving a reaction of necessary knowledge in the changeable teaching situation and a constitution of the changeable action by an attitudinal dimension (Figure 10).

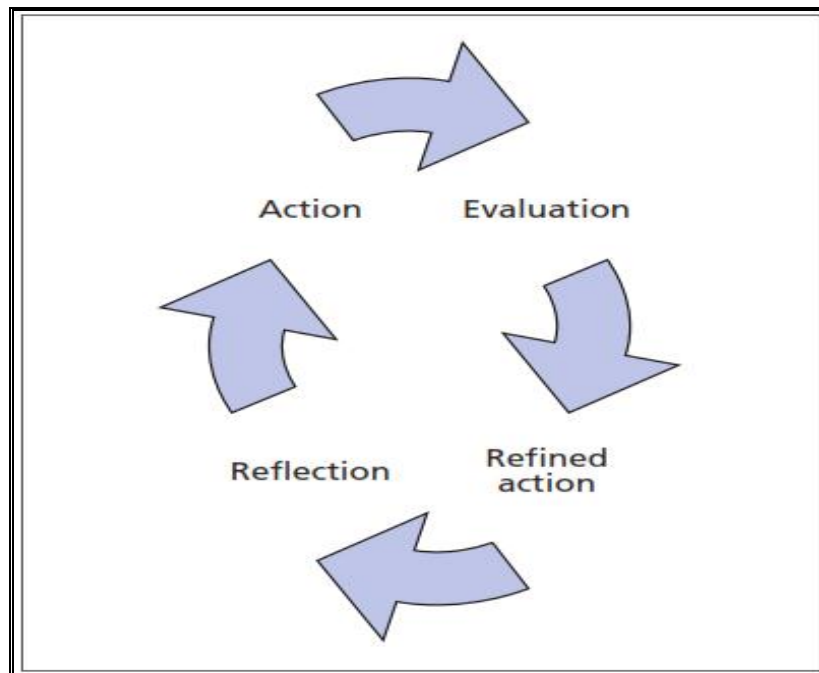
Figure 10: The Teacher as Reflective Practitioner: Knowledge and Attitude



Source: Broeder, & Stokman (2012, p. 5).

The reflective practice PD is different from traditional PD in dealing with the situation of teaching and the context of learning. Yates (2006) asserts that “While many other kinds of professional development are useful, the opportunity, time and encouragement to reflect on practice is an essential ingredient in professional development because it can promote insights that are particularly deep, transformative and lasting” (p. 1). The process of reflective practice requires enough time and opportunity to allow teacher proceed particular phases in making meaningful changes in his/her teaching practices. Yates (2006) suggests that a reflective practice PD project is cycled in four phases: ‘action’- ‘evaluation’- ‘refined action’- ‘reflection’ (Figure 11); the cycle begins with a particular action of a problematic issue, evaluation of the issue carefully, and then refinement or change of action, and finally a reflection on the selected issue in order to be tried again.

Figure 11: The Cycle of Reflective Practice



Source: Yates (2006, p. 1).

What are the appropriate approaches and procedures that can be used to carry out reflective practice PD in the HE setting? Farrell (2008) points out that the faculty can use three particular approaches separately or in combination to facilitate the reflective practice PD; these approaches are: “engaging in action research projects, writing in a teaching journal, and joining a teacher development group” (p. 4). The approaches provide academics opportunity and time to evaluate their teaching practices and reflect what they learned in the desirable change. It is also very important to prepare an appropriate environment to conduct a successful reflective practice PD. Yates (2006) claims that organization and coordination are the two critical strategies for HEIs to set up a successful reflective practice project; organization is concerned with the

arrangement of the meetings of teachers and coordination is concerned with particular procedures during the conduct of the reflective practice project.

The reflective practice PD could be beneficial for both teachers and learners. Yates (2006) points out that the reflective practice PD project will provide teachers with particular benefits involving: focusing on relevant real issues, impacting on practice immediately, providing time for reflection, making understandings more clear, rethinking these understandings, exploring issues more deeply, improving the management of time, widening their aspirations and skills, adopting a continuing reflection, and engaging effectively with their students. The learners also will benefit from the reflective practice PD through the promotion of student learning. Yates (2006) demonstrates that the reflective practice project can benefit students through “improved and extended learning experiences; promotion of their own reflection; opportunities to express their preferences; opportunities for student participation” (p. 3).

3.7.3 Evaluation, Design, and Facilitators for PD of Academics

Are available PDPs conducted adequately to improve teaching quality in HEIs? Some studies in the field of PD for academics reveal that there are insufficient PDPs conducted to improve teaching quality in HEIs. For example, McInnis (2000) discussed a national survey of 1554 academics in 15 Australian universities regarding the conduct of PDPs in teaching methods; the study showed that only 25% of sample had some training in the last two years and 34% in the beginning of teaching. Moreover, Kuptarnond (2000) addressed an implementation of PDPs for academics in Thailand private HEIs, as perceived

by deans and department chairs, and revealed that added programmes are needed for the development of instruction and discipline. Ballantyne, Borthwick, and Packer (2000) also surveyed 87 staff and 127 students in different faculties at the Queensland University of Technology (OUT) in Australia and concluded that PD opportunities, as perceived by faculty, are not constantly accessible and time does not help them to participate. These three studies support, to some extent, the assumption that existing PDPs in HEIs are insufficient and there is a need for more programmes concerning the improvement of teaching quality.

Inadequate PD for academics will not support the aim of teaching quality improvement, especially in the context of accelerating educational changes and academic innovations. This situation generates potential implications for the administration in these institutions to prepare more PDPs respecting teaching quality improvement. For this reason, HEIs should put more emphasis on planning and organising enough and appropriate programmes related to the improvement of teaching quality. In addition, the administrations in these institutions should focus on particular areas related to teaching quality in the design of the content and activities of PDPs.

In educational settings, PD for teachers places strong emphasis on the improvement of teaching. McLoughlin and Samuels (2002) argue that academics in HEIs are working in an environment, stressing a growing and evident need for more investment in PD in teaching practices. Wetherill et al. (2001/2002) claim, “A critical challenge to improve the quality of teaching and student performance outcomes is to consider how educators are initially trained

and provided opportunities for professional renewal and retooling throughout their career” (p. 54). In recent times, there has been a growing call for more emphasis on PD for academics in order to improve teaching quality. The PD of academics can be considered as a helpful way to support a HEI’s vision and goals of the improvement of teaching quality by developing academics’ knowledge, skills, beliefs, and attitudes in the area of teaching/learning. However, is there any evidence that PD of academics in HEIs has positive influences on teaching quality improvement?

Literature provides empirical evidence for a positive effect of PDPs upon teachers’ practices and, even, on their beliefs and attitudes towards teaching. For example, Rust (2000) summarizes the results of two evaluative studies of the Brookes’ course (an initial training for new teaching staff at Oxford Brookes University in the UK). The findings of the two studies provide the evidence that the course had a positive effect on teaching for the majority of participants; in many cases the effect is deep in changing teaching practices and goes beyond that to affect teachers’ beliefs and attitudes and other roles of teachers. The study concludes that “The impact of the course also goes beyond its primary developmental aims regarding teaching and learning through also providing things such as support, induction and networking” (Rust, 2000, p. 261). From Rust’s study, it could be concluded that PD has positive outcomes on the improvement of teaching quality and academics’ attitudes.

Furthermore, Behar-Horenstein, Schneider-Mitchell, and Graff (2008) report the perceptions of 12 participants’ regarding a web-enhanced seminar designed to

acknowledge faculty' needs related to pedagogy in a college of dentistry at the University of Florida. The findings revealed that according to participants' perceptions, the seminar reaches 4.9 on a five-point scale in assisting teachers to comprehend varied methods of teaching more than other lectures; the seminar also improves participants' awareness and confidence in teaching practices. The findings also showed that "Six themes (new knowledge, planned change, awareness, changes made, current practice and challenges to learning) ranging from 5.3 percent to 35.5 percent among four to twelve participants emerged across their learning journals" (Behar-Horenstein et al., 2008, p. 472). It appears that Behar-Horenstein's et al. study supports the assumption that PD positively influences teaching practices and academics' awareness. In spite of positive outcomes of PD for the improvement of academics' teaching practices and attitudes, PD for academics could encounter particular barriers and challenges.

Murray (2002), for example, reviewed research studies about PDPs at community colleges and found that the most prevailing barriers to these programmes are: 'Lack of Goals', 'Lack of Evaluation', and 'Low Faculty Participation'. Kuptarnond (2000) also identifies issues related to potential obstacles to the implementation of PDPs in private HEIs in Thailand: "1. Lack of involvement by faculty members and administrators, 2. Lack of support from institution, 3. Lack of well-organized and specialized trainers to support faculty development implementation, and 4. Lack of direct impact on student learning improvement" (p.p. 52-53). Moreover, Brew and Boud (1996) also suggest that in the setting of academics' development there is a need for more attention because commonly there is no coordination for faculty development provision,

insufficient required resources, miscorrelation between centralized schemes and departmental practices, and vagueness of academic responsibilities. Based on the findings and suggestions of these studies, common barriers to the PD of academics could include a lack of academics' participation, a lack of administrative support, a lack of systematic planning and evaluation. For these reasons, potential barriers to the PD of academics should be dealt with in order to enhance PD activities and improve teaching quality.

PDPs offered to academics in HEIs should be systematically evaluated in order to overcome potential barriers and enhance the quality of PD. The current issues relating to the extent of the investment in the PD of teachers and the 'tangible payoffs' of the investment has recently put more emphasis on effective evaluation of PDPs (Guskey, 2002a). Further, HEIs focus on the achievement of the PD goals and this focus demands the implementation of effective evaluation of PDPs in order to make sure that the investment in PD was successfully fulfilled. For this reason, "Those responsible for planning and implementing professional development must learn how to critically assess and evaluate the effectiveness of what they do" (Guskey, & Yoon, 2009, p. 500).

Evaluating PDPs offered to academics in HEIs will provide professional developers and administration with meaningful and productive information about the effectiveness and the impact of the PD. According to Guskey (2002a), "We use evaluations to determine the value of something- to help answer such questions as, Is this program or activity achieving its intended results? Is it better than what was done in the past..." (p. 46). Effective evaluations of PDPs

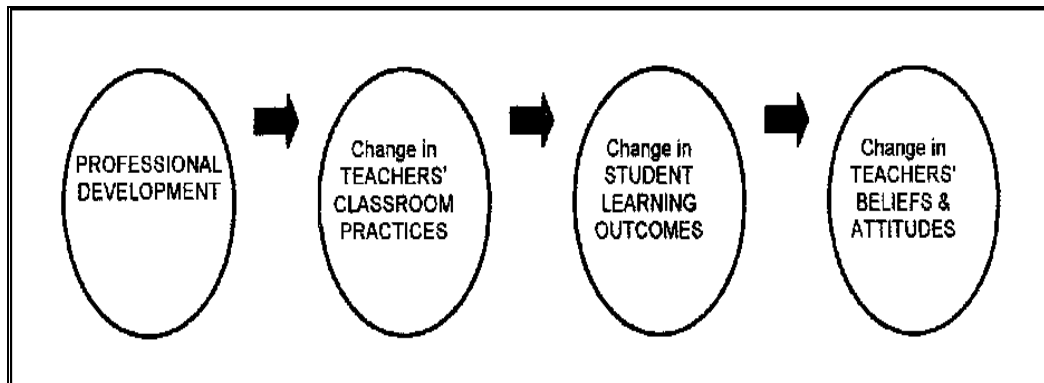
require particular information gathered relating to every aspect involved in the conduct of these programmes in order to be judged along with evaluation standards. Guskey (2002a) identifies five critical levels of PD evaluation information to be collected and analysed: 1. 'Participants' reactions'; 2. 'Participants' learning'; 3. 'Organisation support and change'; 4. 'Participants' use of new knowledge and skills'; 5. 'Student learning outcomes'.

Effective PD for academics should be systematically planned and evaluated with the aim of improving teaching quality and student learning. Collins (1999) believes, "Identifying content and objectives for professional development should involve the systematic study of student work and the impact of instructional practices on student learning" (p. 35). Sparks (1997) argues that the judgment of successful PD should be based on changes and improvements in the circumstance of teaching and its benefit to students. Because the PD of academics seeks the improvement of teaching quality and student learning, it is important to design effective PDPs relating to student and teacher learning.

Fishman, Marx, Best, and Tal (2003) argue that the creation of effective PDPs demands a construction of a practical knowledge foundation, linking the forms of PD to teacher and student learning. According to Guskey (2002b), "Professional development activities frequently are designed to initiate change in teachers' attitudes, beliefs, and perceptions...An alternative model that re-examines the process of teacher change is needed to guide the creation of more effective professional development programs" (p. 382). Guskey (2002b) points out that the 'Model of Teacher Change' involves the three main aims of PDPs,

presented in a particular frequent sequence as appeared in the model: ('change in teachers' classroom practices'; 'change in student learning outcomes'; and change in teachers' beliefs and attitudes') (Figure 12).

Figure 12: A Model of Teacher Change

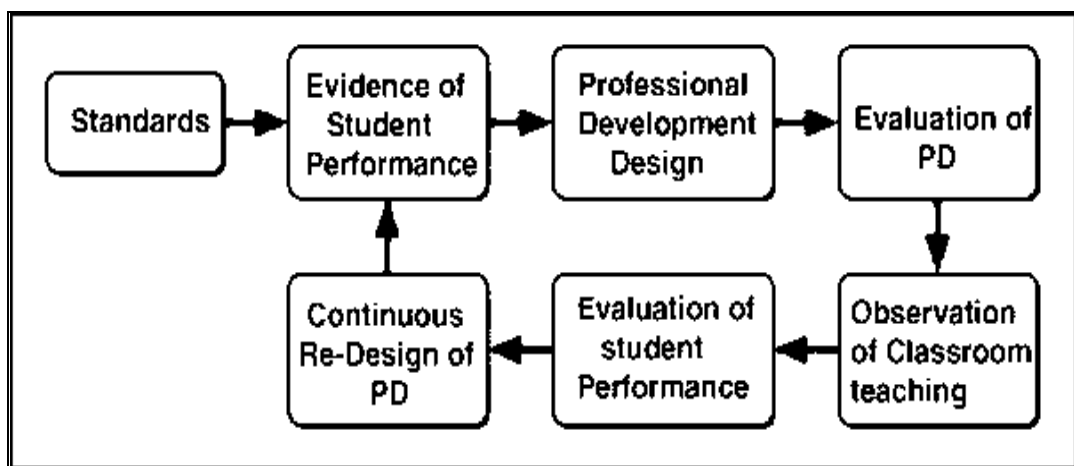


Source: Guskey (2002b, p. 283).

Linking PD of academics to teacher change and student learning requires particular PD design components. For example, Fishman et al. (2003) provide four elements for PDPs design relating to changes in teacher and student learning: 1. 'Content' (such as knowledge of teaching and subject matter); 2. 'Strategies' (such as planning assistance and examination of student work); 3. 'Sites' (such as after-school in-service sessions and summer-workshops); and 4. 'Media' (such as face-to-face interaction and computers). Moreover, Birman, Desimone, Porter, and Garet (2000) claim that the design of PDPs should involve three structural elements: (form of PD activity, duration of activity conduct, and type of participation-individually or collectively) and three elements characterizing the processes of PD: (content focus, active learning for participants, and coherence of PD activity to goals, standards, and assessments).

The elements of PDPs design and the desired change could be used as evaluation standards to measure the effectiveness of these programmers in the promotion of teaching and learning. Fishman et al. (2003) maintain that “Professional development is evaluated using a combination of teacher reflection, classroom observation, and ongoing assessment of student performance” (p. 643). Fishman et al. provide the ‘Iterative Model for the evaluation of Professional Development’ in order to identify a foundation of empirical evidence for the effectiveness of PDPs (Figure 13). The model begins with particular standards including the evidence of student performance and PD design to evaluate the effectiveness of PDPs regarding classroom teaching and student performance.

Figure 13: Iterative Model for the Evaluation of Professional Development



Source: Fishman et al. (2003, p. 648).

Guskey (1997) asserts that the efforts to identify particular components of effective PDPs have not yet been attained because of: ‘confused criteria of effectiveness’; ‘misguided search for main effects’; and ‘neglect of quality

issues'. The effectiveness of PDPs offered to academics in HEIs is maybe difficult to measure because the PD, a wide field involving interrelationships with particular academic aspects, is influenced by many different factors. Guskey (1997) points out that the agreement of appropriate criteria for the effectiveness of PD has not been accomplished; modern PDPs have been evaluated according to the following levels (p. 2):

1. Determining participants' reactions to the experience.
2. Measuring the knowledge and skills which participants acquire a result of professional development.
3. Measuring the participants' actual use of knowledge and skills they have gained.
4. Measuring the impact of participants' changes in knowledge and skills on student learning.

On the other hand, researchers identify particular key factors that help to design effective PDPs. According to Kuptarnond (2000), an effective programme of PD should involve an efficient and pragmatic plan, sufficient participation of faculty members, and relevant evaluation according to the enhancement of teaching and learning (Table 8). Table 8 illustrates three essential components for any effective PDP: planning, participation, and evaluation. Setting realistic planning and appropriate evaluation are critical for any successful PDP for academics. However, are planning and evaluation procedures of PDPs enough to achieve the goals of improving quality of teaching and learning? HEIs should prepare an

appropriate environment for a conduct of PD, relating to the improvement of teaching quality, by providing particular factors. For instance, Murray (2002) points out that effective PDPs include “administrative support, are formalized, structured, and goal-directed, make a connection between faculty development and the reward structure, have faculty ownership, and are valued by administrators” (p. 96). The provision of those factors, in addition to appropriate planning and evaluation, would facilitate the implementation of PD and encourage academics to participate in order to achieve the goals of teaching quality PDPs.

Table 8: Components of an Effective Faculty Development Programme

Component of an effective faculty development programme	
<i>1. Effective programme planning</i>	<ul style="list-style-type: none"> ▪ a faculty ownership program, ▪ a program initiated relevant to the needs of the faculty and institution, ▪ a comprehensive program design, ▪ a continuing program design.
<i>2. Programme participation</i>	<ul style="list-style-type: none"> ▪ an institutional commitment to faculty development, ▪ faculty members participation.
<i>3. Effective programme evaluation</i>	The evaluation of program outcome related teaching effectiveness, and student learning environment.

Source: Adapted from Kuptarnond (2000, p. 52).

Furthermore, particular guidelines are provided by research to facilitate the design of effective PDPs. For example, Guskey (1995) provides a series of guidelines for designing effective PDPs, based on research relating to individual and organizational change: (1. 'Recognize change as both an individual and organizational process'; 2. 'Think big and start small'; 3. 'Work in teams to maintain support'; 4. 'Include procedures for feedback on results'; 5. 'Provide follow-up, support, and pressure'; 6. 'Integrate programs'. It is indicated that effective PD of academics should be systematically planned, implemented, and evaluated in order to improve teaching quality and student learning. The core principles for facilitating the effectiveness of PDPs for academics in HEIs could involve the following:

1. PDPs require a clear vision and realistic goals.
2. It is critical to give academics chance to participate in planning of PDPs.
3. The content of PDPs should be connected to the PD needs of academics.
4. There is a necessary need for focusing on student learning in the content of PDPs.
5. It is fundamental to encourage academics' participation in PDPs.
6. Innovative theories in academic work should be embraced in PDPs.
7. Up-to-date IT should be applied to enhance the implementation of PDPs.
8. It is very important to link theory to practice and teaching quality to student learning in PDPs.

9. The professional developers should be qualified to be high-quality experts.
10. Appropriate evaluation system should be conducted to measure the effectiveness of PDPs.

Because PD of academics in HEIs faces particular challenges and barriers, it is critical to deal with them in order to achieve the objectives of PDPs related to teaching quality improvement. In this situation, the implication for HEIs is to put more emphasis on preparation, organization, and evaluation of these programmes. The attention paid to these three dimensions will help set a suitable environment for the conduct of PD activities with respect to teaching quality improvement. The suitable context for the conduct of PD will enable administrations to implement PDPs properly and encourage academics to participate effectively. Therefore, PD of academics can support and fulfill the purposes of the improvement of teaching quality in HEIs. The following section discusses particular critical issues that occur in the context of academic work and impact the effectiveness of the PD for academics.

3.7.4 Critical Issues in Academic Work Affecting PD of Academics

To achieve the aims of PDPs in relation to the teaching quality improvement, academics' PD needs should be first assessed and identified. The identification of those needs is regarded as a base for any programme designed to professionally develop any type of staff. Brown (2002) argues that the assessment of needs helps an organization to improve job performance by identifying gaps between the current skills of employees and the required skills.

Martin (2009) states, “Training needs analysis [TNA] refers to the more specific task of identifying the appropriate content and format of a training program” (p. 18). For this reason, the assessment or analysis of academics’ PD needs is required to set realistic goals and develop a relevant content with appropriate formats for PDPs to enhance teaching quality. According to Onderi and Croll (2008), the application of TNA to meet academics’ PD needs is critical to improve the quality of academics. It would be necessary to identify and analyze academics’ PD needs in order to set appropriate PDPs related to teaching quality improvement. So far, to what extent that existing PDPs do meet the real needs of academics to improve teaching quality?

Many studies have revealed that existing PDPs do not meet academics PD needs and advocate more emphasis on connecting their needs to PD activities. For example, Williams (2008) examined the status of PD for tourism and hospitality teachers at Vocational Education and Training organizations (VET) and recommended more connection between PD and the work of academics. Moreover, Shareef (2008) studied mentoring relationship as a PD strategy for teachers at a Maldivian primary school and revealed that this approach did not meet their PD needs. Scott (2002) examined PD practices at Western Australian secondary schools and concluded that PDPs did not meet the teachers’ teaching requirements and needs. Hong’s (1986) study also recommended that English teachers’ needs at Vietnamese high schools should be assessed and met in PDPs. Although the above studies were carried out to examine PD practices at primary and secondary schools, the failure to connect teachers’ PD needs to PDPs could be considered as a barrier to PD, in general, because there are comparable

characteristics between all instructional levels. It appears that PD for academics to improve teaching quality often does not meet academics' PD needs and there is a necessity to identify needs prior to the conduct of PDPs.

To identify academics' training needs, research studies were conducted and revealed there is a necessity to develop their skills to improve teaching practices. For example, Wallin and Smith (2005) surveyed full-time faculty in Georgia's technical colleges to rank the importance of 50 PD needs for successful teaching and found out that the top six priorities (means= 3.59-3.46) are presented as: "1) prepare effective current instructional materials, 2) utilize "hands-on" learning strategies, 3) provide individual and group instruction, 4) create and modify curriculum, 5) provide academic advising, 6) utilize instructional techniques that develop higher-order thinking skills..." (p. 90). In addition, Houston et al. (2004) compared the faculty development needs for 443 physician-teachers at 110 different teaching hospitals, who attended one of three PD conferences in the United States; the study revealed that private practice community-based faculty desire more future training in areas of: "...time management (48%); teaching evidence-based medicine (46%); evaluation of learner (38%); giving feedback (39%); outpatient precepting (38%); and "teaching in the presence of the patient" (39%)" (p. 375). It appears from the two studies that academics require more PD in particular areas assisting them to improve teaching quality and serve student learning, such as instruction preparation, curriculum modification, time management, enhancement of critical thinking, and evaluation and giving feedback regarding student learning.

Although TNA has been conducted by HEIs and/or general organizations, it may face particular challenges. First, institutions may not spend enough time on conducting a TNA for their academic staff and, therefore, the analysis would not successfully achieve the aim of identifying actual PD needs. Knight (2009) believes that “Organizations today are heavily focused on business needs and don’t have the luxury of spending lengthy periods of time on a TNA exercise” (p. 17). Thus administrations in HEIs should schedule a TNA exercise for their academics. Moreover, academics may not declare their real PD needs to the administration as these might be perceived as weaknesses and affect their promotion. However, this challenge could be managed by providing anonymous surveys to gather real data and protect the privacy of respondents. The administration of HEIs should also emphasise that identifying academics’ needs would not affect their career promotion but conversely will help them to enhance their academic work. By identifying academics’ PD needs, HEIs should be able to provide appropriate and relevant teaching quality PDPs and thus, to encourage academics to participate and take advantage of these programmes.

The identification of the professional needs of academics related to teaching quality improvement is a very important factor in designing relevant PDPs. Identifying training needs of academics means that the implication for the administrations in HEIs will be to apply appropriate methods of TNA in a suitable period of time before the implementation of PDPs. The analysis of the training needs of academics with respect to the improvement of teaching quality will help set appropriate and realistic content and activities in PDPs based on the academics’ perceptions. Hence, these planned and realistic programmes should

be more effective in meeting the academics' training needs in order to improve teaching quality and support student learning.

Therefore, administrations in HEIs should take into consideration profound and growing changes that have emerged in academic work when they set particular PDPs. These changes are associated with the evolving nature of academic work and relate to growing professional issues. It is very important, for example, to encourage academic staff to focus attention on doing research with respect to scholarship of teaching. Thomas and Harris (2000) argue that "staff not only develop skills and acquire knowledge as a result of engaging in research, they also gain intrinsic rewards and, therefore, retain enthusiasm" (p. 144).

Academics' effort in doing research would benefit teaching quality because it allows them to update their knowledge and take advantage of current studies in teaching/learning. However, the involvement of academics in doing research raises another issue related to the academic work - motivation.

To encourage academics to improve teaching quality in HEIs, they should be motivated. For instance, academics should be motivated to enhance their participation in PDPs in order to acquire new skills and knowledge respecting teaching quality. Motivating academics to participate in PDPs is largely needed because of the low level of their participation in programmes (as revealed in studies such as Murray, 2002; Kuptarnond, 2000). A common reason for a low level of academics' participation in PD is their heavy workload, focusing on the teaching role. Moreover, to deal with the tension between the two roles of academics, teaching and research, it may be helpful to reward excellent

academics in teaching. Motivating academics by rewards or incentives could also encourage them to take advantage of the adoption of innovative approaches such QA and TQM in classroom teaching and, therefore, to fulfill a HEI's goals of improving teaching quality.

Furthermore, innovative initiatives adopted by HEIs (like QA, TQM and others) to improve teaching quality would put more emphasis on PD. The adoption of these initiatives requires new knowledge and skills to be acquired by academics in order to implement new principles in the context of teaching/learning. Lomas (2007) investigated 20 lecturers' perceptions and understanding of quality in UK universities and concludes, "There appears to be a wide gap between what staff would like the initiatives to achieve and what they think they have achieved" (410). It would be essential, therefore, to prepare relevant PDPs to train academics in how to integrate principles related to new approaches to teaching practice in order to benefit and improve teaching quality. Not only this, the identification of academics' PD needs would prioritize these needs relating to teaching quality improvement before setting any particular PDP. Therefore, TNA should be conducted to realize what academics need to acquire and practice in order to set effective PDPs and enhance their participation.

The adoption of QA and TQM in HEIs means relevant quality principles would be used to make sure that the quality of educational services is ensured. A common concept, in this regard, is what may be called 'accountability' of quality service for customers. With respect to teaching quality, academics should be accountable to students, as principal and direct customers for HE

teaching. Use of accountability in a learning environment could reduce, to some extent, the freedom of academics because of continuous monitoring and measurement. Barandiaran-Galdos et al. (2012) examined the perceptions of 3000 academics regarding the importance of quality factors in Spanish universities and concluded “While university policy is aimed at accrediting qualifications and lecturers using procedural, ex post methods to assess their work, teaching staff argue that they need greater freedom and support to do their jobs...” (p. 106). For this reason, appropriate PDPs should be set to provide adequate knowledge about QA and TQM to help academics understand quality factors and what they do in this new context.

To sum up, there has been a growing need for PD for academics in HEIs in recent years. The call for PD results from a focus on the improvement of teaching quality in order to enhance student learning. The forms of PD should be varied, including ‘reflective practice’ to link teaching quality to student learning. Some studies have shown that PD for academics positively influences the improvement of teaching practices and academics’ attitudes towards teaching quality. To design effective PD, it is critical to evaluate PDPs offered to academics in order to measure the effectiveness and use the results to redesign next programmes. Even though existing PDPs face particular challenges, the administration of HEIs should pay more attention to preparing appropriate planning, implementation, and evaluation for these programmes. Not only this, the nature of evolving academic work and related professional issues should be taken into consideration when preparing particular PDPs regarding the improvement of teaching quality. The section below draws a

theoretical framework for the current study integrating relevant themes discussed in this chapter and considering the implications of the improvement of teaching quality for the PD of academics in the CASs in the Sultanate of Oman.

3.8 Theoretical Framework for the Current Study

The growing demand for teaching quality improvement in HEIs is because of accelerating changes emerging in a modern society. A global economy and its related phenomenal issues, such as fiscal crises, knowledge-based society, and advanced ICT, have changed the nature of the labour market all over the world. The changing labour market requires a new workforce with highly professional skills to meet the requirements of modern professions. This type of workforce puts a great pressure on HEIs to improve teaching quality in order to support student learning and create a new generation of professional workforce.

In order to improve teaching quality, many HEIs worldwide pay more attention to quality and adopt particular quality initiatives such as QA and TQM (Vazzana & Winter, 1997; Helms & Key, 1994; McNary, 1994). Because these approaches have been sometimes successfully implemented in business and industry, HEIs attempt to take advantage of quality principles in a teaching/learning environment. The CASs in Oman, for example, implement a HEI QA framework according to the OAC's scheme for accrediting Omani HEIs with compliance to particular national standards. The adoption of QA requires the conduct of two stages: quality audit and standards assessment.

The review of literature has revealed there is a correlation between the improvement of teaching quality and the PD of academics. In order to improve

teaching quality, appropriate PDPs should be prepared to enhance academics' knowledge and skills in teaching practice. In this regard, some studies found that PD for academics has positive outcomes on teaching quality and academics' attitudes (Behar-Horenstein et al., 2008; Rust, 2000). Therefore, the improvement of teaching quality would create particular implications for PD in HEIs with the aim of developing the academics' professional knowledge and skills.

The reviewed literature regarding the improvement of teaching quality and related PD for academics in a HE context has highlighted a gap in these two areas. In fact, some studies focus on examining the effect of PD on teaching quality improvement and student learning. However, previous research did not refer to the issue of identifying potential implications of teaching quality improvement for PD for academics in HEIs. For this reason, the identification of these implications needs further research which will be addressed in the current study.

With regard to the context of Omani HEIs, there is a gap in the areas of teaching quality improvement and related PD of academics. The CASs have adopted QA and have already finished a self-assessment process in order to conduct an external review and standards assessment. The improvement of teaching quality, as an element in the quality scope should be addressed in order to identify potential implications for the PD of academics which is also considered as another element in the same scope. Limited available research on HEIs in Oman focus on addressing: the adoption of educational technology in teaching

practices (Al-hashmi, 2002; Al-Rabiey, 2002), the implementation of QA and TQM (Al Haribi, 2005; AlKeyoomi, 2002), and the current status of particular activities of PD (Al-Musawi, 2008; Al-Kaabi, 1995). The findings and recommendations provided by existing studies and the lack of research on teaching quality improvement and PD of academics in the context of the CASs in Oman stresses a need for further research.

The current study proposes to fill a gap in the areas of teaching quality and related PD of academics indicated in the literature, in particular in the context of HE in Oman. The study was designed to identify potential implications of the improvement of teaching quality for the PD of academics in the CASs. The identification of these implications relies on the consideration that teaching quality and PD for academics are correlated fields and particular changes made in each one could influence the other. For this reason, the researcher designed a particular theoretical framework for the purposes of the current study.

A theoretical model used in the study deals with the improvement of teaching quality from three points. First, teaching quality should be developed as a requirement of change in a HEI consistent with the profound and accelerating changes in different aspects of life in a modern society, including the emerging academic work in a HE sector. Second, the innovations in the theories and practices in teaching/learning in a HE context requires a development in teaching quality to update academics' knowledge and skills in classroom teaching. Finally, the adoption of particular quality approaches in business and education (such as QA in the CASs) creates certain tasks and responsibilities for

academics and thus, puts more emphasis on the improvement of teaching quality in order to take advantage of the principles of quality systems (see Figure 14).

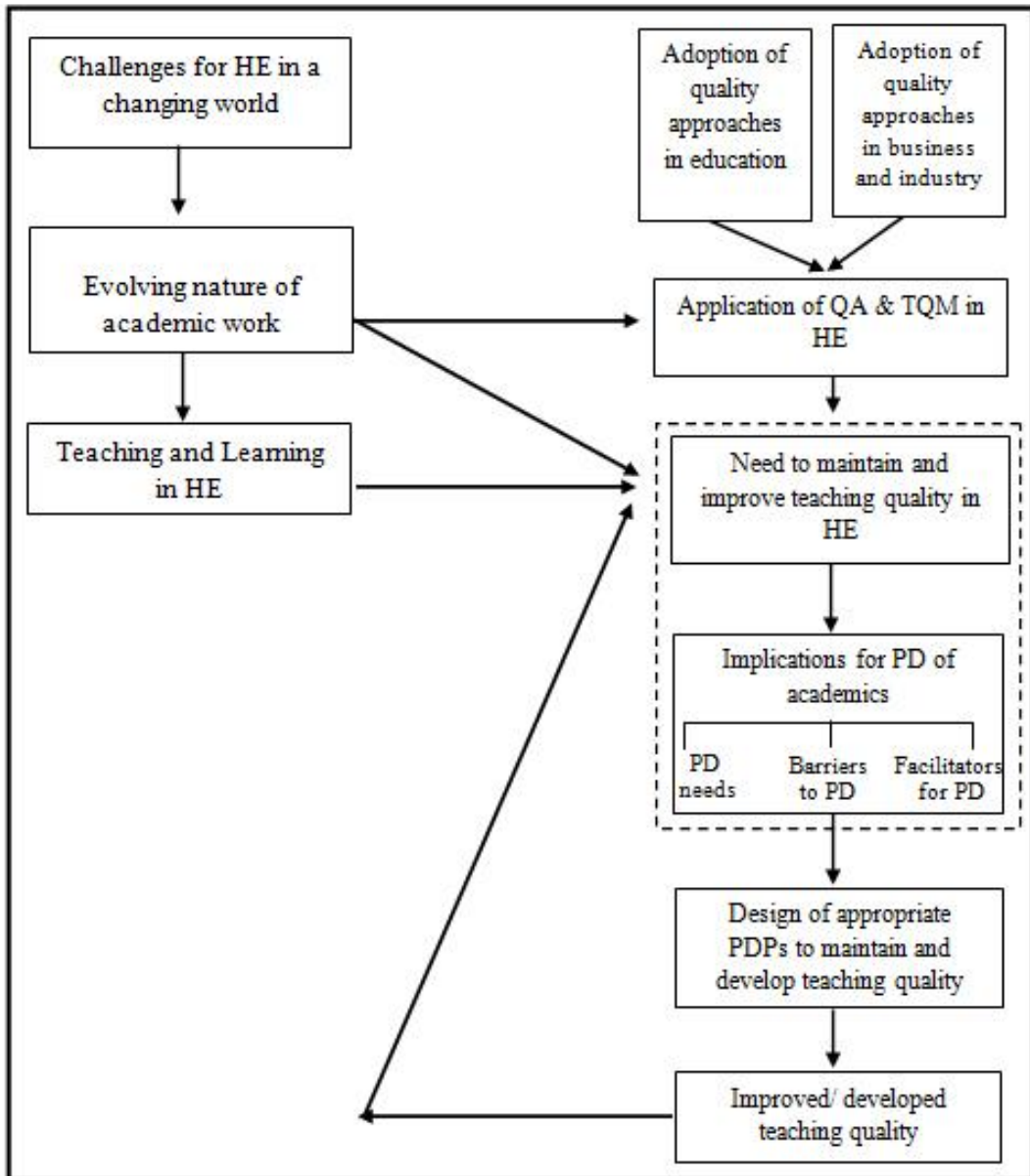
Due to these factors, there is a need to maintain and develop teaching quality in the CASs. The need stresses the issue of identifying the implications of the improvement of teaching quality on the PD for academics in these colleges.

Based on these implications, appropriate PDPs will be planned and organized in order to improve teaching quality. Consequently, teaching quality in the CASs will be improved by developing related knowledge and skills of academics.

Feedback from teaching quality improvement in emerging PDPs will deal with drawbacks and support again a requirement for the maintenance and improvement of teaching quality in the design of future programmes (Figure 14).

Figure 14: Theoretical Model to Identify Implications of Teaching Quality

Improvement for PD of Academics in the CASs



By focusing on the implications of the improvement of teaching quality on PD for academics, the current study will support the CAS’s emphasis on the development of teaching quality and related PD based on academics’ perceptions. The study addresses academics’ perceptions regarding academics’

PD needs, barriers to the PD of academics, and factors that enhance the PD of academics with respect to the teaching quality improvement in the CASs. The current study will be helpful for the administrations in these colleges to develop teaching quality and PD for academics to support a QA framework and a quality audit scope, released by the OAC and adopted by the colleges, to accredit Omani HEIs and their programmes.

The study will contribute to the Knowledge of teaching quality improvement and related PD of academics, in general, and in the context of HEIs in Oman, in particular. The review of literature indicates few available studies in Oman regarding teaching and PD of academics, with no research focusing on the implications of teaching quality improvement for the PD in the CASs.

Moreover, the current study will lay a foundation for policy and decision makers in Omani HE with regard to the improvement of teaching quality and PD in order to serve these two areas in the light of the adoption of QA, quality audit, and standards assessment.

Chapter Summary

The review of the literature indicated particular issues related to the focus of the current study, the improvement of teaching quality and PD of academics in HEIs. These issues underline accelerating challenges for HEIs to develop their educational services according to profound changes in a modern society. The review also addressed the nature of academic work and related professional issues in HEIs which has emerged because of a changing HE sector. Moreover, the literature chapter discussed the theories of teaching and learning which

indicate a connection between them and the importance of teaching practices in serving student learning. Following this, the review explored the origins and the adoption of quality, QA, and TQM in business and industry. The review discussed the issues regarding the adoption of quality and quality approaches (QA and TQM) in a HE context. In addition, the review addressed the definition and importance of teaching quality improvement in HEIs in the light of particular frameworks of QA and TQM. The review also discussed a growing need for PD for academics as an implication of the teaching quality improvement in HEIs including definition and purposes of PD, the use of reflective practice in PD, evaluation and design of PDPs, and critical issues related to PD. Finally, the review highlighted the theoretical framework to identify implications of teaching quality improvement for PD of academics in the CASs. The next chapter discusses the research design and methodology used for the purpose of the current study.

Chapter Four

Research Methodology

Introduction

This chapter describes the methodology and research design for this study. First, the chapter provides an overview of research paradigms and explains the chosen methodological paradigm for the current study. The chapter, then, justifies the selected research design indicating the appropriateness of mixed methods approach to study and consequently the development of triangulation (quantitative and qualitative research). Following this, the chapter discusses the methods of data collection, focusing on: the development of self-completion questionnaire and measurement of its validity and reliability, the formation of semi-structured interview, and construction of focus group discussion. The chapter, finally, deals with issues of population and sample, distribution of respondents, ethical considerations, scope and limitations of the study, and data analysis. The following section highlights the purpose and research questions.

4.1 Overview of Purpose and Research Questions

The current study intends to contribute to knowledge regarding the fields of teaching quality improvement and PD of academics in HEIs. This study aims to broaden understanding of potential implications that the improvement of teaching quality puts on PD for academics to contribute to the improvement in the CASs. Further, one of the purposes of the current study is to identify the current perceptions of PD for academics and teaching quality improvement in

order to develop these two fields in harmony with a CAS's vision regarding the adoption of QA. The study also proposes to identify academics' PD needs, barriers to PD, and factors to enhance PD through an investigation of the perceptions of academics in these colleges.

The main question in the current study is concerned with 'What are the current perceptions of PD for academics in the CASs in relation to the improvement of teaching quality?' The study attempts to answer the key question by answering the following questions:

- 1.** What is the extent of the academics' involvement in current PDPs related to the improvement of teaching quality in the CASs in Oman?
- 2.** According to the academics' perceptions, what are the PD needs of academics in the CASs regarding the improvement of teaching quality?
- 3.** Do academics' PD needs in the CASs related to the improvement of teaching quality vary significantly according to the variables of - gender, qualifications, experience, and specializations?
- 4.** According to the academics' perceptions, what are the potential barriers to PD for academics in the CASs regarding the improvement of teaching quality?
- 5.** Do the potential barriers to the PD of academics in the CASs vary significantly according to the variables of - gender, qualifications, experience, and specializations?

6. According to the academics' perceptions, what are the factors to enhance PD for academics in the CASs related to the improvement of teaching quality?

7. Do the factors to enhance PD for academics in the CASs regarding the improvement of teaching quality vary significantly according to the variables of - gender, qualifications, experience, and specializations?

4.2 Methodological Paradigm for Study

To conduct particular research, a researcher should choose an appropriate methodological paradigm. A chosen paradigm will help a researcher to use a suitable research design for his/her research. In order to use an appropriate methodological paradigm, it is essential to understand the meaning and types of research paradigms and their assumptions. According to Williams (1998), "For the researcher it is important to recognize their paradigms, it allows them to identify their role in the research process, determine the course of any research project and other perspectives" (p. 2).

Cavana, Delahaye and Sekaran (2001) point out that the researcher's different beliefs about conducting research could involve three types of philosophies or paradigms: positivist, interpretive and critical. Hussey and Hussey (1997) emphasize that ontological assumption (nature of reality) in a positivist (quantitative) paradigm is objective, and that the epistemological assumption (relationship between researcher and what should be studied) is independent. However, a phenomenological (interpretive or qualitative) paradigm views the reality as subjective, and the researcher interferes in what he/she researches. The

assumption of a critical paradigm, as Cavana et al. (2001) explain, is a “material world structured contradictions and/or exploitation which can be objectively known only by removing tacit ideological biases” (p. 10). By understating the assumptions of the three different research paradigms, a researcher is able to select an appropriate research paradigm and methodology to fulfill the objectives of his/her study.

In social sciences, quantitative and qualitative research approaches have been widely employed to study particular phenomena and issues. Williams (1998) believes that quantitative and qualitative approaches are the two main terms used for management or organizational research; the former is described as positivist, objectivist, or functionalist while the latter is described as interpretive or subjective. Bryman and Bell (2007) argue that the quantitative and qualitative approaches can be used to form two distinguishing research strategies with reliance on three areas: the relationship between research and theory, epistemological orientation, and ontological orientation (Table 9). Cavana et al. (2001) distinguish between these two types by stating that quantitative research employs a positivist paradigm and aims to test a hypothesis or hypotheses through deductive and logical reasoning. Conversely, qualitative research aligns with an interpretive paradigm and aims to discover and understand the meanings of people’s behaviour in their real context.

**Table 9: Fundamental Differences between Quantitative and Qualitative
 Research Strategies**

	Quantitative	Qualitative
<i>Principle orientation to the role of theory in relation to research</i>	Deductive; testing of theory	Inductive; generation of theory
<i>Epistemological orientation</i>	Natural science model, in particular positivism	Interpretivism
<i>Ontological orientation</i>	Objectivism	Constructionism

Source: Bryman & Bell (2007, p. 28).

The current study addresses potential implications of the improvement of teaching quality for PD for academics in the CASs in Oman. The study attempts to answer the main question: ‘what are the current perceptions of PD for academics in these colleges related to the improvement of teaching quality?’

This general question is reflected in seven questions associated with the improvement of teaching quality and implications for PD for academics in the CASs. The questions of (1, 2, 4, and 6) pursue quantitative data regarding the ranking of certain items within each section of the questionnaire: the academics’ participation in PD, the PD needs of academics, barriers to effective PD, and factors to enhance PD for academics. The other questions (3, 5, and 7) also require quantitative data, but with respect to the differences between particular demographic variables.

Although the current study seeks quantitative data for the aim of answering the seven research questions, it also pursues qualitative data. The study requires

further qualitative data for the following reasons. First, quantitative data gathered by the quantitative method could require further information to describe the current situation of the topic of the study: the improvement of teaching quality and related PD of academics in the colleges. The qualitative data will help the researcher to obtain further information and descriptions by the respondents to clarify quantitative data regarding particular issues implied in the topic of the study. Second, qualitative data provided by the respondents will be used by the researcher as a base to interpret/explain particular findings gained in the quantitative method. This qualitative data will be useful for the researcher to complement and/or probe more deeply the findings from the quantitative method.

It could be said that quantitative and qualitative paradigms are the two main research approaches used in the social sciences. By considering the three orientations of research paradigms: (relationship between theory and research, ontology, epistemology), a researcher can choose a suitable research approach for their study. Based on the purposes of the current study, the researcher adopts both quantitative and qualitative research paradigms as an appropriate methodological approach. The following points, relying on the orientations of the assumptions related to the quantitative and qualitative paradigms (as mentioned in Bryman and Bell, 2007), justifies the choice of a multiple paradigm approach (both quantitative and qualitative) for the conduct of this study.

1. The relationship between theory and research:

* *In a quantitative paradigm research:* This relationship utilizes a process of deduction. In a deduction process, the researcher deduces a number of hypotheses or questions about a particular issue in order to test theory regarding this issue. The researcher gathers appropriate quantitative data around the issue and extracts the findings to confirm/reject hypotheses or to answer questions. The current study conforms to the deduction process used in a quantitative approach because the researcher set seven questions to research the issue of teaching quality improvement and related PD for academics. The researcher then developed a measured instrument of relevant concepts (a survey questionnaire) based on a review of literature to gather quantitative data regarding teaching quality improvement and PD.

* *In a qualitative paradigm research:* The relationship between theory and researcher in the quantitative approach uses an induction process. In this process, the researcher generates theory from observations/findings; the theory is considered as an outcome of research. For this reason, the researcher collects qualitative data to describe particular issue(s). The current study fits with a qualitative approach because the researcher pursued descriptive data to strengthen and interpret particular findings gained by the quantitative method. The researcher employed appropriate qualitative methods (semi-structured interview and focus group discussion) to gather appropriately descriptive data.

2. Epistemological considerations:

* *In a quantitative paradigm research:* Epistemology is concerned with the issue of how knowledge is obtained in a context of the social world. Based on epistemological considerations, a quantitative approach assumes that positivism should be followed when seeking knowledge of a particular issue similar to what happens in a natural science environment. Positivism refers to the necessity of dealing with the issue studied in the social world as real and hard without any subjective input from the researcher. The current study seeks knowledge of the issue of teaching quality improvement and related PD for academics as this exists in the natural world (in the CASs). The researcher investigates the perceptions of academics who work and deal directly with the issues in the same natural environment of the CASs. By investigating these real perceptions (translated and gathered as quantitative data) through systematic and scientific procedures, real knowledge to explain the issue of teaching quality improvement and PD would be obtained.

* *In a qualitative paradigm research:* Based on epistemological considerations, a qualitative approach assumes that interpretivism should be followed when seeking knowledge of a particular issue appears in the social world. From an interpretivism view, the subject matter in the social sciences differs from that in the natural sciences and therefore the scientific model should be applied when studying the social world. In addition to the need for quantitative data (numbers), the current study seeks qualitative data (descriptions/narratives) relating to the issue of teaching quality

improvement and associated PD for academics in the colleges. To gain qualitative data, the researcher interacts with respondents closely to understand the subject meaning of their social action regarding the issues of the study. The researcher employed qualitative methods (requiring subjective and interpretive understanding) to gather further information in order to interpret/probe particular quantitative findings revealed from the quantitative approach.

3. Ontological considerations:

* *In a quantitative paradigm research:* Ontology relates to the nature of reality and whether it is external (objective) or internal (subjective).

According to ontological considerations, quantitative approach deals with a social reality from an objective perspective. Objectivism looks at the social reality and meanings of phenomena as external and independent of actors and therefore, a human behavior should be studied as it exists in the real world without any interpretive input from the researcher. The current study deals with the issue of teaching quality improvement and related PD for academics as it exists in the environment of the CASs and based on the current perceptions of academics in these colleges. The researcher in the study applies objectivity in dealing with the real environment by developing a systematic instrument (the survey questionnaire) and measuring its validity and reliability. In addition, the researcher attempted to be as independent and separate from the existence of the issue by following particular scientific procedures in the collection of data, and by using appropriate statistical processes in the analysis of the data.

** In a qualitative paradigm research:* According to ontological considerations, qualitative approach deals with a social reality from a subjective perspective. From a subjectivism (constructivism) view, the social reality and meanings of phenomena are being achieved by social actors. The social reality is revised by the researcher and thus the knowledge of the social world is considered as indeterminate. In the current study, the researcher employed qualitative methods, requiring a sort of moderation of the researcher to drive/stimulate respondents' ideas. This means that the knowledge gained from qualitative methods is indeterminate and is produced by the researcher' revision. The issues of teaching quality improvement and related PD of academics and their meanings are being integrated into notions of constructivism.

4.3 Research Design

Dependent on the selected research paradigm, a corresponding research design should be used to deal with the issue(s) of the study. In other words, an appropriate research design for any research (involving collection and analysis processes) is supposed to be compatible to the assumptions and determinants of the selected research paradigm. Bryman and Bell (2007) believe that "A research design provides a framework for the collection and analysis of data" (p. 40).

There are certain research designs used by researchers in the social world consistent with a quantitative approach. For example, Hopkins (2000) provides two types of studies: descriptive (observational) and experimental (longitudinal),

which focus on quantifying relationships between variables and utilize a number of research designs (Table 10). Hopkins stresses that in descriptive studies the condition or issue is measured without any change; however, there is some intervention before the second measurements in experimental studies.

Table 10: Types of Research Design in a Quantitative Approach

Types of Research Design
<i>Descriptive or observational</i>
<ul style="list-style-type: none"> • case • case series • cross-sectional • cohort or prospective or longitudinal • case-control or retrospective
<i>Experimental or longitudinal or repeated-measures</i>
<ul style="list-style-type: none"> • without a control group <ul style="list-style-type: none"> time series crossover • with a control group

Source: Hopkins (2000, p. 2).

On other hand, a qualitative approach entails different research designs when dealing with the social world. The qualitative approach is concerned with obtaining qualitative data by a use of appropriate research design. The qualitative research design depends on the use of appropriate qualitative research methods to gather qualitative data with respect to the issue(s) of the study. Bryman and Bell (2007) argue that the main research methods entailed in the qualitative approach include: ‘ethnography/participant observation’, ‘qualitative interviewing’, ‘focus groups’, ‘language-based approaches to the

collection of qualitative data’, and ‘the collection and qualitative analysis of texts and documents’.

4.3.1 Mixed Methods Approach to Research

Each research design in quantitative or qualitative approaches requires appropriate research method(s). For example, Baker (2003) provides experimentation and survey research as examples of quantitative research methods, and grounded theory, ethnography, case research and case study as qualitative methods. In line with the purpose and question(s) used in his/her research, the researcher selects a suitable research method to collect data. Bryman and Bell (2007) define a research method as a “...technique for collecting data. It can involve a specific instrument, such as a self-completion questionnaire or a structured interview schedule, or participant observation whereby the researcher listens to and watches others” (p. 40). A research method is regarded as a systematic tool to collect data based on the purpose and issue(s) studied in research.

The purpose(s) of research and the type(s) of data gathered may push researcher to combine both quantitative and qualitative approaches into his/her research. The combination of these two different approaches is called a ‘mixed methods approach’, ‘mixed methods research’, or ‘mixed design research’. As Bryman and Bell (2007) argue, “...it is probably the case that the amount of combined research has been increasing since the early 1980s, and in business and management research combined research is particularly popular” (p. 642). The

use of mixed methods research gives researcher chance to take advantage of both approaches into his/her research.

Based on the purpose and data gathered in the current study, the mixed method design (quantitative and qualitative approaches) was suitable to fulfill the aims of the study. Each approach provides the current study with appropriate data in order to deal with a research problem and achieve the purposes. Hussey and Hussey (1997) point out, “For example, a questionnaire survey providing quantitative data could be accompanied by a few in-depth interviews to provide qualitative insights and illuminations” (p. 74). In the current study, the researcher employed a survey research as a quantitative method for the collection of quantitative data. Moreover, the researcher used two qualitative methods (semi-structured interview and focus group discussion) to gather some kind of in-depth details regarding the issues of the study. This additional data helped the researcher for the interpretations and explanations in the discussion of the findings in order to strengthen and explore quantitative findings of the study. By the additionally qualitative data, the researcher had a chance to build a comprehensive picture and probe particular findings of the study.

4.3.2 Triangulation

When a researcher combines more than one research approach/method in his/her study, he/she uses triangulation to strengthen the study. Hussey and Hussey (1997) state that “the use of different research approaches, methods and techniques in the same study is known as *triangulation* and can overcome the potential bias and sterility of a single-method approach” (p. 74). Triangulation

provides researchers with an opportunity to take advantages of different research approaches/methods in one study. Further, each research method serves particular dimensions in the study and deals with research problem from different perspectives.

Triangulation in research based on the combination of quantitative enable researcher to take advantage of the two approaches. Jick (1979), as mentioned in Hussey and Hussey (1997, p. 75), asserts that “triangulation has vital strengths, encourages productive research, enhances qualitative methods and allows the complementary use of quantitative methods”. However, it is difficult, to some extent, to deal with different theoretical assumptions (based on the two major paradigms) in the same project. Bryman and Bell (2007) affirm that the argument against the combination of quantitative and qualitative approaches (mixed methods research) is associated to “the idea that research methods carry epistemological commitments; and the idea that quantitative and qualitative research are separate paradigms” (p. 643).

In spite of the argument against the use of mixed methods approach, there has been a tendency to employ triangulation in business and management research. Triangulation could be used by researchers when they intend to facilitate quantitative research by qualitative research. Bryman and Bell (2007) point out that qualitative research could be used to facilitate quantitative research in the ways of: the generation of hypotheses in order to be subsequently tested by quantitative research and the construction of survey questions by entailing in-depth knowledge gained by qualitative research. In addition, qualitative research

could be used by the researcher to interpret/explain particular findings revealed in the quantitative research.

In the current study, the researcher employed triangulation in order to take advantage of both quantitative and qualitative approaches. Quantitative approach (using a self-completion questionnaire) provided quantitative data (frequencies, percentages, means, standard deviations) in order to answer the research seven questions relating to the issues of teaching quality improvement. The use of qualitative methods (using an individual semi-structured interview and a focus group discussion) gained in-depth knowledge and exploratory information from respondents' perceptions with respect to the issues of the study. The rich descriptive data gained by qualitative methods enabled the researcher to interpret/explain particular statistical quantitative findings. The explanation/interpretation of these findings built a more comprehensive picture about the issues studied, the improvement of teaching quality and related PD of academics in the CASs.

4.4 Methods of Data Collection

4.4.1 Self-completion Questionnaire

Pinsonneault and Kraemer (1993) point out that survey research implies three distinctive features: proposes to create quantitative descriptions about a particular population, collects relevant data by a means of structured questions, and deals with a sample population in exact procedures in order to generalize from the findings of research. According to Pinsonneault and Kraemer, survey

research can be regarded as the most appropriate method in the following cases
(p. 78):

1. The central questions of interest about the phenomena are ‘what is happening?’ and ‘how and why is it happening?’...
2. Control of the independent and dependent variables is not possible or not desirable.
3. The phenomena of interest must be studied in their natural setting.
4. The phenomena of interest occur in current time or the recent past.

Bartlett (2005) supports the commonness of use of survey research by citing that a number of scholars believe that the survey is currently used most frequently as a data collection method to assess unobservable phenomena in organizations. As Ghauri and Gronhaug (2005) argue, “Surveys and questionnaires are among the most popular data collection methods in business studies...” (p. 125). Survey research, as a positivist type, can be particularly suited to study business and social situations. Hussey and Hussey (1997) believe that the conduct of research will be easier and quicker in quantitative data collection methods, whereas qualitative research methods require more funding and time and raise the problem of subjectivity. Moreover, Bryman and Bell (2007) assert that qualitative research faces a number of criticisms: ‘Qualitative research is too subjective’, ‘Difficult to replicate’, ‘Problems of generalization’, and ‘Lack of transparency’. On the other hand, quantitative research can deal with these criticisms by following systematic and rational procedures before and during a conduct of the study.

A critique has been leveled at quantitative research by qualitative researchers. According to Bryman and Bell (2007), qualitative researchers provide a critique of quantitative approaches, focusing on the fact that the ‘social world’ could not be studied properly by a ‘natural science model’. In addition, Hussey and Hussey (1997) claim that “In a descriptive study, the use of quantitative methods can give a spurious objectivity to information which can lead to reductionist tendencies...thus contributing to a narrower and less ‘real’ interpretation of phenomena” (p. 151). However, the researcher can use systematic and reasonable procedures to deal with these criticisms of quantitative research methods. These procedures can involve the selection of a representative sample of a population, a high-quality design of instruments, testing of validity and reliability of measurements, a well-organized administration and collection of the instrument, good encoding and analysis of data, and a use of an objective language when writing the findings.

In survey research, the researcher collects data in a quantitative form using questionnaires or structured interviews. Hussey and Hussey (1997) note that “...quantitative data is all data that is collected in numerical form” (p. 150). Although the quantitative researcher could collect qualitative data in terms of participants’ responses, he/she can deal with this data as quantitative in order to analyze it statistically. For the current research a self-completion questionnaire rather than structured interviews seems suitable for the following reasons. First, the purpose of the study examines current perceptions of PD for academics in the CASs and requires quantitative data to investigate the level of academics’ involvement in PD. Questions used in the study also require quantitative data to

identify the extent of the importance of related issues to the PD of academics: academics' PD needs, barriers to effective PD, and factors to enhance PD. In addition, a number of questions in the study are used to examine the variance of academics' perceptions according to a number of demographic variables and this examination requires relevant quantitative data.

Furthermore, the research intent was to involve the whole number of academics in the CASs (427 academics) as the studied population for the current study, which is located in different and distant areas in Oman. To select a representative sample of academics in the different colleges, a stratified random sample was obtained from each part of the studied population. The expected representative sample could include a large number of academics distributed in distant areas and therefore, the responses of academics were obtained most effectively by survey questionnaires to avoid a waste of time and effort. Third, the researcher focuses on assuring the confidentiality and anonymity of participants in order to receive real and honest responses and the use of a self-completion questionnaire survey will help the researcher achieve this objective. Fourth, the likelihood of generalizing findings to the entire population of the study will be achieved by using a valid and reliable questionnaire to collect, and thus analyze quantitative data statistically. Finally, the questionnaire survey needs less time, less funding, and less resources compared to interviews. Hussey and Hussey (1997) advocate this argument by stating that "A questionnaire survey is cheaper and less time-consuming than conducting interviews..." (p. 162). The following points describe the process of questionnaire design and measurement.

4.4.1.1 Questionnaire Design

According to the research design and questions employed in the current study, a questionnaire survey was used to collect relevant quantitative data. The production of a questionnaire is a very important process and hence, it needs more attention before the conduct of the survey. Lancaster (2005) points out that a process of questionnaire design includes the key factors of “the range and scope of questions to be included; question types, for example open or closed; content of individual questions; question structure; question wording; and question order” (p. 138). To consider these points in the current study, the questionnaire design has processed through three stages as follows:

First Stage:

In this stage, the researcher has developed the first draft of a questionnaire on the basis of concepts and studies related to teaching quality improvement and PD in HE available in the literature. The researcher reviewed and analyzed underlying concepts and findings of studies and articles in the field of teaching quality and PD. These concepts and findings, in addition to the researcher’s experience in HE teaching, have been embraced by the researcher to design an appropriate questionnaire. The content of the first draft of the questionnaire was developed in this stage, including four sections: Section one, demographic information (five questions); Section two, PD needs for academics (20 items); Section three, barriers to PD of academics (14 items); Section four, factors to enhance PD of academics (10 items).

Second Stage:

The first draft of the questionnaire was distributed to two academics in the CAS-Sohar. The two academics were asked to review the content of questionnaire in terms of clarity and suitability of items. The comments referred to briefness of particular sentences of some items in section two (PD needs for academics) and changed some terms in the other three sections. The two reviewers also suggested a need for providing a brief and simple definition of the terms ‘teaching quality’ and ‘PD of academics’. The comments and suggestions of the two reviewers were taken into consideration and included in the modification to develop a second draft of questionnaire.

Third Stage:

After measuring the validity of the questionnaire and including the result of the measurement (see section 4.4.1.2), the final draft of the questionnaire was distributed to two experts in Applied Sciences and Linguistic studies. Those two experts were asked to review a final draft of the questionnaire in terms of the clarity and suitability of language and structure for the whole content of questionnaire. They provided a few comments about the language of some sentences; these sentences were modified according to the comments. The final version of the questionnaire consists of the following components, over seven print papers:

- ❖ A cover letter.
- ❖ Instructions (contains six clauses).

- ❖ Definition of terms used in the questionnaire (Teaching Quality and PD of Academics).
- ❖ Section One: ‘Demographic information’ (contains five questions).
- ❖ Section Two: ‘PD needs for academics to improve teaching quality’ (contains 22 items with a five-point Likert scale).
- ❖ Section Three: ‘Barriers to effective PD of academics related to the improvement of teaching quality’ (contains 14 items with a five-point Likert scale).
- ❖ Section Four: ‘Factors to enhance PD related to the improvement of teaching quality’ (contains 10 items with a five-point Likert scale).

4.4.1.2 Measurement of Validity of Questionnaire

A total of 30 questionnaires were distributed to 30 experts and specialists in teaching quality and PD in HEIs to check the content validity of items used in the questionnaire in terms of: the compatibility of items to the related section, the clarity of the content of items, the appropriateness of the language and structure of items. The reviewers were also requested to provide recommended modifications for items that needed to be changed, and relevant suggestions and recommendations to the whole questionnaire.

The 30 experts and specialists who checked the validity of the questionnaire are academics in the following HEIs: the College of Technology in Shinas (a public college in Oman), Sohar University (a private university in Oman), and the College of Education at the SQU (the only public university in Oman). The 30

experts and specialists are professors and associate professors in the majors of applied sciences in the six mentioned HEIs.

After collecting the 30 reviewed questionnaires, the researcher analyzed the comments and recommendations provided by reviewers. The comments provided a number of needed linguistic modifications to change or replace some words and parts of sentences in the whole content of the questionnaire. The comments also suggested a number of particular modifications to some terms in all sections of the questionnaire. The reviewers also recommended a specific modification to section one in terms of the necessity of assigning some items to include only one separate idea. For this reason, the number of items in section one was increased from 20 to 22 items. These comments and recommendations were implemented by the researcher to modify and develop the final draft of questionnaire (Appendix 1).

4.4.1.3 Measurement of Reliability of Questionnaire

The total of 50 final drafts of questionnaires was distributed to 50 academics in the colleges to test the reliability of questionnaire. The academics were requested to respond to questionnaires as a real survey in order to ensure the reality of responses and thus, to attain accurate results of reliability. The researcher received 40 questionnaires (80%) and used them to test the reliability of questionnaire. The demographic information about the 40 respondents who answered the trial questionnaire is indicated in Appendix 2.

The SPSS statistics analysis was used to check the reliability of the items of questionnaire. Reliability statistics using Cronbach's Coefficient Alpha was

utilized to check inter-item correlation. Bryman and Bell (2007) state that “The figure 0.80 is typically employed as a rule of thumb to denote an acceptable level of internal reliability...” (p. 164). Based on Bryman and Bell’s suggestion, the value of Cronbach’s Alpha for the total average of the three sections in the questionnaire is very high (very closed to value 1), as shown in Table 11. This means that the inter-item correlation is very high and the questionnaire is very reliable for the conduct of the survey and hence, the achievement of the purpose of the study.

Table 11: Reliability Statistics for the Total Average of the Three Sections in the Questionnaire

No. of Section	Total of Items	Cronbach’s Alpha
<i>Section 2</i>	22	0.98
<i>Section 3</i>	14	0.94
<i>Section 4</i>	10	0.92
<i>Total</i>	46	0.96

4.4.1.4 Rational for the Final Design of the Questionnaire

The final version of the questionnaire was presented in seven papers of A4 size. The text of the questionnaire was printed in 14 point type on one side of each sheet. The first page contains a cover letter with a clear title of the study and the name of the researcher followed by his signature, mobile number, and email. The second page contains important instructions to respondents regarding the number of pages, expected time of completion of the questionnaire,

encouragement of respondents to read and respond to questions carefully. The page also presented some key points and outlines about the four sections included in the questionnaire; it provided full statements for the two abbreviations used in the questionnaire: (PD=Professional Development, PDPs=Professional Development Programmes). Moreover, the second page provided certain definitions for the two main terms used in the questionnaire: (Teaching Quality and Professional Development of Academics).

The rest of page two and pages three to seven provided the four sections of the questionnaire as follows:

Section One: comprises four closed questions about demographic information of respondents: (gender, qualification, specialization, and experience) and a question about the number of PDPs attended by academics in the last two years. Sections two, three, and four comprise 46 items and used a five-point Likert scale to rate responses to the items included in each section. Hussey and Hussey (1997) argue that a form of a rating Likert scale is frequently used because it turns responses to statements (questions) into a level of agreement and it is easy to be completed by a respondent and to be coded and analyzed by the researcher. The researcher in the current study utilized a Likert scale to take advantage of this form and gather accurate quantitative data regarding the issue of teaching quality improvement and related PD of academics. The details of a five-point Likert scale used in the three sections of the questionnaire will be indicated in the following points:

Section Two: contains 22 items about ‘professional development needs for academics to improve teaching quality’ and a five-point Likert scale was provided to rate each item with (“5”=critical need, “4”=high need, “3”=moderate need, “2”=low need, and “1”=no need).

Section Three: contains 14 items regarding ‘barriers to professional development for academics related to the improvement of teaching quality’ and a five-point Likert scale was provided to rate each item with (“5”=very significant, “4”=significant, “3”=moderate, “2”=minimal, and “1”=none).

Section Four: contains 10 items concerning ‘factors to enhance professional development of academics related to the improvement of teaching quality’ and a five-point Likert scale was provided to rate each item with (“5”=very important, “4”=important, “3”=undecided, “2”=less important, and “1”=not important).

4.4.1.5 Administration of Questionnaire

The administration of questionnaire to collect data must be appropriately implemented in order to reduce errors of distributing and returning questionnaires. As Bartlett (2005) believes, “The actual implementation procedures of the survey have a greater influence on response rates than any design or layout effort” (p. 104). The reduction of errors in the administration of questionnaire will help the researcher to attain a high response rate and thus, to obtain needed data based on the purpose of the study. The current study followed certain procedures before and during the conduct of the survey to ensure the suitability of distribution and the collection of questionnaires:

1. An authorization letter has been sent to the Director General of the Colleges of Applied Sciences (Appendix 3) to gain approval to conduct the survey.
2. The Deans of the CASs were informed by the Director General of the Colleges of Applied Sciences regarding the authorization request and approved conduct of the survey in these colleges.
3. The participants were invited by the Deans of the colleges to inform them about their voluntary participation in the current study.
4. An information sheet (Appendix 4) was distributed to each participant, including certain instructions about their participation in the survey.
5. A withdrawal form was distributed to each participant (Appendix 5) to assure his/her right to withdraw from the survey during the conduct of the survey.
6. In order to guarantee the confidentiality of data, each participant was provided with a sealed envelope to secure the complete questionnaire.
7. The distribution of Questionnaires at the six colleges started on 20th February 2010, and the collection was completed by mid April 2010.
8. The returned questionnaires were accurately checked to ensure obtaining an appropriate and correct data based on the survey questions.
9. The reviewed and approved questionnaires were organized and data was coded before a statistical analysis.

4.4.2 *Semi-structured Interview*

There are three types of interview: structured, semi-structured, and unstructured interviews. Each type is used to gather certain data based on the stated research questions. In the current study, the researcher employed the second type for the aim of gathering descriptive and rich data to complement/probe particular findings from the questionnaire. Lancaster (2005) states that the purpose of the design of the semi-structured individual interview is “to be focused in terms of topics covered and yet flexible in that it is possible and often desirable to steer questions into areas that appear promising from point of view of providing rich data and/or additional insights” (p. 134). The data gathered from the semi-structured individual interview was used in the current study as a base to interpret/explain particular findings.

The researcher developed certain questions relating to the topic of the PD of academics in the colleges. The majority of questions to be included in the interview are open-ended and few are closed questions. These questions focus on the exploration of relevant themes provided in the self-completion questionnaire. The interview was applied in the current study to explore the current situation of the PD of academics in the Sultanate nationally and in the colleges. The final version of interview contains six questions with respect to the topics of the current study (Appendix 6) and the length of the interview last around 15-20 minutes.

Before and during the conduct of the interview, particular procedures had been preceded by the researcher. The researcher contacted the Head of human

resource development department in the CAS-Sohar) and explained his request and the purpose of the study. The consent of voluntary participation of the head was gained and the appointment of the conduct of the interview is determined. At exacted date, the researcher met the interviewee and explained the purpose of the interview and guaranteed that the data gained will be nominated and will not be used except for the purpose of the study. At the end of the interview, the researcher thanked the interviewee for their voluntary participation and gave him the mobile number for any further enquires.

4.4.3 Focus Group Discussion

To fulfill the purposes of the study, a focus group discussion was applied in the current study. The method of focus group discussion is used by researchers to gather in-depth details from certain respondents with regard to particular issue(s). According to Ghauri and Gronhaug (2005), “Focus groups, as a data collection method, take many different forms, such as discussion group, focused interviews, group interviewing and group research, and are often used in business studies...” (p. 140). Based on the name of the method, focus group discussions include few respondents to be interviewed with a control of a moderator in order to gather focused and in-depth data.

The focus group discussions provide the researcher with an opportunity to focus on particular issue(s) and take advantage of different opinions offered in the discussions. The advantages of focus group discussions could include: the generation of in-depth data provided by respondents and the observation of different reactions of respondents in open interactions. However, focus group

discussions provide the researcher with too many descriptive details which are difficult to collect and understand (Ghauri & Gronhaug, 2005). Therefore, it is very important to create an appropriate environment to conduct a focus group discussion, focusing on the following procedures (Hussey & Hussey, 1997, p. 155):

1. Invite a group of people whom you consider have sufficient experiences in common on the topic to meet at a neutral location.
2. Introduce the group members and discuss the purpose of the study and what will happen in the focus group.
3. If possible, give visual examples of the subject matter...
4. Start the session with a broad, open question...
5. Allow the group to discuss topics among themselves, but intervene to ensure that all participants have an opportunity to contribute.
6. Use a prepared list of topics and intervene to ensure that all topics are covered.
7. Enlist the help of two observers and, if possible, record the proceedings on video.

In the current study, a seven focus group discussion was conducted (for one hour and a half) to probe particular findings gathered from the questionnaire. The researcher invited six academics in the CAS-Sohar to participate as volunteers in the group discussion and followed particular procedures. Firstly, the researcher introduced the purpose of the study and explained the topics and the aim of the meeting. Secondly, a sheet of questions to be discussed in the meeting was distributed (Appendix 7) with a request of recording any ideas that

appear in the respondents' minds. Thirdly, the researcher played his role as a moderator and asked the respondents to listen to other's opinions and share their ideas with others. Fourthly, the moderator also asked the respondents to record their opinions and insights as much as they could. Fifthly, the moderator controlled the discussion by giving each respondent an opportunity to contribute to the discussion and interact with others. Sixthly, each respondent was given a chance to add any further ideas and/or information related to focused questions and share them with others. Finally, the researcher thanked the respondents and gave them his mobile number for any further enquiry.

4.4.4 Review of Official national and CAS Documents in Publications and Websites

To collect particular information regarding any issues related to the PD of academics, the researcher reviewed national and CAS documents. The focus of the review was to collect relevant data about the policies and missions for the PD of academics at both the ministerial and CAS levels. The researcher reviewed the official documents in the MoHE's publications and the ministry's website with respect to the statements of the national PD policy and mission. The researcher also reviewed the official documents in the publications and website of the Directorate General of the Colleges of Applied Sciences, concerning the policy and mission of PD of academics. The official documents are supposed to include any statements of PD policy and mission if any of these existed. The review of these documents helped the researcher to probe and interpret particular quantitative findings of the study in order to strengthen the analysis and discussion of the findings.

4.5 Population and Sample

The target population for the current research (the self-completion questionnaire) involved all academics who teach the majors of English Language and Applied Sciences subjects (Business, Communication, Design, and IT) in the six CASs in Oman over the academic year 2009/2010. The four majors of applied sciences are only available academic programmes offered to students during the conduct of the current study and English Language is the compulsory language foundation course for all students before entering these programmes. Based on the Directorate General's of CASs statistics of academics in this academic year, the number of the population for the present study totaled 427 academics in the six colleges (Table 12).

Table 12: Distribution of Target Population (Academics Numbers) at Each CAS

The CAS	<i>Rustaq</i>	<i>Sohar</i>	<i>Salalah</i>	<i>Sur</i>	<i>Ibri</i>	<i>Nizwa</i>	<i>Total</i>
No. of academics	71	95	54	50	74	83	427

Because the population employed in the current study is distributed as units over the six CASs, a stratified random sample was appropriately used to select a representative sample. Ghauri and Gronhaug (2005) assert that “A stratified random sample is obtained by taking a simple random sample from each stratum. The idea of stratified sampling is to ensure that every part of the population, that is every stratum, gets a better representation” (p. 150). This type of sampling gives a chance to the units of academics distributed in the six

colleges to be selected randomly and hence, to be a representative sample of the entire target population. The researcher chose a 40 percent (170 academics) as a stratified sample size of the total number of population of academics. The consideration of the selected percentage of the sample is a probability that a number of academics could not have chance to participate in the survey because of engagement in work and/or rejection of participation based on personal reasons. Based on a percentage of a total chosen sample size, 40 percent of the population of academics in each college was accordingly selected as indicated in Table 13.

Table 13: Distribution of Sample Size (Academics Numbers) at Each CAS

The CAS	<i>Rustaq</i>	<i>Sohar</i>	<i>Salalah</i>	<i>Sur</i>	<i>Ibri</i>	<i>Nizwa</i>	<i>Total</i>
No. of academics	28	38	22	20	29	33	170
% of sample	40%	40%	40%	40%	40%	40%	40%

4.6 Response Rate and Distribution of Respondents

A total of 150 respondents (88.2% of the sample size) completed and returned the questionnaire. Mangione (1995) (as cited in Bryman and Bell, 2007, p. 244) reports that over 85% of the response rate to postal questionnaires is considered excellent. The response rate of the number of respondents at each college is illustrated in Table 14. The demographic information about the respondents' distribution per gender, qualifications, experience, and specializations are detailed in Tables 15, 16, 17, and 18.

Table 14: The Response Rate of the Number of Respondents at Each CAS

The CAS	<i>Rustaq</i>	<i>Sohar</i>	<i>Salalah</i>	<i>Sur</i>	<i>Ibri</i>	<i>Nizwa</i>	<i>Total</i>
No. of Respondents	25	33	19	18	26	29	150
Response Rate	89.2%	86.8%	86.3%	90%	89.6%	87.8%	88.2%

Table 15: Distribution of Respondents by Gender

Gender	<i>Frequency</i>	<i>Percent</i>
Male	105	70.0
Female	45	30.0
Total	150	100.0

Table 16: Distribution of Respondents by Qualifications

Qualification	<i>Frequency</i>	<i>Percent</i>
PhD	47	31.3
Master	84	56.0
First Degree	19	12.7
Total	150	100.0

Table 17: Distribution of Respondents by Experience

Experience	<i>Frequency</i>	<i>Percent</i>
1-4 Years'	51	34.0
5-8 Years'	38	25.3
9-12 Years'	27	18.0
>12 Years'	34	22.7
Total	150	100.0

Table 18: Distribution of Respondents by Specializations

Specialization	<i>Frequency</i>	<i>Percent</i>
Business	25	16.7
Communication	23	15.3
Design	18	12.0
English Language	54	36.0
IT	30	20.0
Total	150	100.0

With regard to response rate, Table 14 shows that the percentage of response rate in the six colleges ranges between 86.3% (CAS-Salalah) and 90% (CAS-Sur) and the average percentage (of the total number) reaches 88.2%. As shown in Table 15, the number of male respondents (105) is around two times the number of female respondents (45). Table 16 illustrates that the number of respondents qualified with Master Degree (84) is far higher than the number of respondents qualified with PhD (47) and First Degree (19). The number of respondents with 1-4 years' experience (51), as indicated in Table 17, is more than the numbers of respondents with other levels of years' of experience. According to Table 18, the number of respondents in English Language (54) is the highest, while the number of respondents in Design (18) is the lowest.

4.7 Ethical Considerations

The researcher took into account any ethical consideration before the conduct of a survey questionnaire. For this reason, Waikato University's Human Research Ethics Regulations were reviewed and ethics approval was applied for and granted. Further, the Director General of the Colleges of Applied Sciences in

Oman was provided with an authorization letter by the researcher to gain approval to conduct the survey. After gaining the approval, the academics were informed by Deans of the CASs to participate optionally in the survey without any compulsion.

The confidentiality of data and privacy of participants were guaranteed before the conduct of survey. To ensure the confidentiality of data, the completed questionnaires were collected and secured in sealed envelopes given to each participant with his/her questionnaire. The data collected were not accessed except by the researcher and supervisors and were not used other than for the purpose of the study and publication of the findings. In addition, the data collected were stored securely and would be destroyed three years after completion of the study. In terms of the privacy of participants, their identities were certainly protected by not requesting them to endorse any type of identity on the questionnaires. Participants were also given the chance and right to complete the questionnaire without any pressure in college work time. They were allowed to respond as they wish in a comfortable and familiar environment during the survey, preventing them from any potential emotional distress or embarrassment.

4.8 Scope and Limitations of the Study

The current study contributes to knowledge and research, with respect to teaching quality improvement and PD for academics. The scope of the study is concerned with the implications of the improvement of teaching quality for PD of academics in the CASs. Considering this scope, the central focus is on the

investigation of the extent of the academics' involvement in PD, the PD needs for academics, barriers to effective PD of academics, and the factors to enhance PD of academics. In addition, the study involved the academics who teach the majors of English Language, Business, Communication, Design, and IT in the all six CASs (Ibri, Niswa, Rustaq, Salalah, Sohar, and Sur) in the Sultanate of Oman.

Although the current study focuses on a particular scope and contributes to related knowledge and research, the researcher acknowledged certain limitations of the study. It is important to take into consideration these limitations in order to generalize the findings of the study. The following points list the limitations of the current study:

1. The study focuses on examining teaching as a central role of academics rather than research because the CASs are regarded as teaching oriented-mission HEIs, their official documents and goals concentrate more on teaching and therefore, the role of research is not clear enough to be examined in the study.
2. The representativeness of the sample involved in the study and the size of this sample were limited by the use of stratified random sampling based on a target population located in different areas (the six CASs).
3. The accuracy and truthfulness of quantitative data collected in the current study was limited to the researcher's development and measurements of the questionnaire. The measurement of reliability was limited to the appropriate use of Cronbach's Coefficient Alpha to

measure ‘consistency’ of the items included in the questionnaire. The limitation of the reliability measurement was managed by the use of a qualitative approach focusing on ‘dependability’ (based on accurate design of questionnaire and appropriate procedures of administration).

4. The accuracy and truthfulness of qualitative data collected in the current study was limited to the clarity of questions included in the semi-structured interview and focus group discussion, and was also limited to the appropriate interpretation of respondents and honest responses based on real experience.
5. The conduct of the survey questionnaire of the study was restricted to the academic year 2009/2010 and therefore, the findings of the study were accordingly restricted to this year and do not relate to any practices and advancements in subsequent academic years.

4.9 Data Analysis

The current study employed both quantitative approach (using a questionnaire survey) and qualitative approach (using semi-structured interview and focus group discussion). The data gathered is accordingly regarded as quantitative and qualitative. Therefore, these types of data were analyzed by using suitable techniques of data analysis.

4.9.1 Analysis of Quantitative Data

The quantitative data was statistically analyzed by using computing processes of SPSS. Academics’ responses to questions and the items covered in the

questionnaire were coded appropriately in order to be analyzed. The four demographic questions regarding: (gender, qualifications, specializations, and experience) pursue quantitative data and thus require the calculation of frequencies and percentages. For this reason, the researcher used frequency tables and percentages by SPSS to analyze these four questions. Bryman and Bell (2007) state “A frequency table provides the number of people and the percentage belonging to each of the categories for the variable in question” (p. 357). The frequencies of the four demographic variables were illustrated in the section of response rate and distribution of respondents in chapter four.

Furthermore, for the first question in the current study (regarding the level of the academics’ involvement in PD), the researcher also utilized frequencies and percentages. These statistical analysis methods answered question one and present the extent of the academics’ involvement in PD related to the teaching quality improvement in the last two years prior to the survey in the CASs. The frequency and percentage of the academics’ involvement in these programmes will be shown in chapter five.

Questions (two, four, and six) are concerned with the investigation of PD needs for academics, barriers to effective PD of academics, factors to enhance PD of academics. To answer these three questions, which contain particular items with a five-point scale, the researcher used means, standard deviations, percentages, and ranking. However, questions (three, five, and seven) focus on identifying differences between the perceptions of academics according to the variables of gender, qualifications, specializations, and experience. The researcher adopted the significance level of (0.05) and utilized a t-test to identify differences

between the two groups of a gender variable (male and female). The researcher also used Analysis of Variance test (ANOVA) to identify differences between the groups of variables of: qualification (three groups), experience (four groups), and specialization (six groups) at the same significance level (0.05). In addition, the researcher employed LSD test (Least Significant Difference) as a post-hoc comparison method to examine the statistical significance of the mean difference. The researcher also used Chi-square tests, as a model of crosstabs statistics, to identify priority levels of rating for items within each section and to examine the significant differences between the groups of variables relating the participants' rating of items within each section.

4.9.2 Analysis of Qualitative Data

The current study also used qualitative research methods (semi-structured interview and focus group discussion) to collect qualitative data. The qualitative data gathered is used to gain in-depth information and appropriate an interpretation about particular findings revealed in the survey results. Based on the objectives of the qualitative data collection, the researcher employed content analysis to take advantage of the data to probe and interpret the findings gained from the questionnaire. Lancaster (2005) asserts that in the content analysis “...the researcher decides in advance what is being looked for and measured through the qualitative research, and then develops frameworks of classifications for assessing the content of the data with regard to these measures” (p. 162). In the current study, the researcher analyzed the qualitative data to be used in the discussion of findings in order to interpret and justify them appropriately.

Chapter Summary

For the current study, both positivist and interpretive paradigms and therefore, both quantitative and qualitative research approaches were used to set the appropriate research design. In order to answer the research questions, a survey questionnaire is used to collect quantitative data; the questionnaire was designed by the researcher and its validity and reliability were tested by appropriate measurements. In addition, another two qualitative research methods (semi-structured interview and focus group discussion) were used to probe and interpret particular findings. The administration of the questionnaire and data collection was conducted according to particular procedures and ethical considerations after gaining the authoritative approval from the MoHE. A total of 427 academics formed the target population for the current study and 170 academics (40%) were selected as a stratified random sample from the six CASs. A total of 150 questionnaires were completed and returned and the response rate was 88.2%. The scope and limitations of the study were discussed and types of analysis for quantitative and qualitative data were addressed. The findings of the study will be presented and analyzed in the next chapter.

Chapter Five

Findings of the Study

Introduction

Methodology and research design for the current study were discussed in the previous chapter. This chapter presents the findings of the study based on research questions in order to address the implications of teaching quality improvement on PD for academics in the CASs. The first question addresses the level of academics' involvement during the last two years in PD in these colleges relating to the improvement of teaching quality. The other six questions identify academics' PD needs, barriers to PD, factors to enhance PD, and variance of respondents' perceptions based on a number of demographic variables. The following section will present the findings of question one.

5.1 Findings of Question One

In order to answer question one: 'What is the extent of the current academics' involvement in PDPs related to the improvement of teaching quality in the last two years in the CASs?', frequencies and percentages have been calculated. These statistics have been tested to identify the participants' responses about the quantity of teaching quality PDPs which respondents attended in the last two years. The results for this question provide an indication of the current situation of PD regarding the teaching quality improvement in these colleges.

Table 19 illustrates the frequencies and percentages of the number of teaching quality improvement PDPs, which respondents have attended in the CASs in the

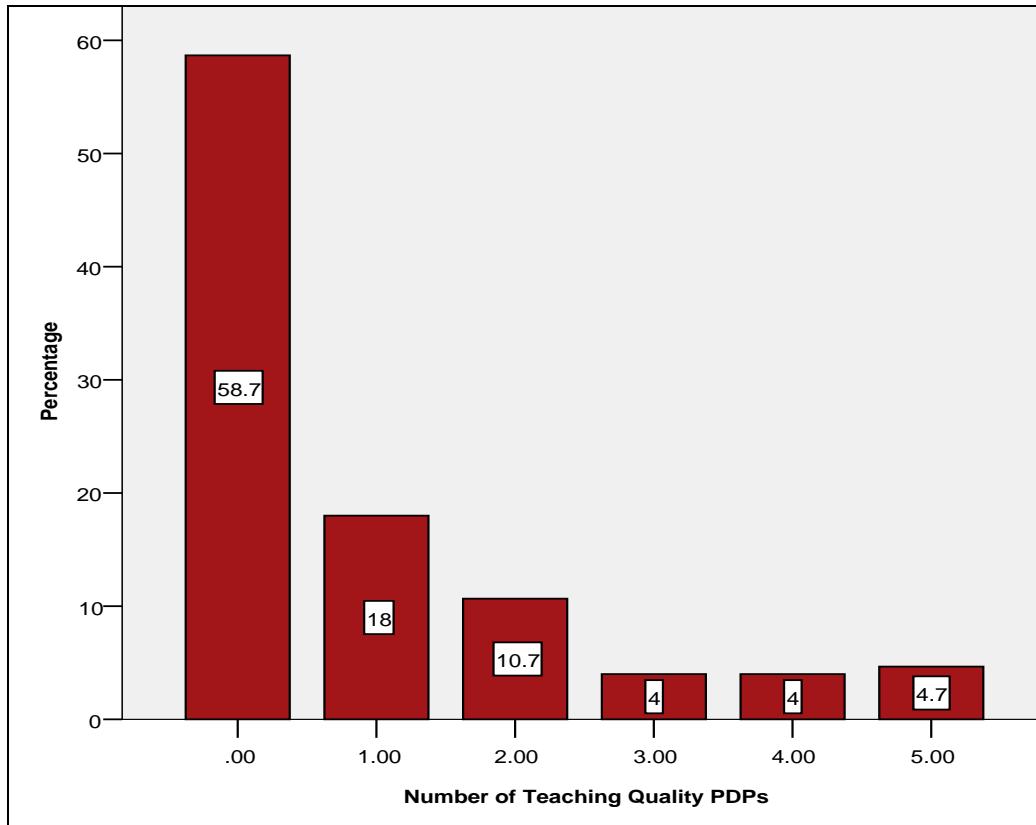
last two years. The values between zero (0) and five (5) refer to the range between the lowest and highest number of programmes attended by these academics.

Table 19: Frequency and Percentage of the Number of Teaching Quality PDPs Attended by Academics in the Last Two Years in the CASs

Value	Frequency	Percentage
<i>.00</i>	88	58.7
<i>1.00</i>	27	18.0
<i>2.00</i>	16	10.7
<i>3.00</i>	6	4.0
<i>4.00</i>	6	4.0
<i>5.00</i>	7	4.7
Total	150	100.0

It can be seen from Table 19 that the frequency of the value (.00) is regarded as the highest one (88) in comparison to the frequencies of the rest of the values, particularly the values for 3.00, 4.00, and 5.00. This means that the percentage of academics who did not attend teaching quality PDPs in the last two years in the CASs was 58.7% (more than half the total number surveyed), as shown also in Figure 15.

**Figure 15: Percentage of the Number of Teaching Quality PDPs Attended
by the Academics in the Last Two Years in the CASs**



As shown in Table 19 and Figure 15, the current extent of the academics' involvement in teaching quality PDPs in the CASs can be considered unsatisfactorily low. The statistics show that 88 academics (58.7%) did not attend any teaching quality PDPs in the last two years in the CASs. The number who attended one or two programmes during the same period is higher than the number who attended three to five programmes. While 27 (18%) and 16 (10.7%) academics attended one or two programmes respectively, only 6 (4%) academics attended three or four programmes and 7 (4.7%) attended five programmes.

The findings of the study also show frequencies and percentages of the respondents' involvement in PDPs, relating to the teaching quality improvement in each college in the last two years (see Table 20). In table 20, (Fr.) refers to frequency and (%) refers to percentage; the values between zero (0) and five (5) refer to the range between the lowest and highest number of programmes attended by academics in each college.

Table 20: Frequency and Percentage of the Number of Teaching Quality PDPs Attended by Academics in the Last Two Years in Each CAS

Value	CAS-Ibri		CAS-Nizwa		CAS-Rustaq		CAS-Salalah		CAS-Sohar		CAS-Sur	
	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
.00	15	57.6	10	34.5	5	60	16	84.2	22	66.6	10	55.5
1.00	8	30.7	5	17.2	4	16	2	10.5	4	12.1	4	22.2
2.00	2	7.6	8	27.5	2	8	0	0	1	3	3	16.6
3.00	0	0	2	6.8	2	8	0	0	2	6	0	0
4.00	0	0	1	3.4	1	4	1	5.2	2	6	1	5.5
5.00	1	3.8	3	10.3	1	4	0	0	2	6	0	0
Total	26	100	29	100	25	100	19	100	33	100	18	100

It can be seen from Table 20 that the highest percentage of the academics who did not attend any PDP (84.2%) is in the CAS-Salalah and the lowest percentage (34.5%) in the CAS-Nizwa. In addition, the highest percentage of the academics who attended only one programme (30.7%) was in the CAS-Ibri and the lowest percentage (10.5%) represents the CAS-Salalah. On the other hand, the colleges of Nizwa and Sohar represent the highest percentage of academics (13.7% and

12% respectively) who attended five and four programmes although these percentages are generally considered unsatisfactorily low.

From above, the extent of academics' participation in teaching quality PDPs in the last two years in the CASs seems to be unsatisfactorily low. In addition, the extent of the academics' participation is clearly different between the six colleges. The possible reasons for these results will be provided and discussed in chapter six: discussion of the findings.

5.2 Findings of Question Two

Means, standard deviations, percentages, and ranking are used to answer question two: 'What are the PD needs of academics in the CAS, related to the improvement of teaching quality, as perceived by academics?' Table 21 shows means, standard deviations, and ranking of the PD needs for academics in the CASs relating to the improvement of teaching quality. The percentage data for the ratings of these PD needs is displayed in Appendix 8.

Table 21: Means, Standard Deviations, and Ranking of the PD Needs of Academics in the CASs Related to the Improvement of Teaching Quality

(continues on next page)

Ran king	No.	Professional Development Needs	Mean	Std. Deviation
1	18	Development of student critical thinking skills	3.2000	1.23701
2	22	Realization of innovative teaching methods	3.0738	1.15134
3	15	Use of information technologies to support teaching & learning processes	3.0600	1.21086
4	10	Development of student problem-solving skills	2.9799	1.15939

5	21	Identifying students' needs before and during the course	2.9467	1.20840
6	4	Matching teaching methods to learning styles of students	2.9329	1.19495
7	19	Feedback provision to students about their learning progress	2.9267	1.26436
8	5	Connecting course materials to a local environment of students	2.9133	1.23123
9	9	Adopting 'lifelong learning' strategy	2.9060	1.12911
10	6	Continuous development of curriculum	2.8867	1.19584
11	16	Student involvement at different stages of a learning process	2.8867	1.16167
12	17	Continuous improvement of teaching & learning during the whole course	2.8792	1.20759
13	20	Training application in class	2.8255	1.17250
14	1	Goal-setting for course materials	2.8108	1.32661
15	11	Constitution and management of student teamwork	2.8000	1.21512
16	13	Use of appropriate assessment to evaluate student learning	2.7852	1.26044
17	8	Adopting a 'student-centered' approach	2.7533	1.21477
18	14	Use of self professional development (e.g. reading, colleague interactions)	2.7133	1.17203
19	3	Use of appropriate teaching method(s)	2.6757	1.30001
20	2	Preparation for lessons and subject matters	2.6081	1.48294
21	7	Interactive communication with students	2.5933	1.36641
22	12	Time management of class and course	2.5302	1.33840

As Table 21 illustrates, the mean values of only 3 among 22 academics' PD needs as related to teaching quality improvement exceed value 3.00 of the scale (1.00 to 5.00). The highest mean (3.20) of those PD needs in the CASs represents Need 18 (Development of student critical thinking skills). The second (3.07) and third (3.06) highest mean of the PD needs for academics represent, respectively, Need 22 (Realization of innovative teaching methods) and Need 15 (Use of information technologies to support teaching & learning processes).

Furthermore, even though only three mean values of academics' PD needs to improve teaching quality exceed 3.00, the rest (19 needs) all surpass the midpoint of the scale (2.50). The means values of those 19 needs range between 2.97 (the maximum) and 2.53 (the minimum). The highest six among 19 means of those needs reach 2.90 and over. These six needs, as ranked from top to bottom, are: Need 10 (Development of student problem-solving skills), Need 21 (Identifying students' needs before and during the course), Need 4 (Matching teaching methods to learning styles of students), Need 19 (Feedback provision to students about their learning skills), Need 5 (Connecting course materials to a local environment of students), and Need 9 (Adopting a 'lifelong learning' strategy).

As also shown in Table 21, the two lowest mean values of academics' PD needs to improve teaching quality in the CASs relate to Need 12 and Need 7. The two mean values of these needs are also the only two which do not exceed the value of (2.60). The lowest mean (2.53) of the two needs represents Need 12 (Time management of class and course), whereas the second lowest mean (2.59) signifies Need 7 (Interactive communication with students).

In brief, these findings show that the mean values of all the teaching quality PD needs for academics (22 needs) in the CASs go beyond the midpoint of the scale (2.50) up to the value 3.20. This result can indicate that the academics in the CASs have reasonable, but not remarkable, preferences of their PD needs to improve teaching quality.

5.3 Findings of Question Three

In order to answer the third question, namely ‘Do academics’ PD needs in the CASs related to the improvement of teaching quality vary significantly according to the variables of - gender, qualifications, experience, and specializations?’, a t-test has been used to measure differences between two groups: males and females (gender variable). On the other hand, a One-Way ANOVA test was applied to identify the differences between the three groups of the qualification variable (PhD – Master – First Degree), the four groups of the experience variable, and the five groups of the specialization variable. The 0.05 level has been set as a standard to examine the statistical significance of the mean difference by LSD (Least Significant Difference), as a post-hoc comparisons method, and Chi-square tests. The following sections present the findings of question three.

5.3.1 Investigation of Differences between Groups of the Gender Variable in Relation to the PD Needs to Improve Teaching Quality

Table 22 illustrates means and t-test results regarding the effect of the gender variable upon the PD needs of academics, as related to teaching quality improvement. These results show whether there are differences between males and females in regard to the 22 PD needs.

Table 22: t-test Results for Males and Females Related to the PD Needs of Academics to Improve Teaching Quality in the CASs

PD Needs	Ranking	Total N=(150)	Males N=(105)	Females N=(45)	t-test	Degree of Freedom	Sig. (2- tailed)
		Mean	Mean	Mean			
Need 18	1	3.2000	3.2667	3.0444	1.008	148	.315
Need 22	2	3.0738	3.1442	2.9111	1.136	147	.258
Need 15	3	3.0600	3.1048	2.9556	.690	148	.491
Need 10	4	2.9799	3.0577	2.8000	1.248	147	.214
Need 21	5	2.9467	2.9905	2.8444	.677	148	.499
Need 4	6	2.9329	3.0476	2.6591	1.825	147	.070**
Need 19	7	2.9267	3.0190	2.7111	1.371	148	.172
Need 5	8	2.9133	2.9619	2.8000	.737	148	.462
Need 9	9	2.9060	3.0095	2.6591	1.740	147	.084**
Need 6	10	2.8867	3.0000	2.6222	1.786	148	.076**
Need 16	11	2.8867	2.9905	2.6444	1.682	148	.095**
Need 17	12	2.8792	2.9524	2.7045	1.144	147	.254
Need 20	13	2.8255	2.9135	2.6222	1.397	147	.165
Need 1	14	2.8108	2.9320	2.5333	1.693	146	.093**
Need 11	15	2.8000	2.8952	2.5778	1.472	148	.143
Need 13	16	2.7852	2.8750	2.5778	1.325	147	.187
Need 8	17	2.7533	2.8095	2.6222	.865	148	.389
Need 14	18	2.7133	2.7619	2.6000	.774	148	.440
Need 3	19	2.6757	2.8190	2.3256	2.121	146	.036*
Need 2	20	2.6081	2.7864	2.2000	2.243	146	.017*
Need 7	21	2.5933	2.7333	2.2667	1.934	148	.055**
Need 12	22	2.5302	2.6442	2.2667	1.589	147	.114

*Significant at the 0.05 level.

**Significant at the 0.10 level.

As shown in Table 22, the ‘ranking’ column indicates the importance of each PD need, as perceived by all respondents, ordered from top to bottom. In addition, the ‘total mean’ column represents the mean value for the 22 PD needs according to the perceptions of all respondents. The t-test results comparing the means of males and females’ responses in relation to the 22 PD needs reveal that there are only two statistically significant findings at the 0.05 level. All values of

significance in the t-test reach over the 0.05 level except for Need 2 (significance value = .017) and Need 3 (significance value = .036). It is indicated that these two needs are not important in accordance to the gender because they reach the respective third and fourth lowest mean (2.60, and 2.67) in the perceptions of the total number of academics. To explain particular priorities of PD Needs 2 and 3 based on the significant differences between males and females, Crosstabs statistics by Chi-square tests are identified. The result of the tests is summarized in Table 23, indicating the percentages for high priority ratings of PD Needs 2 and 3 based on the significant differences between males and females.

Table 23: Percentages for High Priority Ratings of PD Needs 2 and 3 Based on the Significant Differences between Males and Females

PD Needs	Critical + High Need	Gender Variable	
		Male	Female
<i>PD Need 2</i>	Frequency	38	10
	Percentage	36.8%	22.2%
<i>PD Need 3</i>	Frequency	34	7
	Percentage	32.3%	16.2%

Table 23 shows the percentages for high priority ratings (critical and high) of PD Needs 2 and 3 based on the significant differences between males and females. Consistent with the percentages of priority as shown in the table, these two differences are statistically significant and both Need 2 and Need 3 were of

a higher level of importance to males than to females. While the male percentage in Need 2 and Need 3 reach 36.8% and 32.3% respectively, the female percentage in the same two needs equal 22.2% and 16.2% respectively.

5.3.2 Investigation of Differences between Groups of the Qualification Variable in Relation to the PD Needs to Improve Teaching Quality

Means have been computed in order to examine and compare the differences between the three groups based on qualification levels upon the 22 PD needs. The associated findings of mean values for the groups of the qualification variable (PhD, Master, and First Degree) are shown in Table 24.

Table 24: Mean Values Regarding Groups of the Qualification Variable Related to the PD Needs of Academics to Improve Teaching Quality in the CASs (continues on next page)

PD Needs	Ranking	Total N=(150)	PhD N=(47)	Master N=(84)	First Degree N=(19)
		Mean	Mean	Mean	Mean
Need 18	1	3.2000	3.2979	3.1429	3.2105
Need 22	2	3.0738	3.2340	3.0361	2.8421
Need 15	3	3.0600	3.2128	3.0000	2.9474
Need 10	4	2.9799	3.1087	2.9762	2.6842
Need 21	5	2.9467	3.2128	2.9048	2.4737
Need 4	6	2.9329	3.0000	2.9405	2.7368
Need 19	7	2.9267	2.9787	2.9643	2.6316
Need 5	8	2.9133	2.9787	2.9286	2.6842
Need 9	9	2.9060	2.9362	2.9398	2.6842
Need 6	10	2.8867	2.9149	2.9524	2.5263
Need 16	11	2.8867	2.7447	2.9762	2.8421
Need 17	12	2.8792	3.0000	2.8916	2.5263
Need 20	13	2.8255	3.0000	2.8333	2.3684
Need 1	14	2.8108	2.7872	2.8313	2.7778
Need 11	15	2.8000	2.6809	2.8690	2.7895
Need 13	16	2.7852	2.8723	2.8554	2.2632
Need 8	17	2.7533	2.8723	2.8095	2.2105

<i>Need 14</i>	<i>18</i>	2.7133	2.7660	2.7262	2.5263
<i>Need 3</i>	<i>19</i>	2.6757	2.8936	2.6951	2.0526
<i>Need 2</i>	<i>20</i>	2.6081	2.8043	2.6265	2.0526
<i>Need 7</i>	<i>21</i>	2.5933	2.7021	2.5714	2.4211
<i>Need 12</i>	<i>22</i>	2.5302	2.7021	2.5783	1.8947

It can be seen from Table 24 that the all mean values regarding the groups of the qualification variable exceed the value 2.00 except for the First Degree group in Need 12 (Time management of class and course). The mean value of this group for Need 12 reaches only 1.89 and this rate is regarded as the lowest mean value compared to the all mean values within the three groups on the 22 PD needs. On the other hand, the highest mean value (3.29) is registered for the PhD group for Need 18 (Development of student critical thinking skills). These findings suggest differences between mean values related to the groups of a qualification variable with respect to the PD needs. For this reason, a One-Way ANOVA test has been employed to examine whether these differences are statistically significant at the 0.05 level (as is shown in Table 25).

Table 25: One-Way ANOVA Test Results for the Groups of the Qualification Variable Related to the PD Needs of Academics to Improve Teaching Quality in the CASs (continues on next two pages)

PD Needs	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Need 1</i>	<i>Between Groups</i>	.081	2	.040	.023	.978
	<i>Within Groups</i>	258.622	145	1.784		
	<i>Total</i>	258.703	147			
<i>Need 2</i>	<i>Between Groups</i>	7.662	2	3.831	1.760	.176
	<i>Within Groups</i>	315.608	145	2.177		
	<i>Total</i>	323.270	147			
<i>Need 3</i>	<i>Between Groups</i>	9.639	2	4.819	2.926	.057**
	<i>Within Groups</i>	238.794	145	1.647		

	<i>Total</i>	248.432	147			
<i>Need 4</i>	<i>Between Groups</i>	.942	2	.471	.327	.722
	<i>Within Groups</i>	210.387	146	1.441		
	<i>Total</i>	211.329	148			
<i>Need 5</i>	<i>Between Groups</i>	1.218	2	.609	.398	.672
	<i>Within Groups</i>	224.655	147	1.528		
	<i>Total</i>	225.873	149			
<i>Need 6</i>	<i>Between Groups</i>	2.867	2	1.434	1.003	.369
	<i>Within Groups</i>	210.206	147	1.430		
	<i>Total</i>	213.073	149			
<i>Need 7</i>	<i>Between Groups</i>	1.161	2	.580	.308	.735
	<i>Within Groups</i>	277.033	147	1.885		
	<i>Total</i>	278.193	149			
<i>Need 8</i>	<i>Between Groups</i>	6.529	2	3.265	2.249	.109
	<i>Within Groups</i>	213.344	147	1.451		
	<i>Total</i>	219.873	149			
<i>Need 9</i>	<i>Between Groups</i>	1.072	2	.536	.417	.660
	<i>Within Groups</i>	187.613	146	1.285		
	<i>Total</i>	188.685	148			
<i>Need 10</i>	<i>Between Groups</i>	2.425	2	1.213	.901	.408
	<i>Within Groups</i>	196.514	146	1.346		
	<i>Total</i>	198.940	148			
<i>Need 11</i>	<i>Between Groups</i>	1.070	2	.535	.359	.699
	<i>Within Groups</i>	218.930	147	1.489		
	<i>Total</i>	220.000	149			
<i>Need 12</i>	<i>Between Groups</i>	9.254	2	4.627	2.640	.075**
	<i>Within Groups</i>	255.860	146	1.752		
	<i>Total</i>	265.114	148			
<i>Need 13</i>	<i>Between Groups</i>	5.944	2	2.972	1.893	.154
	<i>Within Groups</i>	229.183	146	1.570		
	<i>Total</i>	235.128	148			
<i>Need 14</i>	<i>Between Groups</i>	.809	2	.404	.292	.748
	<i>Within Groups</i>	203.865	147	1.387		
	<i>Total</i>	204.673	149			
<i>Need 15</i>	<i>Between Groups</i>	1.640	2	.820	.556	.575
	<i>Within Groups</i>	216.820	147	1.475		
	<i>Total</i>	218.460	149			
<i>Need 16</i>	<i>Between Groups</i>	1.658	2	.829	.611	.544
	<i>Within Groups</i>	199.415	147	1.357		
	<i>Total</i>	201.073	149			
<i>Need 17</i>	<i>Between Groups</i>	3.065	2	1.532	1.051	.352
	<i>Within Groups</i>	212.761	146	1.457		
	<i>Total</i>	215.826	148			
<i>Need 18</i>	<i>Between Groups</i>	.727	2	.363	.235	.791
	<i>Within Groups</i>	227.273	147	1.546		
	<i>Total</i>	228.000	149			

<i>Need 19</i>	<i>Between Groups</i>	1.901	2	.950	.591	.555
	<i>Within Groups</i>	236.293	147	1.607		
	<i>Total</i>	238.193	149			
<i>Need 20</i>	<i>Between Groups</i>	5.375	2	2.688	1.981	.142
	<i>Within Groups</i>	198.088	146	1.357		
	<i>Total</i>	203.463	148			
<i>Need 21</i>	<i>Between Groups</i>	7.726	2	3.863	2.706	.070**
	<i>Within Groups</i>	209.847	147	1.428		
	<i>Total</i>	217.573	149			
<i>Need 22</i>	<i>Between Groups</i>	2.345	2	1.172	.883	.416
	<i>Within Groups</i>	193.843	146	1.328		
	<i>Total</i>	196.188	148			

**Significant at the 0.10 level.

As shown in Table 25, the result of the One-Way ANOVA test between the mean values of the different groups of qualification in relation to the PD needs illustrates there are no statistically significant findings at the 0.05 level. The values of significance of the test for the 22 PD needs of academics exceed the 0.05 level. The findings demonstrate that the qualification variable does not affect the perceptions of academics about their PD needs to improve teaching quality in the CASs.

5.3.3 Investigation of Differences between Groups of the Experience Variable in Relation to the PD Needs to Improve Teaching Quality

In order to examine and compare the differences between the four groups of experience variable upon the 22 PD needs of academics, means have been figured. The findings of mean values for the groups of experience variable (1-4, 5-8, 9-12, and >12 years), in relation to the PD needs, are shown in Table 26.

**Table 26: Mean Values Regarding the Groups of the Experience Variable
Related to the PD Needs of Academics to Improve Teaching Quality in the
CASs**

PD Needs	Ranking	Total N=(150)	01-04 Years' N=(51)	05-08 Years' N=(38)	09-12 Years' N=(27)	>12 Years' N=(34)
		Mean	Mean	Mean	Mean	Mean
Need 18	1	3.2000	3.4510	3.2105	2.8519	3.0882
Need 22	2	3.0738	3.1176	3.1053	2.8519	3.1515
Need 15	3	3.0600	3.1373	3.1842	2.5556	3.2059
Need 10	4	2.9799	3.3529	2.9474	2.3077	2.9706
Need 21	5	2.9467	3.0980	3.1053	2.4444	2.9412
Need 4	6	2.9329	3.1569	2.8649	2.6667	2.8824
Need 19	7	2.9267	3.2157	2.9737	2.5926	2.7059
Need 5	8	2.9133	3.0980	2.9737	2.6296	2.7941
Need 9	9	2.9060	3.1400	2.8947	2.4815	2.9118
Need 6	10	2.8867	3.0784	3.0526	2.7407	2.5294
Need 16	11	2.8867	3.1373	2.9474	2.6667	2.6176
Need 17	12	2.8792	3.0000	2.9474	2.6667	2.7941
Need 20	13	2.8255	2.8431	2.9737	2.6296	2.7879
Need 1	14	2.8108	2.9020	2.8108	2.8846	2.6176
Need 11	15	2.8000	3.1176	2.7368	2.4444	2.6765
Need 13	16	2.7852	2.9412	2.9459	2.1852	2.8529
Need 8	17	2.7533	2.9608	2.7105	2.4444	2.7353
Need 14	18	2.7133	2.9020	2.7368	2.4074	2.6471
Need 3	19	2.6757	3.0000	2.5135	2.3333	2.6471
Need 2	20	2.6081	2.8800	2.4737	2.2593	2.6364
Need 7	21	2.5933	2.8431	2.6579	2.2222	2.4412
Need 12	22	2.5302	2.7647	2.5135	2.0370	2.5882

Table 26 shows differences between the mean values of the groups based on the experience variable; the entire mean values range between 2.04 and 3.45. The highest mean (3.45) is recorded for the group with 1-4 years experience in Need 18 (Development of student critical thinking skills). However, the lowest mean (2.04) is related to the group with 9-12 years' experience in Need 12 (Time management of class and course). In order to test the statistical significance of

the differences between the mean values in relation to the groups of the experience variable, the One-Way ANOVA test has been used. Table 27 reveals the findings of the test regarding the significance of such differences at the 0.05 level.

Table 27: One-Way ANOVA Test Results for the Groups of the Experience Variable Related to the PD Needs of Academics to Improve Teaching Quality in the CASs (continues on next pages)

PD Needs	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Need 1</i>	<i>Between Groups</i>	1.834	3	.611	.343	.794
	<i>Within Groups</i>	256.869	144	1.784		
	<i>Total</i>	258.703	147			
<i>Need 2</i>	<i>Between Groups</i>	7.695	3	2.565	1.170	.323
	<i>Within Groups</i>	315.575	144	2.191		
	<i>Total</i>	323.270	147			
<i>Need 3</i>	<i>Between Groups</i>	9.424	3	3.141	1.893	.133
	<i>Within Groups</i>	239.008	144	1.660		
	<i>Total</i>	248.432	147			
<i>Need 4</i>	<i>Between Groups</i>	4.730	3	1.577	1.107	.349
	<i>Within Groups</i>	206.599	145	1.425		
	<i>Total</i>	211.329	148			
<i>Need 5</i>	<i>Between Groups</i>	4.535	3	1.512	.997	.396
	<i>Within Groups</i>	221.339	146	1.516		
	<i>Total</i>	225.873	149			
<i>Need 6</i>	<i>Between Groups</i>	7.837	3	2.612	1.858	.139
	<i>Within Groups</i>	205.237	146	1.406		
	<i>Total</i>	213.073	149			
<i>Need 7</i>	<i>Between Groups</i>	7.847	3	2.616	1.413	.242
	<i>Within Groups</i>	270.347	146	1.852		
	<i>Total</i>	278.193	149			
<i>Need 8</i>	<i>Between Groups</i>	4.852	3	1.617	1.098	.352
	<i>Within Groups</i>	215.022	146	1.473		
	<i>Total</i>	219.873	149			
<i>Need 9</i>	<i>Between Groups</i>	7.610	3	2.537	2.031	.112
	<i>Within Groups</i>	181.075	145	1.249		
	<i>Total</i>	188.685	148			
<i>Need 10</i>	<i>Between Groups</i>	18.889	3	6.296	5.071	.002*
	<i>Within Groups</i>	180.051	145	1.242		

	<i>Total</i>	198.940	148			
<i>Need 11</i>	<i>Between Groups</i>	9.230	3	3.077	2.131	.099**
	<i>Within Groups</i>	210.770	146	1.444		
	<i>Total</i>	220.000	149			
<i>Need 12</i>	<i>Between Groups</i>	9.496	3	3.165	1.796	.151
	<i>Within Groups</i>	255.618	145	1.763		
	<i>Total</i>	265.114	148			
<i>Need 13</i>	<i>Between Groups</i>	12.073	3	4.024	2.616	.053**
	<i>Within Groups</i>	223.054	145	1.538		
	<i>Total</i>	235.128	148			
<i>Need 14</i>	<i>Between Groups</i>	4.512	3	1.504	1.097	.352
	<i>Within Groups</i>	200.161	146	1.371		
	<i>Total</i>	204.673	149			
<i>Need 15</i>	<i>Between Groups</i>	8.485	3	2.828	1.967	.122
	<i>Within Groups</i>	209.975	146	1.438		
	<i>Total</i>	218.460	149			
<i>Need 16</i>	<i>Between Groups</i>	7.110	3	2.370	1.784	.153
	<i>Within Groups</i>	193.963	146	1.329		
	<i>Total</i>	201.073	149			
<i>Need 17</i>	<i>Between Groups</i>	2.372	3	.791	.537	.658
	<i>Within Groups</i>	213.454	145	1.472		
	<i>Total</i>	215.826	148			
<i>Need 18</i>	<i>Between Groups</i>	6.914	3	2.305	1.522	.211
	<i>Within Groups</i>	221.086	146	1.514		
	<i>Total</i>	228.000	149			
<i>Need 19</i>	<i>Between Groups</i>	9.015	3	3.005	1.914	.130
	<i>Within Groups</i>	229.178	146	1.570		
	<i>Total</i>	238.193	149			
<i>Need 20</i>	<i>Between Groups</i>	1.933	3	.644	.464	.708
	<i>Within Groups</i>	201.530	145	1.390		
	<i>Total</i>	203.463	148			
<i>Need 21</i>	<i>Between Groups</i>	8.936	3	2.979	2.084	.105
	<i>Within Groups</i>	208.638	146	1.429		
	<i>Total</i>	217.573	149			
<i>Need 22</i>	<i>Between Groups</i>	1.665	3	.555	.414	.743
	<i>Within Groups</i>	194.523	145	1.342		
	<i>Total</i>	196.188	148	3.165		

* Significant at the 0.05 level.

** Significant at the 0.10 level.

As shown in Table 27, the One-Way ANOVA test results comparing the means of the academics' perceptions between the four groups based on the experience

in relation to the 22 PD needs reveal that there is only one statistically significant finding at the 0.05 level. All values of significance in the One-Way ANOVA test go beyond the 0.05 level except for Need 10 ‘Development of student problem-solving skills’ (significance value = .002), which is a very important need according to the total’s perceptions because it is ranked the fourth highest mean (2.97). To recognize which group this statistical significance of difference favours, an LSD test has been used. The results of these pairwise comparisons are illustrated in Table 28.

Table 28: LSD Test (Post-hoc Comparisons) for the Statistical Significance of Mean Difference for the Groups of the Experience Variable Regarding PD Need 10 (continues on next page)

Dependent Variable	(I) Years of Experience	(J) Years of Experience	Mean Difference (I-J)	Std. Error	Sig.
PD Need 10	1-4 Years Mean=3.3529	5-8	.40557	.23880	.092
		9-12	1.04525*	.26853	.000
		>12	.38235	.24672	.123
	5-8 Years Mean=2.9474	1-4	-.40557	.23880	.092
		9-12	.63968*	.28361	.026
		>12	-.02322	.26306	.930
	9-12 Years Mean=2.3077	1-4	-1.04525*	.26853	.000
		5-8	-.63968*	.28361	.026
		>12	-.66290*	.29031	.024
	>12 Years Mean=2.9706	1-4	-.38235	.24672	.123
		5-8	.02322	.26306	.930
		9-12	.66290*	.29031	.024

* The mean difference is significant at the 0.05 level.

As shown in Table 28, there is statistical significance for the mean difference between the group of academics with 9-12 years’ experience and the other three

groups (1-4, 5-8, and >12 years') in their perceptions regarding Need 10. This result is confirmed by the values of significance ($P < 0.05$) regarding the mean difference between the 9-12 years' group and the other three groups. To explain particular priority of PD Need 10 based on the significant differences between these groups, Crosstabs statistics by Chi-square tests are identified. The result of the tests is summarized in Table 29, indicating the percentages for high priority ratings of PD Need 10 based on the significant differences between the groups of the experience variable.

Table 29: Percentages for High Priority Ratings of PD Need 10 Based on the Significant Differences between the Groups of the Experience Variable

PD Need	Critical+ High Need	Experience Variable			
		1-4 Years'	5-8 Years'	9-12 Years'	>12 Years'
<i>PD Need 10</i>	Frequency	24	13	5	12
	Percentage	47.0%	34.2%	19.2%	35.2%

As shown in Table 29, the percentages of high priority ratings (critical and high) for PD Need 10 are higher for the groups (1-4, 5-8, and >12 years'), reaching respective values of 47.0%, 34.2%, and 35.2%. However, the percentage for the particular priority of the same need for the group 9-12 years' reaches only 19.2%. Therefore, the difference is statistically significant and the Need 10 was of a higher level of importance to the three groups (1-4, 5-8, and >12) more than for the group 9-12 years'.

*5.3.4 Investigation of Differences between Groups of the Specialization Variable
in Relation to the PD Needs to Improve Teaching Quality*

Means have been calculated in order to examine and compare the differences between five groups of a specialization variable upon 22 PD needs of academics, with respect to the teaching quality improvement, in the CASs. The findings of mean values for the different groups of a specialization variable (Business, Communication, Design, English Language, and IT) are illustrated in Table 30.

Table 30: Mean Values Regarding the Groups of the Specialization Variable Related to the PD Needs of Academics to Improve Teaching Quality in the CASs (continue on next page)

PD Needs	Ranking	Total	Business	Communi.	Design	English L.	IT
		N=(150)	N=(25)	N=(23)	N=(18)	N=(54)	N=(30)
		Mean	Mean	Mean	Mean	Mean	Mean
Need 18	1	3.2000	3.6000	2.9130	3.5556	2.8889	3.4333
Need 22	2	3.0738	3.4400	3.1304	3.0000	2.8679	3.1333
Need 15	3	3.0600	3.2400	3.4348	2.8333	3.0741	2.7333
Need 10	4	2.9799	3.0400	3.0000	3.3333	2.6852	3.2414
Need 21	5	2.9467	3.3200	2.9565	3.0556	2.5370	3.3000
Need 4	6	2.9329	3.0000	3.0870	3.5294	2.6296	2.9667
Need 19	7	2.9267	3.2400	2.9565	3.3333	2.4259	3.3000
Need 5	8	2.9133	3.2000	3.1304	3.0556	2.5556	3.0667
Need 9	9	2.9060	3.2917	2.9565	2.8333	2.7407	2.9000
Need 6	10	2.8867	3.0000	3.0870	2.9444	2.7593	2.8333
Need 16	11	2.8867	3.0400	3.1304	3.0556	2.5926	3.0000
Need 17	12	2.8792	3.0800	2.8696	3.1111	2.5094	3.2333
Need 20	13	2.8255	3.0000	3.0435	2.8889	2.4630	3.1379
Need 1	14	2.8108	2.8800	3.0870	2.8889	2.6538	2.7667
Need 11	15	2.8000	2.8000	2.9130	3.0556	2.6111	2.9000
Need 13	16	2.7852	3.0000	2.9130	2.8824	2.4444	3.0667
Need 8	17	2.7533	3.0000	3.2174	2.8889	2.3333	2.8667
Need 14	18	2.7133	3.0000	2.8696	2.8889	2.2963	3.0000
Need 3	19	2.6757	2.8800	2.9130	3.0556	2.2264	2.8966

<i>Need 2</i>	20	2.6081	2.9130	2.8696	3.1667	2.0926	2.7667
<i>Need 7</i>	21	2.5933	2.8800	3.0000	2.9444	2.1296	2.6667
<i>Need 12</i>	22	2.5302	2.8400	3.0000	2.6111	2.0741	2.6897

As shown in Table 30, differences appear between the mean values of groups of a specialization variable in relation to PD needs of academics in the CASs.

Business records the highest mean value (3.60) in Need 18 (Development of student critical thinking skills); however, English Language shows the lowest mean value (2.07) in Need 12 (Time management of class and course). The

One-Way ANOVA test has been used in order to test the statistical significance of the differences between the mean values related to the groups of specialization variable. Table 31 shows the findings of the One-Way ANOVA test about the significance of the mean differences at the 0.05 level.

Table 31: One-Way ANOVA Test Results Showing the Groups of the Specialization Variable Related to the PD Needs of Academics to Improve Teaching Quality in the CASs (continues on next two pages)

PD Needs	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Need 1</i>	<i>Between</i>	3.323	4	.831	.465	.761
	<i>Within Groups</i>	255.380	143	1.786		
	<i>Total</i>	258.703	147			
<i>Need 2</i>	<i>Between</i>	24.432	4	6.108	2.923	.023*
	<i>Within Groups</i>	298.838	143	2.090		
	<i>Total</i>	323.270	147			
<i>Need 3</i>	<i>Between</i>	17.049	4	4.262	2.634	.037*
	<i>Within Groups</i>	231.383	143	1.618		
	<i>Total</i>	248.432	147			
<i>Need 4</i>	<i>Between</i>	11.708	4	2.927	2.111	.082**
	<i>Within Groups</i>	199.621	144	1.386		
	<i>Total</i>	211.329	148			
<i>Need 5</i>	<i>Between</i>	11.120	4	2.780	1.877	.118

	<i>Within Groups</i>	214.753	145	1.481		
	<i>Total</i>	225.873	149			
<i>Need 6</i>	<i>Between</i>	2.266	4	.566	.390	.816
	<i>Within Groups</i>	210.808	145	1.454		
	<i>Total</i>	213.073	149			
<i>Need 7</i>	<i>Between</i>	19.850	4	4.962	2.785	.029*
	<i>Within Groups</i>	258.344	145	1.782		
	<i>Total</i>	278.193	149			
<i>Need 8</i>	<i>Between</i>	16.716	4	4.179	2.983	.021*
	<i>Within Groups</i>	203.157	145	1.401		
	<i>Total</i>	219.873	149			
<i>Need 9</i>	<i>Between</i>	5.199	4	1.300	1.020	.399
	<i>Within Groups</i>	183.485	144	1.274		
	<i>Total</i>	188.685	148			
<i>Need 10</i>	<i>Between</i>	9.021	4	2.255	1.710	.151
	<i>Within Groups</i>	189.918	144	1.319		
	<i>Total</i>	198.940	148			
<i>Need 11</i>	<i>Between</i>	3.696	4	.924	.619	.649
	<i>Within Groups</i>	216.304	145	1.492		
	<i>Total</i>	220.000	149			
<i>Need 12</i>	<i>Between</i>	19.566	4	4.891	2.869	.025*
	<i>Within Groups</i>	245.548	144	1.705		
	<i>Total</i>	265.114	148			
<i>Need 13</i>	<i>Between</i>	10.337	4	2.584	1.655	.164
	<i>Within Groups</i>	224.791	144	1.561		
	<i>Total</i>	235.128	148			
<i>Need 14</i>	<i>Between</i>	15.028	4	3.757	2.872	.025*
	<i>Within Groups</i>	189.646	145	1.308		
	<i>Total</i>	204.673	149			
<i>Need 15</i>	<i>Between</i>	8.177	4	2.044	1.410	.234
	<i>Within Groups</i>	210.283	145	1.450		
	<i>Total</i>	218.460	149			
<i>Need 16</i>	<i>Between</i>	7.523	4	1.881	1.409	.234
	<i>Within Groups</i>	193.550	145	1.335		
	<i>Total</i>	201.073	149			
<i>Need 17</i>	<i>Between</i>	12.987	4	3.247	2.305	.061**
	<i>Within Groups</i>	202.838	144	1.409		
	<i>Total</i>	215.826	148			
<i>Need 18</i>	<i>Between</i>	15.029	4	3.757	2.558	.041*
	<i>Within Groups</i>	212.971	145	1.469		
	<i>Total</i>	228.000	149			
<i>Need 19</i>	<i>Between</i>	23.173	4	5.793	3.907	.005*
	<i>Within Groups</i>	215.020	145	1.483		
	<i>Total</i>	238.193	149			
<i>Need 20</i>	<i>Between</i>	11.855	4	2.964	2.227	.069**
	<i>Within Groups</i>	191.609	144	1.331		

	<i>Total</i>	203.463	148			
<i>Need 21</i>	<i>Between</i>	16.506	4	4.127	2.976	.021*
	<i>Within Groups</i>	201.067	145	1.387		
	<i>Total</i>	217.573	149			
<i>Need 22</i>	<i>Between</i>	5.877	4	1.469	1.112	.353
	<i>Within Groups</i>	190.311	144	1.322		
	<i>Total</i>	196.188	148	4.891		

* Significant at the 0.05 level.

**Significant at the 0.10 level.

It can be seen from Table 31 that the One-Way ANOVA test results comparing the means of the academics' perceptions between the five groups of specialization in relation to the 22 PD needs for academics reveal that there are nine statistically significant findings at the 0.05 level. All values of significance for these nine mean differences are less than the 0.05 level, existing in Needs 2, 3, 7, 8, 12, 14, 18, 19, and 21. To find out which group of specialization variable differs from others and to which group the statistical significance favours, an LSD test has been employed. Table 32 illustrates the findings of the LSD test indicating significant mean differences between the English Language group and the other four groups of the specialization variable in these certain needs.

Table 32: LSD Test (Post-hoc Comparisons) for the Statistical Significance of Mean Difference for the English Group and Other Four Groups of the Specialization Variable in Needs: 2, 3, 7, 8, 12, 14, 18, 19, and 21 (continues

on next page)

Dependent Variable	(I) Specialization	(J) Specialization	Mean	Mean Difference	Std. Error	Sig.
<i>PD Need 2</i>	<i>English L.</i>	Business	2.9130	-.82045*	.3599	.024
		Communic.	2.8696	-.77697*	.3599	.033

	Mean=2.0926	Design	3.1667	-1.07407*	.3934	.007
		IT	2.7667	-.67407*	.3291	.042
<i>PD Need 3</i>	<i>English L.</i>	Business	2.8800	-.65358*	.3086	.036
		Communic.	2.9130	-.68663*	.3176	.032
	Mean=2.2264	Design	3.0556	-.82914*	.3470	.018
		IT	2.8966	-.67014*	.2938	.024
<i>PD Need 7</i>	<i>English L.</i>	Business	2.8800	-.75037*	.3229	.022
		Communic.	3.0000	-.87037*	.3323	.010
	Mean=2.1296	Design	2.9444	-.81481*	.3632	.026
		IT	2.6667	-.53704	.3039	.079
<i>PD Need 8</i>	<i>English L.</i>	Business	3.0000	-.66667*	.2863	.021
		Communic.	3.2174	-.88406*	.2947	.003
	Mean=2.3333	Design	2.8889	-.55556	.3221	.087
		IT	2.8667	-.53333*	.2695	.050
<i>PD Need 12</i>	<i>English L.</i>	Business	2.8400	-.76593*	.3158	.017
		Communic.	3.0000	-.92593*	.3251	.005
	Mean=2.0741	Design	2.6111	-.53704	.3554	.133
		IT	2.6897	-.61558*	.3006	.042
<i>PD Need 14</i>	<i>English L.</i>	Business	3.0000	-.70370*	.2766	.012
		Communic.	2.8696	-.57327*	.2847	.046
	Mean=2.2963	Design	2.8889	-.59259	.3112	.059
		IT	3.0000	-.70370*	.2604	.008
<i>PD Need 18</i>	<i>English L.</i>	Business	3.6000	-.71111*	.2931	.017
		Communic.	2.9130	-.02415	.3017	.936
	Mean=2.8889	Design	3.5556	-.66667*	.3298	.045
		IT	3.4333	-.54444*	.2759	.050
<i>PD Need 19</i>	<i>English L.</i>	Business	3.2400	-.81407*	.2945	.006
		Communic.	2.9565	-.53060	.3032	.082
	Mean=2.4259	Design	3.3333	-.90741*	.3314	.007
		IT	3.0000	-.87407*	.2772	.002
<i>PD Need 21</i>	<i>English L.</i>	Business	3.3200	-.78296*	.2848	.007
		Communic.	2.9565	-.41948	.2932	.155
	Mean=2.5370	Design	3.0556	-.51852	.3204	.108
		IT	3.3000	-.76296*	.2681	.005

* The mean difference is significant at the 0.05 level.

As Table 32 shows, there is a statistical significance for the mean difference between the academics of English Language and the rest (academics of Business, Communication, Design, and IT) in their perceptions about Need 2 and Need 3. While the significant differences between the English group and the groups of Business, Communication, and Design are represented in Need 7, the

significant differences for Need 21 are indicated between the English group and the groups of Business and IT. Moreover, Need 8, Need 12, and Need 14 represent significant differences between the English group and the groups of Business, Communication, and IT; however, Need 18 and Need 19 indicate significant differences between the English group and the groups of Business, Design, and IT. It can be seen also from the table that the values of significance regarding the mean differences between the English Language group and the other four groups in all numbers of needs are under or equal the 0.05 level. To explain particular priority of these nine PD needs based on the significant differences between the different groups of the specialization variable, Crosstabs statistics by Chi-square tests are identified. The result of the tests is summarized in Table 33, indicating the percentages for high priority ratings of these nine needs based on the significant differences between these groups.

Table 33: Percentages for High Priority Ratings of PD Needs: 2, 3, 7, 8, 12, 14, 18, 19, and 21 Based on the Significant Differences between the Groups of the Specialization Variable (continues on next page)

<i>PD Needs</i>	Critical + High	Specialization Variable				
		Business	Communic.	Design	English	IT
<i>PD Need 2</i>	Frequency	10	9	8	11	10
	Percentage	43.4%	39.1%	44.4%	20.3%	33.3%
<i>PD Need 3</i>	Frequency	9	8	7	8	9
	Percentage	36.0%	34.7%	38.8%	15.0%	31.0%
<i>PD Need 7</i>	Frequency	9	9	6	10	7
	Percentage	36.0%	39.1%	33.3%	18.5%	23.3%
	Frequency	9	12	5	10	7

<i>PD Need 8</i>	Percentage	36.0%	52.1%%	27.7%	18.5%	23.3%
	Frequency	9	9	4	9	8
<i>PD Need 12</i>	Percentage	36.0%	39.1%	22.2%	16.6%	27.5%
	Frequency	8	8	6	8	8
<i>PD Need 14</i>	Percentage	32.0%	34.7%	33.3%	14.8%	26.6%
	Frequency	14	8	9	19	12
<i>PD Need 18</i>	Percentage	56.0%	34.7%	50.0%	35.1%	40.0%
	Frequency	11	8	7	14	12
<i>PD Need 19</i>	Percentage	44.0%	34.7%	38.8%	25.9%	40.0%
	Frequency	10	8	7	12	11
<i>PD Need 21</i>	Percentage	40.0%	34.7%	38.8%	22.2%	36.6%

As illustrated in Table 33, the percentages of the high priority ratings of the all nine needs for the four groups of (Business, Communication, Design, and IT) are higher than for the English Language group. Therefore, the differences are statistically significant and the whole nine needs were of a higher level of importance to the academics of the four groups than to the group of English Language.

5.3.5 Summary of Responses to Question Three

In brief, Table 19 and Figure 15 show that the respective percentages of the CASs' academics who did not attend or attended only one of teaching quality PDPs in the last two years was 58.7% and 18.0%, while the percentages of the academics who attended 5, 4, or 3 PDPs were 4.7%, 4.0%, and 4.0% respectively. Moreover, Table 20 shows clear differences between the six CASs regarding the percentages of a low level of the academics' involvement in

teaching quality PDPs in the last two years. As shown in Table 21, the mean values for the rank of the importance of PD needs in the academics' perceptions, as related to the improvement of teaching quality, range from 3.20 to 2.53. The highest three mean values represent Needs 18, 22, and 15 (from top to bottom), whereas the lowest three mean values are derived for Needs 12, 7, and 2 (from bottom to top).

Furthermore, the t-test results comparing the means of males' and females' responses in relation to the 22 PD needs reveal that there are two statistically significant differences at the 0.05 level in Need 2 and Need 3 and these two needs were of a higher level of importance to male academics. On the contrary, the One-way ANOVA test results for the groups of qualification variable do not indicate any statistically significant differences between the three groups in relation to 22 PD needs. With regard to the differences between the groups of the experience variable, the One-way ANOVA test results reveal a statistically significant difference at the 0.05 level between the group of 9-12 years' experience and the other three groups (1-4, 5-8, and >12) in Need 10, which was of a higher level of importance to these three groups. Additionally, the same test for groups of a specialization variable confirms nine statistically significant differences at the 0.05 level between the English Language group and the other four groups in needs 2, 3, 7, 8, 12, 14, 18, 19, and 21. The whole nine needs were of a higher level of importance to the academics of Business, Communication, Design, and IT.

5.4 Findings of Question Four

Means, standard deviations, percentages, and ranking were computed to answer question Four: ‘What are the barriers to PD of academics in the CASs, related to the improvement of teaching quality, as perceived by academics?’ Table 34 illustrates means, standard deviations, and ranking of the potential barriers to the PD of academics in the CASs, as related to the improvement of teaching quality. The percentage data for the ratings of these barriers to PD is displayed in Appendix 9.

Table 34: Means, Standard Deviations, and Ranking of the Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality (continues on next page)

Ranking	No.	Barriers to Professional Development	Mean	Std. Deviation
1	14	Lack of systematic plans and procedures in implementing PDPs	3.6467	1.06271
2	1	Unclear PD plan for academics in college’s mission	3.6267	1.13839
3	4	Lack of identifying academics’ training needs prior to PDPs	3.6040	1.08316
4	6	Inappropriate evaluation processes of PDPs	3.5068	1.14581
5	12	Shortage of facilities and resources to conduct PDPs	3.4600	1.24043
6	2	Lack of academics’ involvement in PD plans	3.4600	1.10902
7	3	Lack of emphasis on teaching quality improvement in PDPs	3.4333	1.11978
8	8	Absence of feedback taken from academics after participating in PDPs	3.4067	1.04975
9	13	Gap between college’s quality audit approach and PDPs	3.4027	1.04571
10	7	Lack of academics’ participation in PDPs	3.4000	1.19843

<i>11</i>	11	PDPs are conducted in unsuitable times/periods	3.3919	1.15844
<i>12</i>	5	Lack of college administration support	3.3733	1.37351
<i>13</i>	10	PDPs present out-of-date pedagogic knowledge	3.3667	1.15518
<i>14</i>	9	PDPs are offered in traditional forms (e.g. workshops and seminars)	2.9800	1.26634

It can be seen from Table 34 that the mean values of the highest four among 14 barriers to PD exceed or equal value 3.50. These four highest mean values are registered from top to bottom as follows: Barrier 14 (Lack of systematic plans and procedures in implementing PDPs), Barrier 1 (unclear PD plan for academics in college's mission), Barrier 4 (Lack of identifying academics' training needs prior to formulating PDPs), and Barrier 6 (Inappropriate evaluation processes of PDPs).

Conversely, the lowest four mean values of the total number of barriers (14) range from mean values 2.98 to 3.40 and they represent, from bottom to top, Barrier 9 (PDPs are offered in traditional forms), Barrier 10 (PDPs present out-of-date pedagogic Knowledge), Barrier 5 (Lack of college administration support), and Barrier 11 (PDPs are conducted in unsuitable times/periods).

5.5 Findings of Question Five

In order to answer the fifth question, namely 'Do the barriers to PD of academics in the CASs vary according to the variables of - gender, qualifications, experience, and specializations?', a t-test has been used to investigate differences between two groups: male and female (gender variable). On the other hand, the One-Way ANOVA test was applied to identify the

differences between the three groups of the qualification variable, the four groups of the experience variable, and the five groups of the specialization variable. The 0.05 level has been standardized to examine the statistical significance for the mean difference by LSD test and Chi-square tests. The findings of question five are detailed in the following sections.

5.5.1 Investigation of Differences between Groups of the Gender Variable in Relation to Barriers to the PD of Academics

Table 35 illustrates the means and t-test results regarding the gender variable for the 14 barriers to PD. These results show whether there are differences between males and females with regard to the 14 barriers to PD of academics in these colleges.

Table 35: t-test Results for Males and Females with Respect to Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality (continues on next page)

Barriers to PD	Ranking	Total N=(150)	Males N=(105)	Females N=(45)	t-test	Degree of Freedom	Sig. (2-tailed)
		Mean	Mean	Mean			
Barrier 14	1	3.6467	3.6381	3.6667	-.150	148	.881
Barrier 1	2	3.6267	3.6476	3.5778	.343	148	.732
Barrier 4	3	3.6040	3.6058	3.6000	.030	147	.976
Barrier 6	4	3.5068	3.5146	3.4889	.125	146	.901
Barrier 12	5	3.4600	3.3143	3.8000	-2.227	148	.017*
Barrier 2	6	3.4600	3.4476	3.4889	-.208	148	.835
Barrier 3	7	3.4333	3.4762	3.3333	.715	148	.476
Barrier 8	8	3.4067	3.3714	3.4889	-.627	148	.532
Barrier 13	9	3.4027	3.3269	3.5778	-1.348	147	.180
Barrier 7	10	3.4000	3.3905	3.4222	-.148	148	.882
Barrier 11	11	3.3919	3.3301	3.5333	-.982	146	.328
Barrier 5	12	3.3733	3.3810	3.3556	.103	148	.918

<i>Barrier 10</i>	<i>13</i>	3.3667	3.4476	3.1778	1.314	148	.191
<i>Barrier 9</i>	<i>14</i>	2.9800	3.0095	2.9111	.435	148	.664

*Significant at the 0.05 level.

As shown in Table 35, the results of t-test comparing the means of males and females' responses in relation to the 14 barriers to PD reveal that there is one statistically significant difference at the 0.05 level. All values of significance of t-test surpass the 0.05 level except for the Barrier 12 (significance value = .017), which is regarded a reasonably important barrier in the total's perceptions (mean value = 3.46). To explain particular priority of PD Barrier 12 based on the significant differences between these groups, Crosstabs statistics by Chi-square tests are identified. The result of the tests is summarized in Table 36, indicating the percentages for high priority ratings of Barrier 12 based on the significant differences between males and females.

Table 36: Percentages for High Priority Ratings of Barrier 12 Based on the Significant Differences between Males and Females

Barrier to PD	Very Significant+ Significant	Gender Variable	
		Male	Female
<i>Barrier 12</i>	Frequency	53	29
	Percentage	50.4%	64.4%

Table 36 shows that the percentage for the high priority ratings of Barrier 12 for females (64.4%) is higher than for males (50.4%). According to the result, it is indicated that Barrier 12 was of a higher level of importance to female academics than to male academics.

*5.5.2 Investigation of Differences between Groups of the Qualification Variable
in Relation to Barriers to the PD of Academics*

In order to examine and compare the differences between three groups of the qualification variable upon the 14 barriers to PD, the mean values have been computed. The findings of mean values for the groups of qualification variable (PhD, Master, and First Degree) are shown in Table 37.

Table 37: Mean Values Regarding the Groups of the Qualification Variable with Respect to Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality (continue on next page)

Barriers to PD	Ranking	Total N=(150)	PhD N=(47)	Master N=(84)	First Degree N=(19)
		Mean	Mean	Mean	Mean
Barrier 14	1	3.6467	3.6809	3.6429	3.5789
Barrier 1	2	3.6267	3.5319	3.6310	3.8421
Barrier 4	3	3.6040	3.5652	3.6429	3.5263
Barrier 6	4	3.5068	3.4783	3.4940	3.6316
Barrier 12	5	3.4600	3.3830	3.5000	3.4737
Barrier 2	6	3.4600	3.4255	3.5000	3.3684
Barrier 3	7	3.4333	3.4468	3.4048	3.5263
Barrier 8	8	3.4067	3.3191	3.4405	3.4737
Barrier 13	9	3.4027	3.2979	3.4699	3.3684
Barrier 7	10	3.4000	3.3191	3.4167	3.5263
Barrier 11	11	3.3919	3.4667	3.3929	3.2105
Barrier 5	12	3.3733	3.2553	3.2976	4.0000
Barrier 10	13	3.3667	3.3617	3.3810	3.3158
Barrier 9	14	2.9800	3.0638	2.8690	3.2632

As shown in Table 37, the total mean values regarding the groups of the qualification variable range between 3.06 and 3.64 except for the three following conditions. In Barrier 5, the First Degree group reaches 4.00 (the highest mean value), whereas the lowest two mean values (2.86, and 2.98) are

recorded respectively for the Master group and the total mean for Barrier 9. The findings suggest differences between mean values related to the groups of the qualification variable, with respect to the barriers to PD of academics in the CASs. Therefore, the One-Way ANOVA test has been employed to examine whether these differences are statistically significant at the 0.05 level (as is shown in Table 38).

Table 38: One-Way ANOVA Test Results Showing Groups of the Qualification Variable with Respect to Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality (continues on next page)

Barriers to PD	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Barrier 1</i>	Between Groups	1.305	2	.653	.500	.607
	Within Groups	191.788	147	1.305		
	Total	193.093	149			
<i>Barrier 2</i>	Between Groups	.350	2	.175	.140	.869
	Within Groups	182.910	147	1.244		
	Total	183.260	149			
<i>Barrier 3</i>	Between Groups	.241	2	.121	.095	.909
	Within Groups	186.592	147	1.269		
	Total	186.833	149			
<i>Barrier 4</i>	Between Groups	.311	2	.155	.131	.877
	Within Groups	173.327	146	1.187		
	Total	173.638	148			
<i>Barrier 5</i>	Between Groups	8.598	2	4.299	2.319	.102
	Within Groups	272.496	147	1.854		
	Total	281.093	149			
<i>Barrier 6</i>	Between Groups	.347	2	.173	.131	.878
	Within Groups	192.646	145	1.329		
	Total	192.993	147			
<i>Barrier 7</i>	Between Groups	.634	2	.317	.218	.804
	Within Groups	213.366	147	1.451		
	Total	214.000	149			
<i>Barrier 8</i>	Between Groups	.541	2	.271	.243	.784

	Within Groups	163.652	147	1.113		
	Total	164.193	149			
<i>Barrier 9</i>	Between Groups	2.888	2	1.444	.899	.409
	Within Groups	236.052	147	1.606		
	Total	238.940	149			
<i>Barrier 10</i>	Between Groups	.067	2	.034	.025	.975
	Within Groups	198.766	147	1.352		
	Total	198.833	149			
<i>Barrier 11</i>	Between Groups	.877	2	.438	.324	.724
	Within Groups	196.394	145	1.354		
	Total	197.270	147			
<i>Barrier 12</i>	Between Groups	.417	2	.208	.134	.875
	Within Groups	228.843	147	1.557		
	Total	229.260	149			
<i>Barrier 13</i>	Between Groups	.913	2	.457	.414	.662
	Within Groups	160.926	146	1.102		
	Total	161.839	148			
<i>Barrier 14</i>	Between Groups	.143	2	.072	.063	.939
	Within Groups	168.130	147	1.144		
	Total	168.273	149			

As shown in Table 38, the results of the One-Way ANOVA test between the means of the groups of the qualification variable show there is no statistical significance at the 0.05 level. The values of significance of the test for the 14 barriers exceed the 0.05 level. The findings demonstrate that the qualification variable does not affect academics' perceptions regarding the barriers to their PD, as related to the teaching quality improvement in the CASs.

5.5.3 Investigation of Differences between Groups of an Experience Variable in Relation to Barriers to PD of Academics

Mean values have been identified to compare differences between four groups of experience variable upon the 14 barriers to PD of academics. The findings of mean values for the groups of the experience variable (1-4, 5-8, 9-12, and >12 years' experience) are shown in Table 39.

Table 39: Mean Values Regarding the Groups of the Experience Variable with Respect to Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality

Barriers to PD	Ranking	Total N=(150)	01-04 Years' N=(51)	05-08 Years' N=(38)	09-12 Years' N=(27)	>12 Years' N=(34)
		Mean	Mean	Mean	Mean	Mean
<i>Barrier 14</i>	<i>1</i>	3.6467	3.6078	3.6316	3.6296	3.7353
<i>Barrier 1</i>	<i>2</i>	3.6267	3.7451	3.5789	3.5185	3.5882
<i>Barrier 4</i>	<i>3</i>	3.6040	3.6400	3.5000	3.4074	3.8235
<i>Barrier 6</i>	<i>4</i>	3.5068	3.5098	3.4737	3.1852	3.8125
<i>Barrier 12</i>	<i>5</i>	3.4600	3.5686	3.5526	3.3704	3.2647
<i>Barrier 2</i>	<i>6</i>	3.4600	3.5686	3.3947	3.0370	3.7059
<i>Barrier 3</i>	<i>7</i>	3.4333	3.4510	3.2105	3.4074	3.6765
<i>Barrier 8</i>	<i>8</i>	3.4067	3.6275	3.3947	2.7037	3.6471
<i>Barrier 13</i>	<i>9</i>	3.4027	3.3800	3.3947	3.2593	3.5588
<i>Barrier 7</i>	<i>10</i>	3.4000	3.1961	3.5263	3.2222	3.7059
<i>Barrier 11</i>	<i>11</i>	3.3919	3.3600	3.3421	3.1481	3.6970
<i>Barrier 5</i>	<i>12</i>	3.3733	3.3922	3.3947	3.1852	3.4706
<i>Barrier 10</i>	<i>13</i>	3.3667	3.3922	3.3684	3.2222	3.4412
<i>Barrier 9</i>	<i>14</i>	2.9800	3.1765	3.0526	2.5926	2.9118

It can be seen from Table 39 that all mean values concerning the groups of experience variable exceed 2.50. The highest mean value (3.82) is registered for the academics with over 12 years' experience in Barrier 4; however, the lowest mean value (2.59) is recorded for the academics with 9-12 years' experience in Barrier 9. The findings present differences between mean values related to the groups of the experience variable with respect to barriers to PD of academics in the CASs. Therefore, the One-Way ANOVA test has been utilized to examine whether these differences are statistically significant at the 0.05 level (as is shown in Table 40).

Table 40: One-Way ANOVA Test Results Showing the Groups of the Experience Variable with Respect to Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality (continues on next page)

Barriers to PD	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Barrier 1</i>	Between Groups	1.168	3	.389	.296	.828
	Within Groups	191.925	146	1.315		
	Total	193.093	149			
<i>Barrier 2</i>	Between Groups	7.649	3	2.550	2.120	.100
	Within Groups	175.611	146	1.203		
	Total	183.260	149			
<i>Barrier 3</i>	Between Groups	3.930	3	1.310	1.046	.374
	Within Groups	182.903	146	1.253		
	Total	186.833	149			
<i>Barrier 4</i>	Between Groups	3.158	3	1.053	.895	.445
	Within Groups	170.480	145	1.176		
	Total	173.638	148			
<i>Barrier 5</i>	Between Groups	1.313	3	.438	.228	.877
	Within Groups	279.780	146	1.916		
	Total	281.093	149			
<i>Barrier 6</i>	Between Groups	5.825	3	1.942	1.494	.219
	Within Groups	187.168	144	1.300		
	Total	192.993	147			
<i>Barrier 7</i>	Between Groups	6.762	3	2.254	1.588	.195
	Within Groups	207.238	146	1.419		
	Total	214.000	149			
<i>Barrier 8</i>	Between Groups	17.798	3	5.933	5.917	.001*
	Within Groups	146.395	146	1.003		
	Total	164.193	149			
<i>Barrier 9</i>	Between Groups	6.380	3	2.127	1.335	.265
	Within Groups	232.560	146	1.593		
	Total	238.940	149			
<i>Barrier 10</i>	Between Groups	.785	3	.262	.193	.901
	Within Groups	198.048	146	1.356		
	Total	198.833	149			
<i>Barrier 11</i>	Between Groups	4.821	3	1.607	1.202	.311
	Within Groups	192.450	144	1.336		
	Total	197.270	147			
<i>Barrier</i>	Between Groups	2.442	3	.814	.524	.667
	Within Groups	226.818	146	1.554		

12	Total	229.260	149			
Barrier	Between Groups	1.412	3	.471	.426	.735
	Within Groups	160.426	145	1.106		
13	Total	161.839	148			
Barrier	Between Groups	.360	3	.120	.104	.957
	Within Groups	167.913	146	1.150		
14	Total	168.273	149			

*Significant at the 0.05 level.

It can be seen from Table 40 there is one statistically significant finding at the 0.05 level; this relates to Barrier 8 with a level of (.001). To find out which group of experience variable regarding Barrier 8 differs from others, an LSD test has been employed. The results of these pairwise comparisons are illustrated in Table 41.

Table 41: LSD Test (Post-hoc Comparisons) for the Statistical Significance of Mean Difference for the Groups of the Experience Variable Regarding Barrier 8

Dependent Variable	(I) Years of Experience	(J) Years of Experienc	Mean Difference (I-J)	Std. Error	Sig.
Barrier 8	1-4 Years Mean=3.6275	5-8	.23271	.21459	.280
		9-12	.92375*	.23832	.000
		>12	-.01961	.22170	.930
	5-8 Years Mean=3.3947	1-4	-.23271	.21459	.280
		9-12	.69103*	.25204	.007
		>12	-.25232	.23639	.288
	9-12 Years Mean=2.7037	1-4	-.92375*	.23832	.000
		5-8	-.69103*	.25204	.007
		>12	-.94336*	.25812	.000
	>12 Years Mean=3.6471	1-4	.01961	.22170	.930
		5-8	.25232	.23639	.288
		9-12	.94336*	.25812	.000

* The mean difference is significant at the 0.05 level.

As Table 41 illustrates, there is a statistical significance for the mean difference between the group of academics with 9-12 years and the other three groups (1-4, 5-8, and >12 years) in their perceptions about Barrier 8. This result is confirmed by the values of significance ($P < 0.05$) regarding the mean difference between the 9-12 years group and the other three groups. To explain particular priority of Barrier 8 based on the significant differences between these groups, Crosstabs statistics by Chi-square tests are identified. The result of the tests is summarized in Table 42, indicating the percentages for high priority ratings of Barrier 8 based on the significant differences between the groups of the experience variable.

Table 42: Percentages for High Priority Ratings of Barrier 8 Based on the Significant Differences between the Groups of the Experience Variable

Barrier to PD	Very Significant+ Significant	Experience Variable			
		1-4 Years'	5-8 Years'	9-12 Years'	>12 Years'
Barrier 8	Frequency	29	21	3	20
	Percentage	56.8%	55.2%	11.1%	58.8%

As shown in Table 42, the difference is statistically significant and the Barrier 8 was of a higher level of importance to the three groups (1-4, 5-8, and >12 years'). The result is testified by the percentages for priority ratings of Barrier 8 for the groups. While percentages for priority ratings for the three groups reach values of 56.8%, 55.2%, and 58.8% respectively, the percentage for the group 9-12 years' reaches only 11.1%.

*5.5.4 Investigation of Differences between Groups of the Specialization Variable
in Relation to Barriers to the PD of Academics*

Means have been calculated in order to compare the differences between the five groups of the specialization variable upon the 14 barriers to PD. The mean values for the different groups of a specialization variable (Business, Communication, Design, English Language, and IT) are shown in Table 43.

Table 43: Mean Values Regarding the Groups of the Specialization Variable with Respect to Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality

Barriers to PD	Ranking	Total	Business	Communi.	Design	English L.	IT
		N=(150)	N=(25)	N=(23)	N=(18)	N=(54)	N=(30)
		Mean	Mean	Mean	Mean	Mean	Mean
Barrier 14	1	3.6467	3.6400	3.3043	3.5556	3.7407	3.8000
Barrier 1	2	3.6267	3.4800	3.4783	3.3889	3.8333	3.6333
Barrier 4	3	3.6040	3.3750	3.6087	3.5556	3.6481	3.7333
Barrier 6	4	3.5068	3.2917	3.3478	2.9444	3.7925	3.6333
Barrier 12	5	3.4600	3.6400	3.6522	3.5000	3.4444	3.1667
Barrier 2	6	3.4600	3.4000	3.2609	3.2778	3.5556	3.6000
Barrier 3	7	3.4333	3.2800	3.5217	3.2778	3.6111	3.2667
Barrier 8	8	3.4067	3.4400	3.0870	3.2778	3.5926	3.3667
Barrier 13	9	3.4027	3.6000	3.0870	3.5000	3.5094	3.2333
Barrier 7	10	3.4000	3.3200	3.3478	2.9444	3.5741	3.4667
Barrier 11	11	3.3919	3.5200	3.1429	3.3889	3.5556	3.1667
Barrier 5	12	3.3733	3.1200	3.3913	2.7778	3.6667	3.4000
Barrier 10	13	3.3667	3.1600	3.2174	3.1111	3.4259	3.7000
Barrier 9	14	2.9800	3.2400	2.9565	3.2222	2.9630	2.6667

As shown in Table 43, differences appear between the mean values of the groups of specialization variable relative to barriers to PD of academics in the CASs. Academics in English Language record the highest mean value (3.83) in Barrier 1 (unclear PD plan in college’s mission); however, the lowest mean

value is registered for academics in IT in Barrier 9 (PDPs are offered in traditional forms). The One-Way ANOVA test has been employed to test the statistical significance of the differences between the mean values related to the groups of specialization variable. Table 44 shows the findings of the One-ANOVA test about the significance of the mean differences at the 0.05 level.

Table 44: One-Way ANOVA Test Results Showing the Groups of the Specialization Variable with Respect to the Barriers to the PD of Academics in the CASs Related to the Improvement of Teaching Quality (continues on next page)

Barriers to PD	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Barrier 1</i>	Between Groups	4.370	4	1.092	.839	.502
	Within Groups	188.724	145	1.302		
	Total	193.093	149			
<i>Barrier 2</i>	Between Groups	2.681	4	.670	.538	.708
	Within Groups	180.579	145	1.245		
	Total	183.260	149			
<i>Barrier 3</i>	Between Groups	3.743	4	.936	.741	.565
	Within Groups	183.090	145	1.263		
	Total	186.833	149			
<i>Barrier 4</i>	Between Groups	1.908	4	.477	.400	.808
	Within Groups	171.729	144	1.193		
	Total	173.638	148			
<i>Barrier 5</i>	Between Groups	12.664	4	3.166	1.710	.151
	Within Groups	268.429	145	1.851		
	Total	281.093	149			
<i>Barrier 6</i>	Between Groups	12.189	4	3.047	2.410	.052*
	Within Groups	180.804	143	1.264		
	Total	192.993	147			
<i>Barrier 7</i>	Between Groups	5.728	4	1.432	.997	.411
	Within Groups	208.272	145	1.436		
	Total	214.000	149			
<i>Barrier 8</i>	Between Groups	4.592	4	1.148	1.043	.387
	Within Groups	159.601	145	1.101		
	Total	164.193	149			

<i>Barrier 9</i>	Between Groups	5.720	4	1,430	.889	.472
	Within Groups	233.220	145	1.608		
	Total	238.940	149			
<i>Barrier 10</i>	Between Groups	6.279	4	1,570	1.182	.321
	Within Groups	192.555	145	1.328		
	Total	198.833	149			
<i>Barrier 11</i>	Between Groups	4.681	4	1,170	.869	.484
	Within Groups	192.589	143	1.347		
	Total	197.270	147			
<i>Barrier 12</i>	Between Groups	4.283	4	1,071	.690	.600
	Within Groups	224.977	145	1.552		
	Total	229.260	149			
<i>Barrier 13</i>	Between Groups	4.901	4	1,225	1.124	.347
	Within Groups	156.938	144	1.090		
	Total	161.839	148			
<i>Barrier 14</i>	Between Groups	4.029	4	1,007	.889	.472
	Within Groups	164.244	145	1.133		
	Total	168.273	149			

*Significant at the 0.10 level

According to Table 44, the results of the One-Way ANOVA test between the means of the groups of the specialization variable show there is no statistical significance at the 0.05 level. The values of significance of the test for the 14 barriers exceed the 0.05 level. The findings demonstrate that the specialization variable does not affect academics' perceptions regarding the barriers to their PD, as related to the teaching quality improvement in the CASs.

5.5.5 Summary of Responses to Question Five

To sum up, the findings of question four reveal that the mean values for the rank of the importance of barriers to PD of academics in their perceptions, as related to the improvement of teaching quality, exceed the mean value of 3.00 except for the Barrier 9 (reaches only 2.98). The highest four mean values reach or go over 3.50 and represent barriers 14, 1, 4, and 6 (from top to bottom), whereas

the lowest four mean values are derived for barriers 9, 10, 5, and 11 (from bottom to top). With regard to question five, the t-test results comparing the means of males' and females' responses in relation to the 14 barriers to PD of academics reveal there is one statistically significant difference at the 0.05 level in Barrier 12 and the difference, which was of a higher level of importance to the female academics. In contrast, the One-way ANOVA test results for the groups of qualification and specialization variables do not indicate any statistically significant differences between the groups within these two variables regarding the 14 barriers to PD of academics. Regarding the differences between the groups of the experience variable, the One-way ANOVA test results reveal a statistically significant difference at the 0.05 level between the group of 9-12 years' experience and the other three groups (1-4, 5-8, and >12) in Barrier 8 and this barrier was of a higher level of importance to these three groups.

5.6 Findings of Question Six

Means, standard deviations, percentages, and ranking were computed for answers to question Six: 'What are the factors to enhance PD of academics in the CASs related to the improvement of teaching quality, as perceived by academics?' Table 45 illustrates means, standard deviations, and ranking of factors to enhance PD of academics in the CASs, as related to the improvement of teaching quality. The percentage data for the ratings of these facilitators is displayed in Appendix 10.

Table 45: Means, Standard Deviations, and Ranking of the Factors to Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality

Ranking	No.	Factors to Enhance Professional Development	Mean	Std. Deviation
1	9	Reducing academics' workload to enhance their participation in PDPs	4.1867	.95809
2	1	Including professional development goals in college's mission	4.1733	1.00833
3	7	Providing appropriate facilities and resources for conducting PDPs	4.1667	.97909
4	3	Connecting PDPs to the academics' needs	4.1633	1.07296
5	2	Setting up directed and realistic plans for PDPs	4.1400	.93428
6	4	Choosing a suitable period/time for PDPs	4.0268	.99285
7	6	Facilitating the conduct of PDPs by administrative and financial support	4.0267	.94795
8	5	Varying types and activities of PDPs	4.0068	.92527
9	10	Implementing supervision and evaluation procedures during and after conducting PDPs	4.0067	.97964
10	8	Encouraging academics' participation in PDPs by using a reward system	3.9733	1.05517

It can be seen from Table 45 that the mean values of the 10 factors to enhance PD of academics, as related to teaching quality improvement range from 4.00 to 4.18 except for Factor 8. The mean value (the lowest one) for Factor 8 (Encouraging academics' participation in PDPs by using a reward system) reaches only 3.97. The highest four mean values are recorded from top to bottom for Factor 9 (Reducing academics' workload to enhance their participation in PDPs), Factor 1 (Including PD goals in a college's mission),

Factor 7 (Providing appropriate facilities and resources for conducting PDPs) and Factor 3 (Connecting PDPs to the academics' needs).

5.7 Findings of Question Seven

In order to answer question seven, namely 'Do the factors that enhance PD of academics in the CAS as related to the improvement of teaching quality vary according to the variables of - gender, qualifications, experience, and specializations?', a t-test has been used to explore differences between two groups: males and females (gender variable). On the other hand, a One-Way ANOVA test was applied to identify the differences between the three groups of the qualification variable (PhD – Master – First Degree), the four groups of the experience variable, and the five groups of the specialization variable. The 0.05 level has been set as a standard to examine the statistical significance for the mean difference by LSD test and Chi-square tests. The following sections specify the findings of question seven.

5.7.1 Investigation of Differences between Groups of the Gender Variable in Relation to Factors that Enhance PD of Academics

Table 46 illustrates the means and t-test results regarding the gender variable upon the 10 factors that enhance PD of academics, as related to the teaching quality improvement. These results reveal whether there are differences between males and females in regard to the 10 factors that enhance PD.

Table 46: t-test Results for Males and Females with Respect to Factors that Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality

Factors to Enhance PD	Ranking	Total N=(150)	Males N=(105)	Females N=(45)	t-test	Degree of Freedom	Sig. (2-tailed)
		Mean	Mean	Mean			
Factor 9	1	4.1867	4.1333	4.3111	-1.042	148	.299
Factor 1	2	4.1733	4.0667	4.4222	-1.999	148	.047*
Factor 7	3	4.1667	4.0286	4.4889	-2.694	148	.008*
Factor 3	4	4.1633	4.0490	4.4222	-1.962	145	.052**
Factor 2	5	4.1400	4.0286	4.4000	-2.262	148	.025*
Factor 4	6	4.0268	3.8846	4.3556	-2.751	147	.007*
Factor 6	7	4.0267	3.9429	4.2222	-1.664	148	.098**
Factor 5	8	4.0068	3.9320	4.1818	-1.505	145	.134
Factor 10	9	4.0067	3.9143	4.2222	-1.777	148	.092**
Factor 8	10	3.9733	3.9048	4.1333	-1.218	148	.225

*Significant at the 0.05 level.

**Significant at the 0.10 level.

As shown in Table 46, the results of the t-test comparing the means of males and females' responses regarding the 10 factors to enhance PD reveal there are four statistically significant differences at the 0.05 level. The mean values of significance of the t-test are below the 0.05 level in factors 1, 2, 4, and 7. To explain particular priorities of facilitators 1, 2, 4, and 7 based on the significant differences between males and females, Crosstabs statistics by Chi-square tests are identified. The result of the tests is summarized in Table 47, indicating the percentages for high priority ratings of these four factors based on the significant differences between males and females.

**Table 47: Percentages for High Priority Ratings of Factors 1, 2, 4, and 7
Based on the Significant Differences between Males and Females**

<i>Factors to Enhance PD</i>	Very Important+ Important	Gender Variable	
		Male	Female
<i>Factor 1</i>	Frequency	78	40
	Percentage	74.2%	88.8%
<i>Factor 2</i>	Frequency	83	39
	Percentage	79.0%	86.6%
<i>Factor 4</i>	Frequency	72	40
	Percentage	68.5%	88.8%
<i>Factor 7</i>	Frequency	80	42
	Percentage	76.1%	93.3%

Table 47 shows the percentages for high priority ratings of factors 1, 2, 4, and 7 based on the significant differences between males and females. Consistent with the percentages of priority as shown in the table, the differences are statistically significant and the four facilitators were of a higher level of importance to females than to males because the percentages for the former are higher than for the latter.

5.7.2 Investigation of Differences between Groups of the Qualification Variable in Relation to Factors that Enhance PD of Academics

Mean values have been calculated in order to examine and compare differences related to the three groups of the qualification variable upon the 10 factors that

enhance PD. The findings of means for the groups of the qualification variable (PhD, Master, and First Degree) are shown in Table 48.

Table 48: Mean Values Regarding Groups of the Qualification Variable with Respect to Factors that Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality

Factors to Enhance PD	Ranking	Total N=(150)	PhD N=(47)	Master N=(84)	First Degree N=(19)
		Mean	Mean	Mean	Mean
<i>Factor 9</i>	<i>1</i>	4.1867	4.0638	4.2976	4.0000
<i>Factor 1</i>	<i>2</i>	4.1733	4.0638	4.2143	4.2632
<i>Factor 7</i>	<i>3</i>	4.1667	4.0000	4.2262	4.3158
<i>Factor 3</i>	<i>4</i>	4.1633	4.0222	4.1905	4.3889
<i>Factor 2</i>	<i>5</i>	4.1400	3.9787	4.1786	4.3684
<i>Factor 4</i>	<i>6</i>	4.0268	3.8478	4.0952	4.1579
<i>Factor 6</i>	<i>7</i>	4.0267	3.8511	4.0952	4.1579
<i>Factor 5</i>	<i>8</i>	4.0068	3.9565	3.9878	4.2105
<i>Factor 10</i>	<i>9</i>	4.0067	3.8723	4.1190	3.8421
<i>Factor 8</i>	<i>10</i>	3.9733	4.0000	3.9881	3.8421

As shown in Table 48, all mean values regarding groups of the qualification variable range between 3.84 and 4.38. The highest mean represents the First Degree group in Factor 3, while the lowest mean is derived for the same group in Factor 8 and Factor 10. The findings show differences between mean values related to the groups of the qualification variable with respect to the 10 factors to enhance PD. Thus, the One-Way ANOVA test has been employed to examine whether these differences are statistically significant at the 0.05 level (as is shown in Table 49).

Table 49: One-Way ANOVA Test Results for the Groups of the Qualification Variable with Respect to Factors that Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality

Factors to Enhance PD	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Factor 1</i>	Between Groups	.858	2	.429	.419	.659
	Within Groups	150.636	147	1.025		
	Total	151.493	149			
<i>Factor 2</i>	Between Groups	2.339	2	1.169	1.346	.263
	Within Groups	127.721	147	.869		
	Total	130.060	149			
<i>Factor 3</i>	Between Groups	1.874	2	.937	.812	.446
	Within Groups	166.208	144	1.154		
	Total	168.082	146			
<i>Factor 4</i>	Between Groups	2.193	2	1.097	1.114	.331
	Within Groups	143.699	146	.984		
	Total	145.893	148			
<i>Factor 5</i>	Between Groups	.934	2	.467	.542	.583
	Within Groups	124.059	144	.862		
	Total	124.993	146			
<i>Factor 6</i>	Between Groups	2.171	2	1.086	1.212	.301
	Within Groups	131.722	147	.896		
	Total	133.893	149			
<i>Factor 7</i>	Between Groups	2.026	2	1.013	1.057	.350
	Within Groups	140.808	147	.958		
	Total	142.833	149			
<i>Factor 8</i>	Between Groups	.379	2	.189	.168	.845
	Within Groups	165.514	147	1.126		
	Total	165.893	149			
<i>Factor 9</i>	Between Groups	2.405	2	1.203	1.316	.271
	Within Groups	134.368	147	.914		
	Total	136.773	149			
<i>Factor 10</i>	Between Groups	2.423	2	1.212	1.267	.285
	Within Groups	140.570	147	.956		
	Total	142.993	149			

It can be seen from Table 49 that the results of the One-Way ANOVA test between the means of the groups of the qualification variable show no statistical

significance at the 0.05 level. The values of significance of test for the 10 factors exceed the 0.05 level. The findings reveal the qualification variable does not affect academics' perceptions regarding the factors that enhance their PD, as related to the teaching quality improvement in the CASs.

5.7.3 Investigation of Differences between Groups of the Experience Variable in Relation to Factors that Enhance PD of Academics

In order to examine and compare the differences between the four groups of experience variable upon the 10 factors to enhance PD, mean values have been identified. The findings of mean values for the groups of the experience variable are illustrated in Table 50.

Table 50: Mean Values Regarding the Groups of the Experience Variable with Respect to Factors that Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality

Factors to Enhance PD	Ranking	Total N=(150)	01-04 Years' N=(51)	05-08 Years' N=(38)	09-12 Years' N=(27)	>12 Years' N=(34)
		Mean	Mean	Mean	Mean	Mean
Factor 9	1	4.1867	4.2549	4.2105	4.0370	4.1765
Factor 1	2	4.1733	4.2941	4.0526	4.0000	4.2647
Factor 7	3	4.1667	4.1373	4.2632	4.1481	4.1176
Factor 3	4	4.1633	4.2600	4.0541	4.0000	4.2727
Factor 2	5	4.1400	4.1961	4.1842	3.8148	4.2647
Factor 4	6	4.0268	3.9412	4.1053	3.8889	4.1818
Factor 6	7	4.0267	4.0784	4.0000	3.8889	4.0882
Factor 5	8	4.0068	4.1373	3.8421	3.6923	4.2500
Factor 10	9	4.0067	4.0784	3.9737	3.8519	4.0588
Factor 8	10	3.9733	3.9412	3.9474	3.7778	4.2059

As shown in Table 50, all mean values regarding the groups of the experience variable go beyond 3.60. The highest mean (4.29) is recorded for the academics with 1-4 years' experience in Factor 1, whereas the lowest mean (3.69) is registered for the academics with 9-12 years' in Factor 5. The findings demonstrate differences between mean values related to the groups of the experience variable, with respect to the 10 factors to enhance PD of academics in the CASs. Therefore, the One-Way ANOVA test has been used to examine whether these differences are statistically significant at the 0.05 level (as is shown in Table 51).

Table 51: One-Way ANOVA Test Results Showing the Groups of the Experience Variable with Respect to Factors that Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality

(continues on next page)

Factors to Enhance PD	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Factor 1</i>	Between Groups	2.393	3	.798	.781	.506
	Within Groups	149.101	146	1.021		
	Total	151.493	149			
<i>Factor 2</i>	Between Groups	3.619	3	1.206	1.393	.247
	Within Groups	126.441	146	.866		
	Total	130.060	149			
<i>Factor 3</i>	Between Groups	2.024	3	.675	.581	.628
	Within Groups	166.057	143	1.161		
	Total	168.082	146			
<i>Factor 4</i>	Between Groups	1.914	3	.638	.643	.589
	Within Groups	143.978	145	.993		
	Total	145.893	148			
<i>Factor 5</i>	Between Groups	6.363	3	2.121	2.557	.058*
	Within Groups	118.630	143	.830		
	Total	124.993	146			
<i>Factor 6</i>	Between Groups	.805	3	.268	.294	.829
	Within Groups	133.088	146	.912		

	Total	133.893	149			
<i>Factor 7</i>	Between Groups	.489	3	.163	.167	.918
	Within Groups	142.344	146	.975		
	Total	142.833	149			
<i>Factor 8</i>	Between Groups	2.950	3	.983	.881	.453
	Within Groups	162.944	146	1.116		
	Total	165.893	149			
<i>Factor 9</i>	Between Groups	.867	3	.289	.311	.818
	Within Groups	135.906	146	.931		
	Total	136.773	149			
<i>Factor 10</i>	Between Groups	1.044	3	.348	.358	.784
	Within Groups	141.950	146	.972		
	Total	142.993	149			

*Significant at the 0.10 level.

Table 51 shows the results of the One-Way ANOVA test between the means of the groups of the experience variable which indicates that there is no statistical significance at the 0.05 level. The values of significance of the test for the 10 factors exceed the 0.05 level. The findings reveal that the experience variable does not affect academics' perceptions regarding the factors that enhance their PD, as related to the teaching quality improvement in the CASs.

5.7.4 Investigation of Differences between Groups of the Specialization Variable in Relation to Factors that Enhance PD of Academics

Mean values have been calculated to examine and compare the differences between the five groups of the specialization variable upon the 10 factors to enhance PD of academics, as related to the teaching quality improvement in the CASs. The findings of mean values for the groups of the specialization variable are illustrated in Table 52.

Table 52: Mean Values Regarding the Groups of the Specialization Variable with Respect to Factors that Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality (continues on next page)

Factors to Enhance PD	Ranking	Total	Business	Communi.	Design	English L.	IT
		N=(150) Mean	N=(25) Mean	N=(23) Mean	N=(18) Mean	N=(54) Mean	N=(30) Mean
Factor 9	1	4.1867	4.4400	4.1739	4.3333	4.1667	3.9333
Factor 1	2	4.1733	4.4800	4.1739	4.3333	4.0556	4.0333
Factor 7	3	4.1667	4.4000	4.0870	4.2778	4.1481	4.0000
Factor 3	4	4.1633	4.3333	4.1818	4.2222	4.1509	4.0000
Factor 2	5	4.1400	4.4000	4.0000	4.2778	4.1481	3.9333
Factor 4	6	4.0268	4.3200	4.0000	4.2778	4.0000	3.7000
Factor 6	7	4.0267	4.2800	3.8261	4.2222	4.0185	3.8667
Factor 5	8	4.0068	4.4167	3.8261	4.1667	4.0577	3.6333
Factor 10	9	4.0067	4.3200	3.7391	4.2222	3.9074	4.0000
Factor 8	10	3.9733	4.3200	3.9565	4.0556	3.8148	3.9333

As Table 52 illustrates, the mean values regarding the groups of specialization variable range from 3.63 to 4.48. The highest mean represents the academics of Business for Factor 1, while the lowest mean signifies the academics in IT for Factor 5. The findings demonstrate differences between mean values related to the groups of the specialization variable, with respect to the 10 factors that enhance PD of academics in the CASs. For that reason, the One-Way ANOVA test has been used to examine whether these differences are statistically significant at the 0.05 level (as is shown in Table 53).

Table 53: One-Way ANOVA Test Results Showing the Groups of the Specialization Variable with Respect to Factors that Enhance the PD of Academics in the CASs Related to the Improvement of Teaching Quality

(continues on next page)

Factors to Enhance PD	Source	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
<i>Factor 1</i>	Between Groups	4.149	4	1.037	1.021	.399
	Within Groups	147.34	145	1.016		
	Total	151.49	149			
<i>Factor 2</i>	Between Groups	3.767	4	.942	1.081	.368
	Within Groups	126.29	145	.871		
	Total	130.06	149			
<i>Factor 3</i>	Between Groups	1.572	4	.393	.335	.854
	Within Groups	166.51	142	1.173		
	Total	168.08	146			
<i>Factor 4</i>	Between Groups	6.542	4	1.635	1.690	.155
	Within Groups	139.35	144	.968		
	Total	145.89	148			
<i>Factor 5</i>	Between Groups	9.562	4	2.390	2.941	.023*
	Within Groups	115.43	142	.813		
	Total	124.99	146			
<i>Factor 6</i>	Between Groups	3.990	4	.997	1.113	.353
	Within Groups	129.90	145	.896		
	Total	133.89	149			
<i>Factor 7</i>	Between Groups	2.581	4	.645	.667	.616
	Within Groups	140.25	145	.967		
	Total	142.83	149			
<i>Factor 8</i>	Between Groups	4.538	4	1.134	1.019	.399
	Within Groups	161.35	145	1.113		
	Total	165.89	149			
<i>Factor 9</i>	Between Groups	3.942	4	.986	1.076	.371
	Within Groups	132.83	145	.916		
	Total	136.77	149			
<i>Factor 10</i>	Between Groups	5.470	4	1.368	1.442	.223
	Within Groups	137.52	145	.948		
	Total	142.99	149			

*Significant at the 0.05 level.

As shown in Table 53, the One-Way ANOVA test results comparing the means of the academics' perceptions between the five groups of specialization show that there is one statistically significant finding at the 0.05 level. All values of significance for differences between the five groups go beyond the 0.05 level except for Factor 5, which reaches the .023 level. To find out which group of specialization variable regarding Factor 5 differs from others, an LSD test has been used. The results of these pairwise comparisons are revealed in Table 54.

Table 54: LSD Test (Post-hoc Comparisons) for the Statistical Significance of Mean Difference for the Groups of the Specialization Variable Regarding Factor 5

Dependent Variable	(I) Specialization	(J) Specialization	Mean Difference (I-J)	Std. Error	Sig.
<i>Factor 5</i>	<i>Business</i> Mean=4.4167	Communic.	.59058*	.26309	.026
		Design	.25000	.28113	.375
		English L.	.35897	.22249	.109
		IT	.78333*	.24692	.002
	<i>Communic.</i> Mean=3.8261	sBusines	-.59058*	.26309	.026
		Design	-.34058	.28373	.232
		English L.	-.23161	.22578	.307
		IT	.19275	.24988	.442
	<i>Design</i> Mean=4.1667	Business	-.25000	.28113	.375
		Communic.	.34058	.28373	.232
		English L.	.10897	.24656	.659
		IT	.53333*	.26881	.049
	<i>English L.</i> Mean=4.0577	Business	-.35897	.22249	.109
		Communic.	.23161	.22578	.307
		Design	-.10897	.24656	.659
		IT	.42436*	.20671	.042
	<i>IT</i> Mean=3.6333	Business	-.78333*	.24692	.002
		Communic.	-.19275	.24988	.442
		Design	-.53333*	.26881	.049
		English L.	-.42436*	.20671	.042

* The mean difference is significant at the 0.05 level.

Table 54 illustrates two statistically significant findings for the mean differences between the groups of academics in their perceptions about Factor 5. The first statistical significance shows significant mean difference between the groups in Business and Communication because the value of significance (.026) is under the 0.05 level. The second statistical significance reveals differences between the IT group and the groups in Business, Design, and English Language. This result is confirmed by the values of significance ($P < 0.05$) regarding the mean difference between the IT group and the other three groups. To explain particular priority of Factor 5 based on the significant differences between the different groups of the specialization variable, Crosstabs statistics by Chi-square tests are identified. The result of the tests is summarized in Table 55, indicating the percentages for high priority ratings of the factor based on the significant differences between these groups.

Table 55: Percentages for High Priority Ratings of Factor 5 Based on the Significant Differences between the Groups of the Specialization Variable

<i>Factor to Enhance PD</i>	Very Important+ Important	Specialization Variable				
		Business	Communic.	Design	English	IT
<i>Factor 5</i>	Frequency	22	16	15	41	18
	Percentage	88.0%	69.5%	83.3%	75.9%	60.0%

As shown in Table 55, Factor 5 was of a higher level of importance to the Business group because their percentage of priority ratings (88.0%) is higher than the percentage allocated by the Communication group (59.6%). In addition,

the same factor was of a higher level of importance to the three groups (Business, Design, and English Language) because their respective percentages for priority ratings (88.0%, 83.3%, and 75.9%) are higher than the percentage assigned by the IT group (60.0%).

5.7.5 Summary of Responses to Question Seven

To conclude, the findings of question six reveal that the mean values for the rank of the importance of the 10 factors to enhance the PD of academics in their perceptions, as related to the improvement of teaching quality, go beyond the mean value of 4.00 except for the Factor 10 (reaches only 3.97). The highest four mean values exceed 4.15 and represent factors 9, 1, 7, and 3 (from top to bottom). In addition, the t-test results comparing the means of males' and females' responses in relation to the 10 factors to enhance the PD of academics reveal that there are four statistically significant differences at the 0.05 level in factors 1, 2, 4, and 7 and these four factors were of a higher level of importance to the female academics. With respect to the differences between the groups of the specialization variable, the results of the One-way ANOVA test and LSD test confirm two statistically significant differences at the 0.05 level between these groups in Factor 5. The first significant difference is between the Business group and Communication group and this factor was of a higher level of importance to the former. Another significant difference is between the IT group and the groups of Business, Design, and English Language and the factor was of a higher level of importance to these three groups. On the other hand, the One-way ANOVA test results for the groups of the qualification and experience variables do not indicate any statistically significant differences between the

groups within these two variables regarding the 10 factors to enhance PD of academics.

Chapter Summary

This chapter presents the findings of the study according to the order of the seven study questions. The findings of question one, concerned with the extent of the academics' involvement in the current teaching quality PDPs in the CASs, illustrate that the involvement in these programmes is unsatisfactorily low. The percentages of the CASs' academics who did not attend or attended only one of teaching quality PDPs in the last two years reach 58.7% and 18.0% respectively. The findings of the first question also show clear differences from one college to another respecting the low level of the academics' involvement in teaching quality PDPs in the last two years.

With respect to question two, the findings of the study reveal that the mean values for the rank of the importance of the 22 PD needs in academics' perceptions range from 3.20 to 2.53. The findings of question three, which is concerned with the differences between the groups of academics, within the four variables in the study, with respect to the PD needs, show statistically significant differences in a number of PD needs. The findings confirm two significant differences at the 0.05 level between males and females in Need 2 and Need 3, one significant difference between the groups of the experience variable in Need 10, and nine significant differences between the groups of the specialization variable in needs 2, 3, 7, 8, 12, 14, 18, 19, and 21.

Furthermore, the findings of question four reveal that the mean values for the rank of the importance of the 14 barriers to PD of academics in their perceptions go beyond the mean value 3.00 except for Barrier 9 (mean=2.98). The findings of question five, respecting the differences between the groups of academics, within the four variables in the study, with respect to barriers to PD of academics, demonstrate statistically significant differences in some barriers. The findings confirm one significant difference at the 0.05 level between males and females in Barrier 12 and another significant difference between the groups of the experience variable in Barrier 8.

The findings of question six show that the mean values for the rank of the importance of the 10 factors to enhance PD of academics in their perceptions exceed the mean value 4.00 except for Factor 8 (mean=3.97). The findings of question seven, which is concerned with the differences between the groups of academics, within the four variables in the study, with respect to the factors to enhance PD of academics, reveal statistically significant differences in some barriers. The findings confirm four significant differences at the 0.05 level between males and females in factors 1, 2, 4, and 7 and two other significant differences in Factor 5 between the groups of the specialization variable in Factor 5. The discussion and analysis of these findings will be presented in the next chapter.

Chapter Six

Discussion of Findings

Introduction

In the previous chapter the findings of the study were presented based on the survey questions. These findings of the seven core themes were described in accordance with the analysis of statistical data. In the current chapter, the findings of the study will be discussed and analyzed based on certain integrated key themes related to the focus of the study. The analysis and discussion of the integrated themes will be supported by the survey results and the findings of a semi-structured interview and a focus group discussion, as well as with reference to previous studies and theories and based on the researcher's personal experience. The discussion also includes explanations of the similarities and differences between the survey results and those of the previous studies regarding relevant key themes in the current study.

The chapter contains four sections providing the discussion and analysis of the key themes with respect to the findings of the study. Although the chapter structures the discussions of findings in separate sections, an integrated sense of related key themes is provided to understand the focus of the study. The first section, thus, discusses academics' participation in PDPs, relating to teaching quality improvement, and current perceptions of related PD for academics. The second section discusses the perceived PD needs for academics and justifies variations in these perceived needs based on the four demographic variables.

The next section discusses the perceived barriers to effective PD for academics and explains variations in these perceived barriers based on the four demographic variables. The final section discusses the perceived factors to enhance PD for academics and explores variation in these perceived factors based on the demographic variables. The following section discusses the first theme, academics' participation in PDPs and current perceptions of PD.

6.1 Academics' Participation in PDPs and Current Perceptions of PD

The study concentrates on exploring the extent of academics' involvement in PDPs and the current perceptions of PD for academics in the CASs, relating to the improvement of teaching quality. The findings have identified the participants' responses regarding the number of teaching quality PDPs which the academics in the CASs attended in the last two years. The findings show that 18% and 23.3% of the total number of academics attended one or two to five programmes respectively; however, more than a half of academics (58.7%) attended none at all in the last two years. Moreover, the survey results reveal that there is some variation in participation rates in these programmes in the last two years across the six colleges. The percentage of academics who attended only one or did not attend any programme was the highest in the CASs of Salalah (94.7%) and Ibri (88.5%); however, this proportion was the lowest in the CAS-Nizwa (51.7%).

The different participation rates in PDPs among the colleges could reflect different levels of effort and attention to offering these programmes to improve teaching quality and could indicate different levels of motivation from

academics to participate in teaching quality PDPs. Further, the variation of participation rates across the CASs may reflect a lack of an independent centre and a clear policy of PD at ministerial and institutional levels, as revealed in the findings of the interview and group discussion. The findings of the semi-structured interview with the Head of the Section of Human Resource Development in the CAS-Sohar reveal that the Department of Human Resource Development is officially responsible for qualifying and training all types of staff in the MoHE. In reality, it is difficult for the department, without a clear policy of PD and a huge number of academics, to fulfil the PD of academics in the CASs. For this reason, the responsibility for the PD of academics may effectively rely on these colleges themselves. As a consequence, each college is required to set an independent plan of PD based on available financial and administrative support and hence, different efforts and outcomes of PD for academics have emerged in the six colleges.

Furthermore, the General Directorate of the Colleges of Applied Sciences, managing these six colleges, may authorize administrations of the CASs to be concerned with planning and implementation of PD. Therefore, a college's administration is individually concerned with the PD of academics and/or sometimes, jointly with the department and the directorate. Because the conduct of a particular plan of PD activities and programmes requires sometimes the cooperation of and contact with the department and the directorate, administrative routines and financial procedures could delay a PD implementation. It seems that absence of a clear policy and a formal body of PD at ministerial and institutional levels pushes administrations of colleges to make

their own decisions on planning and implementing PD for academics. Moreover, the findings of the interview show that the Section of Human Resource Development has been activated in the role of PD in the colleges only since March 2012. As a result, there will be an inevitable variation in what they do relating to PD for academics, in the period prior to this date, including the number of the accessible PDPs and consequently the levels of academics' participations.

The extent of total academics' participation in the available PDPs regarding teaching quality improvement could be considered as an indication of the current situation of PD in the CASs. Further, a limited level of academics' participation in these programmes (as appeared in the survey findings) could indicate unsatisfactory levels of PD for academics in these colleges in the last two years. The low level of academics' involvement in PDPs, respecting the improvement of teaching quality could initially be attributed to the scarcity of the number of these programmes that are available to academics in CASs. The findings of the focus group discussions reveal that the shortage of these programmes could reflect a lack of institutional unit/centre within the colleges and policy and goals of PD for academics. The discussions also refer the limited number of accessible PDPs to the ministerial centralization and administrative routines in the PD planning and implementation. A lack of institutional and independent commitment to PD could result in insufficient administrative and financial support to promote the adequate conduct of PDPs in the colleges. Therefore, a shortage of accessible programmes, related to teaching quality

improvement, could not provide sufficient opportunities for academics to achieve a higher level of participation and to improve teaching quality.

The low levels of academics' participation in PDPs could also result from particular obstacles preventing participation, such as academic workloads. The participants perceived that a reduction of workload to enhance their participation in PDPs was the most important factor to improve PD of academics in the CASs (see section 5.6). The perceptions of this as the most important factor could mean that the academics in the colleges endure a heavy workload, preventing them from effective participation in accessible teaching quality PDPs. The findings of the focus group support the higher importance of the barrier of teaching workload to the academics' participation in PDPs. Based on the focus group discussion and the researcher's experience, academics in the CASs are also requested to be involved in particular committees, take part in different meetings, and contribute to symposiums and conferences at and outside colleges. In addition to the central role of academics: teaching and related activities, these tasks take a high amount of academics' time and effort and therefore reduce the level of their participation in PDPs.

Additionally, limited participation of academics in PDPs could be attributed to other barriers, such as unclear PD focus in a college's mission, a lack of systematic plans and implementation of programmes, and a lack of a connection between academics' PD needs and the content of programmes. These three issues are perceived by respondents in the survey results as the three most significant barriers to PD for academics in the CASs (see section 5.4). It appears in the findings of the focus group that these three issues are considered as

barriers, preventing academics from effective participation in available PDPs in the CASs. In addition to these three barriers, the findings of the discussions illustrate that the participation is ineffective due to poor quality of some workshops, neglect of teaching quality improvement in the content of programmes, a lack of trust in the benefits of some PDPs, and low attention provided by some academics. As a result, the level of academics' participation in PD (relating to the improvement of teaching quality) in the CASs in the last two years seems to be unsatisfactorily low.

In short, the low participation rate of academics and inadequate number of available teaching quality PDPs in the last two years in the colleges could generally reflect a lack of a clear national policy for PD. The absence of such policy could not help the colleges to set up an institutional PD plan and goals to be integrated in a college's mission. The revision of the official national and CAS documents by the researcher does emphasize a lack of a clear policy statement focusing on the PD of academics. The perceptions of respondents, respecting barriers to PD support a lack of a clear policy for PD in a college's mission (second most important barrier) and a lack of systematic plans and implementation of PD (first most important barrier) (see section 5.4). The current situations of PD regarding teaching quality (limited programmes and little participation) could also refer to a lack of a national authority and institutional unit within the colleges concerning PD of academics. The absence of such bodies may not enable Omani HEIs (including the CASs) to focus on particular issues related to the PD of academics, such as a set of realistic plans of PDPs, encouragement of academics' participation, identification and

connection of academics' PD needs to PDPs. The respondents perceived these three key facilitators as very important factors to enhance PD in the CASs (see section 5.6). The importance of these three key facilitators (according to respondents' perceptions) could stress that PD for academics in these colleges lacks the support and guidance needed to help administrations to plan and implement adequate PDPs and encourage academics to participate effectively in these programmes. Thus, PD related to teaching quality improvement in the CASs in the last two years seems to face particular weaknesses represented in the inadequate number of programmes and low participation of academics.

The results of the study, indicating low participation of academics and limited teaching quality PDPs in the last two years in the CASs reflect the findings of previous studies. Previous studies reported a low number of programmes offered to academics regarding the improvement of teaching quality in HEIs and stressed a need for a reasonable level of investment in PD for academics (by conducting sufficient programmes and encouraging academics' participation). For example, McInnis (2000) discussed findings of a national survey of 1554 academics in 15 Australian universities regarding the influence of changing academic practices on the quality of teaching. McInnis reported that over one-third of participants had PD in teaching methods in the beginning of their work, but a quarter had such development in the same area in the last two years. It is indicated in McInnis' study that PD activities for academics, with regard to teaching quality improvement, are insufficient in Australian universities.

Furthermore, Kuptarnond (2000) investigated perceptions of deans and department chairs concerning the implementation of faculty development

programmes at private HEIs in Thailand. Kuptarnond found out that further instructional development programmes are still needed concerning the improvement of certain skills, such as a use of technology for instruction, teaching skills, and course design. Ballantyne et al. (2000) also surveyed 87 staff and 127 students in different faculties at the Queensland University of Technology (OUT) in Australia to identify academic staff development and improve teaching and learning. Ballantyne et al. concluded, “Staff felt that professional development opportunities were not always available, and even where they were, that they did not have the time to take advantage of them” (p. 229). The two studies stress an inadequate number of PDPs and a need for additional programmes to improve teaching quality (as perceived by academics themselves).

The reasons for the lack of PDPs to improve teaching quality and low academics’ participation in these programmes in Australia and Thailand, to some extent, are similar to those in Oman. McInnis (2000) points out that PD opportunities in Australian universities are still limited as academics until now have relied on their disciplinary experience and self-directed PD; they did not attend voluntary PDPs because of workload. Moreover, Ballantyne et al. (2000) state, “Both staff and students feel that the pressures of time and heavy workload impact on the quality of teaching and learning” (p. 227). With regard to a Thailand context for PD, Kuptarnond (2000) reported that a majority of deans and department chairs at private HEIs perceived that ‘no reduction of teaching load to participate’ was a very significant obstacle to their PD. In the current study, the participants perceived that reducing academic workloads was

the most important factor to enhance their participation in PD (see section 5.6). In addition to the problematic workload, participants perceived a lack of systematic procedures to conduct PDPs and unclear PD plans in a college's mission as the most two significant barriers to their PD (see section 5.4). These two barriers may limit the number of accessible PDPs and consequently, restrict potential opportunities for academics' to participate effectively.

The findings of the previous studies support, to a large extent, the reasons and consequences for low participation of academics and the limited number of available PDPs. The previous studies revealed the number of existing PDPs to improve teaching quality is unsatisfactorily low and concluded that additional and relevant programmes are required for the PD of academics. The studies also indicated that a heavy workload is regarded as a significant barrier to the academics' participation in these programmes, and thus, PD did not help them to improve teaching quality effectively. In the same way, the current study reveals that a reduction of academics' workload is perceived as the most important factor to enhance PD concerning the improvement of teaching quality. While workload refers to a teaching load in a Kuptarnond' study, the other three studies (including the current study) do not refer to what kind of workload. This means that participants in these three studies did not attend PD activities because of teaching load, research load and/or other loads (such as involvement in particular committees and society services). Regardless of the type of workload, it is essential for academics to balance between research load and attendance in PDPs. In addition, it is necessary for administrations in HEIs to

reduce teaching schedule and other formal loads in order to enhance academics' ability to participate in PD relating to teaching quality improvement.

The resultant low participation of academics and limited teaching quality PDPs in the last two years in the CASs will not serve the application of a QA framework. The application of QA in these colleges requires the fulfilment of a quality audit scope, focusing on the description and evaluation of PD policies as a requirement of staff and staff support services. To achieve quality audit purposes, sufficient and appropriate PDPs, focusing on academics' PD needs, should be planned and implemented to update the knowledge of academics and develop their teaching skills. Moreover, a heavy workload of academics should be reduced to motivate academics to participate effectively in order to take advantage of these programmes with respect to teaching quality improvement. It appears that the current situation of PD in the CASs (limited teaching quality PDPs and low participation of academics) does not help administrations of colleges to fulfil the objectives of a quality audit process and accordingly, the application of a QA framework.

To sum up, a limited number of existing PDPs and low participation of academics in these programmes in the CASs could be attributed to particular reasons. Inadequate available programmes could result from a lack of a clearly developed ministerial policy for PD and the absence of a national authority to be responsible for planning, implementing, and evaluating PDPs in Omani HEIs (including the CASs). The shortage of these programmes could also be attributed to a lack of a clear plan for PD in a college's mission and absence of an institutional unit concerning PD for academics in these colleges. Other

reasons for the low rate of academics' participation in these programmes could include; academic workload, a lack of systematic plans for PDPs, a lack of identifying and connecting academics' PD needs to PDPs, and a lack of emphasis on the improvement of teaching quality. For this reason, policy and decision makers in the country and administration of the CASs supposed to take necessary and appropriate measures to maintain and improve PD (these measures will be discussed in the next chapter).

6.2 Perceived PD Needs

The study also deals with the identification of PD needs of academics in the CASs related to the improvement of teaching quality. The identification indicates these needs and their importance, as perceived by participants. The following points discuss these PD needs as perceived by academics and explain the variance in the importance of the needs based on demographic variables of participants.

The findings of the study have shown all the 22 PD needs, related to teaching quality improvement, are perceived as important needs by the participants. The survey results reveal the mean values for the importance of these perceived PD needs exceed the average (2.50 out of 5.00) (see section 5.2). These results indicate that all participants in the study perceived the 22 PD needs as important professional skills to be developed in order to improve teaching quality in the CASs. The importance of these PD needs, as perceived by respondents, supports, to some extent, the findings of a limited number of existing teaching quality PDPs and low participation of academics in these programmes. The

participants may demand high participation in further and reasonable programmes focused on the development of these PD needs in order to improve teaching quality.

Furthermore, the mean values of the three most important PD needs, as illustrated in the findings, go beyond the value 3.05 and represent the needs of developing student critical thinking skills, realizing innovative teaching methods, and using information technologies to support teaching & learning processes. The next five PD needs in importance (mean values=2.91 to 2.97) focus on the development of student problem skills (fourth important need) and professional skills of linking a teaching process to student learning (fifth to eighth important needs). The high importance of the eight top PD needs in the perceptions of academics means there are particular issues and situations that have emerged in the CASs which lead to the high priority of these eight PD needs in comparison to the rest.

The high importance of the eight academics' PD needs, compared to the rest, could be explained by the following reasons. First, the majority of the academics in the CASs may not have enough experience in particular teaching/learning practices. The explanation of insufficient experience is supported by the distribution of respondents in the study, with the number of academics with 1-4 years' experience (51 respondents = third of the total number) being the highest percentage (34%) compared to the other three levels of experience. As appeared in the findings of focus group discussions, the three most important PD needs are continuously updated, very complicated, and considered as needed educational practices advocated by new research to improve teaching quality

and student learning. Third, inadequately available PDPs for academics, based on the researcher's experience, focus on or deal more with the application of improvements and innovations developed in the CASs (as new colleges after transferring from Education Colleges). It seems those programmes did not deal with a development of practices in teaching methods and/or student learning and the application of certain educational principles in a teaching/learning context.

Furthermore, the limited number of existing PDPs in the colleges and low participation has not provided opportunities to participants to address their real and necessary PD needs such as the eight most important needs. It is perhaps difficult to cover a wide range of issues in a few programmes, particularly when academics' PD needs have not been clearly identified. The issue of identifying and connecting academics' PD needs to PDPs was perceived by participants as the third most important barrier to PD (see section 5.4) and as the fourth most important opportunity to enhance PD in the CASs (see section 5.6). Fifth, inadequate PDPs offered to academics in these colleges lack systematic plans and implementation to be consistent with the actual number of academics in each college and their real PD needs. The issue of setting systematic plans for implementing PDPs was perceived by academics as the most important barrier to effective PD (see section 5.4) and as the fifth most important factor to enhance PD in the CASs (see section 5.6). The findings of the interview also reveal there is no clear annual PD plans, nationally and in the CASs, focusing on the PD of academics in order to conduct systematic TNA for academics in the colleges. Finally, the integration of clear institutional PD plan and goals in college's mission, which perceived as the second most important barrier and key

facilitator for PD in the colleges (see sections 5.4 and 5.6) supports the need for more emphasis on PD planning to identify and develop real PD needs of academics.

As discussed in the literature review, the findings of previous studies, to some extent, are comparable with the current study results indicating the rank of the important PD needs for academics. For example, Wallin and Smith's (2005) study sought to rank the importance of 50 PD needs of full-time faculty in Georgia's technical colleges. The participants in the study gave sixth priority (mean= 3.46) to a need to 'Utilize instructional techniques that develop higher-order skills in student (i.e. critical thinking skills)'; priority number 16.5 (mean= 3.29) to a need for 'Recognizing diverse learning styles and develop appropriate plans'; and priority number 25 (mean= 3.17) to a need to 'Use technology for in-class instructional activities'. Kuptarnond (2000) also found out that the second highest percentage of the additional instructional programmes for faculty development in Thailand private HEIs, as perceived by department chairs, was 'Improving skills in the use of technology for instruction' (91.80%). These two previous studies showed the high importance of skills for the development of student critical thinking skills, use of technology for instruction, and recognition of different learning styles. These three skills were perceived by academics in the current study as the first, third, and sixth most important PD needs respectively (see section 5.2).

On the other hand, the findings of the current study have illustrated that the five least important PD needs of academics in the colleges represent the needs of: time management of class and course, interactive communication with students,

preparation for lessons and subject matter, use of appropriate teaching methods, and use of self PD (e.g. reading and colleague interaction). Based on the findings, the participants perceived these five needs as moderate PD needs (mean values=less than 2.75) to improve teaching quality (see section 5.2). The moderate importance of these five PD needs, compared to others, could indicate a good understanding and practice of these skills in classroom teaching or maybe a lack of understanding of how important they are.

The probable indication of a good understanding of the least important five PD needs could be attributed to the following possible reasons. First, the focus group findings show that these five PD needs or most of them can be considered as basics for any teacher (especially in HEIs), and thus, the academics in the current study are supposed to understand and practise these activities properly. The findings also reveal that through their continuous experience in HE teaching the academics may be more aware of the basic instructional activities such as the use of appropriate teaching method(s), preparation for lessons and subject matters, and time management. Third, some common skills such as interactive communication with others and self PD could be developed by academics themselves depending on their knowledge and efforts. Finally, the academics may develop these five basic skills through informal interactions with colleagues and self-directed PD, such as reading, research, participation in symposiums and conferences.

Based on the ranking of perceived PD needs of academics, there seems to be a much stronger 'student centred' focus in the high rating items than there is in the lower rating items which focus more on 'teacher centred' skills. Because the

current study explores only the perceptions of academics rather than others such as the administration, it is important to realise that the most important PD needs from a different point of view could be represented in another focus. For example, it maybe that from a MoHE's point of view there are priorities for degree programmes to be taught by staff actively engaged in research so that teaching at this level is informed by research. The indication of the high rating 'student centred' needs may be attributed to the fact that the current CASs were transferred and developed from Colleges of Education that are already concerned with the application of 'teacher centred' skills (as basic teaching principles) in their instructional programmes and academic practices. The academics in these colleges may already have a better grounding and experience in teacher centred skills than in the 'student centred' focus because they deal more with the former in their daily teaching practices. For this reason, the academics perceived their PD needs to focus more on 'student centred' needs to improve teaching quality because these skills seem to be more complicated and need extensively-designed PDPs to be improved (as illustrated in the findings of focus group).

The identification of the least important PD needs for academics, in particular 'time management', differ from the findings of the following two studies.

Houston et al. (2004) compared the faculty development needs for 443 physician-teachers belonged to 110 different teaching hospitals and attended one of three faculty PD conferences in the United States; the scholars concluded, "the most frequent of all reported preferences for future training was time management" (p. 378). Additionally, in Onderi, and Croll's (2008) study,

secondary head teachers in a district of Kenya listed as a priority ‘time management’ as a very important (83.3%) in-service training need. The difference between the findings of these two studies and the current study regarding the importance of ‘time management’ as a PD need for academics may refer to their different dates, locations, and/or the nature and level of samples used in three studies. Another reason for the different findings could be the fact that the academics in the current study may have better grounding and development in ‘time management skills’ because of the application of a quality audit process, focusing on a practice of quality principles, including ‘time management’.

The study also addresses possible variance of the importance of PD needs in the CASs, as perceived by participants according to the variables of their gender, qualifications, experience, and specializations. The findings have indicated the comparison of the means of males’ and females’ responses in relation to the 22 PD needs, reveal there are two statistically significant differences at the 0.05 level in the needs of preparation for lessons and subject matters and the use of appropriate teaching method(s). The measures are higher for male academics (see section 5.3.1). The study, then, indicates that male academics perceived a stronger need for PD in these two needs more than did female academics.

The variance between male and female academics regarding these two needs is possibly because males put more emphasis on these needs which could mean that they required more PD in these areas than females did. However, both males and females perceived the needs of preparation for lessons and subject matter, and use of appropriate teaching method(s) as more important to improve

teaching quality. This result may be attributed to the factor of experience between males and females, which impacts their different perceptions regarding the importance of these two needs. The percentage of male academics who have more than nine years' experience (45.8%) is higher than the percentage of females with the same number of years' experience (28.9%). This means that the males are somewhat older academics who seek a type of refreshment and development in some of teaching skills (such as preparation for lessons and use of appropriate teaching methods), especially in the era of accelerating educational changes and progress in instructional knowledge. The result may also refer to the level of use of self-directed PD among males and females academics to develop their skills.

According to the findings of the study regarding the importance of academics' PD needs, it seems that the application of QA and a related quality audit process in the area of PD of academics require more attention. To meet the requirements for PD in the application, the CASs are requested to describe and assess the PD of academic staff and set an appropriate and relevant plan, involving the application of TNA. TNA will enable college administrations to identify the real PD needs of academics in order to prepare relevant content and activities in appropriate PDPs. The high importance of the issue of identifying and connecting PD needs of academics to PD in perceived barriers and key facilitators in the current study stress a weakness in TNA in the CASs and a need for more attention to fulfil the requirements of QA and quality audit.

From the above, the academics perceived their PD needs as important to improve teaching quality in the CASs and the findings of previous studies

support the high importance of several needs. The importance of these needs in the current study could be attributed to the limited experience of many academics (as revealed in a distribution of respondents) and to a college's effort in focusing on the application of improvements in the CASs rather than on a development of teaching practices (after being transferred from Colleges of Education). The academics' perceptions of the importance of their PD needs may reflect, to a large extent, the limited number of accessible PDPs and the low participation of academics in these programmes. The importance of these needs is supported by the identification of the important barriers in the study: a lack of systematic plans and procedures in implementing PDPs, unclear planning for the PD of academics in a college's mission, and a lack of identification of academics' training needs prior to formulating these programmes. The high rating PD needs focus more on 'student centred' skills than on 'teacher centred' ones and a possible reason for this result may be the complexity of the former which could not be practised so easily by personal experience and are thus demanded in the design of improved PDPs.

6.3 Perceived Barriers to Effective PD

The study investigated barriers to PD for academics in the CASs related to the improvement of teaching quality. The participants were asked to prioritize the importance of 14 barriers to effective PD in the colleges based on their experience. As described in the previous chapter, the four most significant barriers to PD for academics (mean values=over 3.50) were: the barriers of: a lack of systematic plans and procedures in implementing PDPs, unclear PD plan for the academics in college's mission, a lack of identifying academics' training

needs prior to formulating PDPs, and inappropriate evaluation processes of PDPs (see section 5.4). It appears that ineffectiveness in the three critical stages (planning, implementation, and evaluation) for the conduct of PDPs are perceived as very important barriers to PD for academics in the CASs.

The lack of appropriate planning, implementation, and evaluation of academics' PD in the colleges is centred around a lack of a clear PD plan in a college's mission (the second highest barrier to PD, as perceived by participants). If a national PD plan was not identified and accordingly, an institutional PD plan was not clearly specified in a college's mission, then the conduct of PD for academics will be negatively influenced. In other words, PD of academics in the CASs will not be given priority without a clear plan, organised implementation, and appropriate evaluation. Because the four barriers were perceived as the most significant challenges for PD in the colleges, each will be analyzed and explained separately in the following paragraphs.

1. Lack of Systematic Plans and Procedures in Implementing PDPs

This matter is perceived by participants as the most significant barrier to their PD in the colleges. PD for academics in the CASs lacks systematic plans and procedures in the conduct of PDPs in relation to the teaching quality improvement. It is indicated that the participants in the survey understood systematic plans and procedures to be any disciplined processes to prepare and establish a PDPs context, such as a set of goals and agenda, identification of training needs, formulation of content, organization of events, and supervision of activities. Thus in addition to a shortage of available PDPs to improve

teaching quality, these programmes lack realistic and systematic plans before and during implementation.

The lack of systematic plans of PDPs, which is perceived as the most important barrier, may reflect ambiguity around who is responsible for academics' PD in the CASs. The high significance attached to this barrier maybe explained by the following reasons. First, the findings of focus group stress a lack of a formal and independent authority concerning PD and the lack may influence the colleges to rely on their own opportunities and resources to conduct needed PDPs to improve teaching quality. Second, the findings also reveal that the individual and voluntary efforts made by colleges' administrations to conduct PDPs in order to improve teaching quality may not take into consideration particular preparations, such as the involvement of academics in PD plans and/or identification of academics' PD needs. The lack of such preparations could negatively affect plans and procedures for PD when implementing teaching quality PDPs. Finally, a formulation of realistic plans and proper implementation of these programmes requires a specialized staff and experts in PD that the colleges do not have because of a lack of a formal authority concerning academics' PD.

The most significant barrier to effective PD of academics in the CASs could be greatly emphasised by the significance of the barrier 'unclear PD plan in college's mission' (the second important barrier). The absence of a clear PD plan in a college's mission results in unsystematic plans and implementation for the conduct of PD activities in these colleges. The ambiguity of institutional PD plans could be due to the absence of a national PD plan. The significance of the

factor ‘setting up directed and realistic plans for PDPs’ also supports this as the most important barrier to PD for academics in the CASs. The participants in the current study perceived this factor as a very important factor (mean value=4.14 out of 5.00) to enhance PD, with regard to teaching quality improvement (see section 5.6). This perception stresses the need for systematic plans for the implementation of PD in these colleges because the colleges’ missions lack a clear PD plan in the current situation.

The significance of the absence of systematic plans and procedures for the conduct of PDPs in the current study is supported, to some extent, by the findings of some previous studies. For example, Karagiorgi and Symeou (2006) studied teacher PD in Cyprus in order to meet educational challenges in Europe, and found that “Currently in-service training provision in Cyprus is mainly informal, individual and voluntary and has not evolved into structured practices” (p. 52). Lalitha (2005) also reviewed a short-term continuing PD for teachers in Sri Lanka and revealed that PD provided to teachers in schools was not conducted in a systematic way. Even though these two studies were undertaken in schools, they still dealt with PD for teachers and did report that PD in Cyprus and Sri Lanka are conducted as voluntary and unstructured practices. These PD practices need systematic plans and procedures as PD of academics in the CASs does.

The current situation of inadequate systematic plans and implementation of PD in the CASs does not help administrations to promote the application of a QA framework. The application requires the fulfilment of a quality audit process, reviewing and improving PD for academics to meet QA requirements. PD plans

should be systematically set to conduct appropriate PDPs relating to teaching quality improvement. Setting systematic plans for PD will encourage academics to participate more effectively and contribute to the improvement of teaching quality in order to achieve the objectives of QA in the areas of PD and teaching quality.

2. Unclear PD Plan of Academics in College's Mission

As illustrated in the survey results, participants perceived there is no clear policy of PD in a college's mission in order to specify any guidelines and requirements for PDPs. The absence of a PD plan will not serve the administrations of these colleges to enhance PD for academics to improve teaching quality. If a college's mission does not include a clear plan for academics' PD, there will be a strong likelihood of that there will be an absence of systematic and realistic plans and procedures for the conduct of PDPs. For this reason, participants perceived the issue of inadequate systematic plans and implementation of PDPs as the most important barrier to effective PD in the CASs in the last two years.

The issue of ambiguous PD plans in colleges' missions has been perceived in the current study as a very important barrier to effective PD. The high importance of this barrier could be attributed to the lack of a national PD plan, considering all aspects and levels of PD in the country. In addition, the findings of the focus group emphasize that the ministerial centralization for PD may not allow CASs to set and integrate a clear and independent PD plan in their missions. Another reason could be the relative newness of the HE sector in Oman and the recent establishment and development of the CASs. The focus in

Omani HE and, of course, the colleges in the beginning pointed to meeting an urgent need for the development of an appropriately qualified professional workforces rather than any other focus, such as staff PD. Consistent with this perception, it is evident that recommendations of two of the few available studies regarding PD in Omani HEIs (Al-Musawi, 2008; Al-Kaabi, 1995) advocated more attention and focus on academics' PD. Moreover, the higher significance of unclear institutional PD is possibly due to the fact that the colleges' missions have not been completed yet or disclosed to academics as the CASs (as new colleges) focus on setting general goals and designing new academic programmes.

Furthermore, the ambiguity of PD plans to be integrated in a college's mission may reflect the absence of a national centre for PD, resulting in a contradiction between different units regarding the responsibility for PD. The General Directorate of the Colleges of Applied Sciences is considered as the direct authorized body supervising these colleges. For this reason, the General Directorate (under the MoHE) is supposed to be responsible for developing a colleges' policy, including PD for academics. On the other hand, the MoHE empowers the Department of Human Resource Development to undertake the role of PD for all staff employed within institutions under the ministry.

Therefore, the colleges try to avoid any conflict with a department's role regarding PD for academics and/or they do not have an authorised ability to set up an independent plan for PD. The factors of absence of an independent authority concerning academics' PD, a potential conflict between different units

regarding responsibility for PD, and a restricted authority for the CASs may lead to the lack of a clear PD policy being integrated in a college's mission.

The high importance of the barrier 'unclear PD plan for academics in college's mission', as perceived by academics in the current study, is supported by a number of studies. Those studies found that unclear academics' PD plans and/or goals in an institution's policy or mission are a significant barrier to effective PD. For instance, Murray (2002) reviewed research findings regarding faculty development programmes at two-year community colleges and revealed that these programmes are "...rarely tied directly to the institution's goals or mission and are not usually evaluated in any meaningful way" (p. 96). Moreover, Onderi and Croll (2008) investigated perceptions of teachers and head teachers regarding in-service training for teachers in Gucha District of Kenya and reported that 25% of schools have had a PD policy for their staff. It appears from the current study and the two studies referred to here that a PD plan for academics is not integrated in HEI's or school's mission.

The academics' perception of the high significance of unclear PD plans for academics in a college's mission is supported by the second most important factor to enhance PD in the CASs. The participants perceived the factor of 'including PD goals in college's mission' as a very important factor (mean value=4.17 out of 5.00) to enhance PD of academics in these colleges (see section 5.6). A failure to integrate a PD plan and goals in an institution's mission will lead to a lack of systematic plans and implementations for the conduct of PDPs to improve teaching quality. The lack of appropriate plans and

implementations is likely to reduce the effectiveness of academics' PD and hence, would not contribute to the improvement of teaching quality.

The application of QA in the CASs would fail to achieve the objectives of PD and teaching quality improvement if a clear policy of PD is not integrated in college' mission. Without relying on a clear institutional policy of PD, PDPs will be individual and unstructured practices and they will not serve and promote the improvement of teaching quality in the colleges. Thus the authorized administration of the CASs is advocated to deal with the issue of setting and integrating a clear plan and goals for PD in a college's mission. A clear PD policy will help these colleges to prepare appropriate plans of PDPs and encourage academics to take part in order to improve teaching quality and meet QA requirements.

3. *Lack of Identifying Academics' Training Needs Prior to PDPs*

In the current study, academics perceived a lack of identifying their training needs before conducting PDPs as a significant barrier to their PD in the colleges. It is indicated that these programmes do not connect to and include academics' training needs. The significance of this barrier could emphasise the two significant barriers discussed above: a lack of systematic plans of PD and unclear PD policy in college's mission.

The lack of adequate identification of academics' training needs may reflect the lack of systematic plans before conducting PDPs, and consequently may overlook the importance of identifying and connecting academics' training needs to the contents and activities of these programmes. Moreover, a deficient

coordination between the CASs and Department of Human Resource

Development, and/or a delay of official process may contribute to a failure to identify academics' training needs. A failure to identify training needs could lead to individual efforts made by colleges' administrations which fail to focus on the real PD needs of academics. The finding of the focus group show that the lack of systematic research discussing PD and the lack of feedback taken from academics in the colleges result in the lack of PD needs identification. Another possible reason may be the use of traditional and/or inappropriate methods for the needs assessment which cannot identify PD needs accurately.

Poor identification of academics' training needs in the CASs could reflect the use of inappropriate assessment processes to recognise potential PD needs of academics. Based on the personal experience of the researcher in the CASs, college administrations may use a 'course and teaching survey' (provided to students at the end of semester) to identify particular professional skills of academics to be developed. Administrations may also ask academics to write their training needs on official forms distributed to them by the heads of departments. These initial methods may not be sufficient and appropriate to identify real PD needs as they do not follow systematic and scientific procedures and may not survey all academics to gather realistic information. The implementation of these programmes to improve teaching quality requires continuous and systematic TNA methods to properly analyze and identify academics' training needs and thus, to set up appropriate plans for PDPs.

The failure to identify accurately academics' training needs, as a significant barrier to effective PD in the current study, is supported by previous studies.

Shareef (2008) studied mentoring relationships as PD activities in Maldivian primary schools and found, 'one-off PD sessions' and 'in-school clinical supervision' are common PD activities for teachers, but they did not meet their training needs. Moreover, in a reviewed study for faculty development programmes at community colleges, Murray (2002) concluded that "...administrators of faculty development programs are oblivious to the real needs and desires of faculty" (p. 94). Scott (2002) also examined secondary teachers' perceptions of their PD activities in Western Australian schools and revealed that participants point out the employer did not provide them with PDPs to meet their teaching requirements and needs. Although Scott's and Shareef's studies were carried out at primary and secondary schools respectively, they showed that PDPs failed to meet teachers' training needs, relating to teaching quality improvement. The issue of a lack of identifying training needs of teachers before implementing PDPs could be considered as a significant barrier to PD in general (at HEIs and schools).

The consequences of a failure to identify academics' training needs in the CASs is further stressed by the high importance of the factor of 'connecting PDPs to the academics' needs'. The participants perceived this factor as the fourth most significant factor (mean value=4.16 out of 5.00) to enhance PD for academics (see section 5.6). The identification of academics' training needs is crucial, especially in the situation of the application of QA in the CASs. The application started with a process of quality audit, focusing on particular requirements of PD to improve teaching quality in these colleges. The OAC (2008) points out that HEIs should describe and evaluate PD policies and processes, such as the

implementation of aggregated and individual training needs analyses for academics.

4. *Inappropriate Evaluation Processes of PDPs*

The issue of inappropriate evaluation processes for PDPs is perceived by participants as a very important barrier to the effective PD of academics in the CASs. According to participants' perceptions, evaluation processes for PD seem to be carried out inappropriately. It appears that evaluating PDPs in these colleges may focus on examining a participants' satisfaction regarding procedures of the implementation at the end of PD activities, such as workshops and seminars. The evaluation processes of these programmes may not be measured continuously along with clear goals or specific expectations to serve planning for future PD.

The high significance of the barrier of inappropriate evaluation processes of PD in the current study may be attributed to a lack of systematic plans. Because PDPs lack this type of plans which should prepare components to be implemented properly, they may face a problem with the evaluation processes (as an imperative component). The barrier of unsuitable evaluation processes of PDPs could also reflect scheduling these processes only at the end of a PD activity without any consideration for it to be managed throughout the conduct of the activity. Another reason for inappropriate evaluation of PD, based on the focus group findings, is the lack of appropriate feedback taken from academics after attending in PDPs. The lack may reflect a reliance on traditional methods

of evaluation which cannot encourage participants to provide proper and accurate feedbacks about PDPs.

A common traditional method for evaluating PDPs focuses on listing particular advantages and disadvantages at the end of the conduct of these programmes. This method could reflect participants' comments about the organization of events and services provided during a PD activity, but could not help them to provide accurate and beneficial feedback regarding planning and outcomes of PDPs. A list of advantages and disadvantages of PD activities cannot enable participants to assert their opinions in order to remedy current drawbacks and prepare for future PDPs. Therefore, evaluation of these activities is required to involve different systematic methods such as questionnaires, interviews, observations, and tests after each event to assess expected outcomes and to obtain accurate feedbacks from participants. More widely-based feedback will benefit a college's administration in tackling failures in the current activities and setting a realistic plan for future PDPs.

Inappropriateness of evaluation processes for PD in the CASs, as revealed in the current study, is noted also in previous studies. For example, Karagiorgi and Symeou's (2006) study regarding the necessity of restructuring teacher PD in Cyprus to meet European educational requirements reported that it seems that the educational system in Cyprus lacks the use of evaluation methods to examine the impact of PD aligned with purposes. Moreover, Murray (2002), in a reviewed study of faculty development programmes at community colleges, found there is a lack of evaluation for these programmes and concluded, "We not only lack criteria for measuring effectiveness but also are uncertain about

what to measure” (p. 93). Kuptarnond (2000) also revealed that the deans perceived ‘effective processes to evaluate programme outcomes’ as one of the two least important components included in the implementation of faculty development programmes in Thailand private HEIs.

The above studies stress the lack of evaluation processes of PDPs in HEIs with a lack of stated objectives. A possible reason for inadequate evaluation processes could be the lack of appropriate planning which involves all stages and elements (such as evaluation). As in the current study, a lack of appropriate evaluation of PD could result from a lack of systematic plans of PD (the first important barrier to PD in participants’ perceptions). For this reason, it is important for the CASs to take into consideration setting a clear plan and stated goals for PDPs as a basis for developing appropriate evaluation. Not only that, the colleges are called for the use and management of appropriate mechanisms of evaluation continuously through the whole implementation of a PD activity. In a QA context, a quality audit scope encourages all Omani HEIs to evaluate their policies and processes, including of course PD of academics regarding teaching quality improvement.

The lowest rated barriers, on the other hand, represent, from lowest up, the barriers of (PDPs are offered in traditional forms -such as lectures, PDPs present out-of-date pedagogic Knowledge -do not focus on academic innovations, a lack of college’s administration support, and PDPs are conducted at unsuitable times/periods) (see section 5.4). It seems that the four least important barriers to PD in the CASs, as perceived by participants, are concerned with the procedures of the conduct of PD activities. The findings of the focus group reveal that these

four issues are considered as procedures of PDPs organisation which could be dealt with compared to planning issues demanding more effort and preparation. Moreover, the shortage of available PDPs may not give academics a chance to deal with and assess the conduct of PD activities and hence, to examine the significance of the related four barriers. Alternatively, the limited number of existing PDPs are possibly conducted in an appropriate context with support from college administration and this context may enable these programmes to be offered with up-to-date knowledge in different forms at suitable times. For this reason, the academics perceived that the significant barriers to their PD do not focus on what and/or how existing programmes are offered but do focus on the issues prior to the conduct of PDPs such as goal-setting, appropriate planning, and needs analysis.

The study also examines any variance of the importance of these barriers to academics' PD according to particular demographic variables. The findings have illustrated the t-test results comparing the means of males' and females' responses in relation to the 14 barriers to PD reveal there is one statistically significant difference at the 0.05 level in Barrier 12 (Shortage of facilities and resources to conduct PDPs) and the measure is higher for female academics (see section 5.5.1). The findings reveal that female academics perceived Barrier 12 to their PD as more significant than do males.

The different perceptions of females and males regarding the importance of Barrier 12 could be attributed to work experience. The percentage of female academics who have 1-4 years' experience (44.4%) is higher than the percentage of males with the same number of years' experience (29.5%). This

means that the females are somewhat newer academics in the colleges (with less experience) which may have limited their opportunities to participate in as many PDPs as longer serving academics and thus, to judge actual status and circumstances of the context for PD. For this reason, they may have perceived the context of these programmes, particularly facilities and resources, as a significant barrier to their PD. It could be that the length of experience is a significant variable affecting female perceptions of Barrier 12 as more important than males did.

Furthermore, the One-way ANOVA test results addressing the differences between the groups of experience variable reveal a statistically significant difference at the 0.05 level between the group with 9-12 years' experience and the other three groups (1-4, 5-8, and >12 years') in Barrier 8 (Absence of feedback taken from academics after participating in PDPs) and the measures are higher for the three groups (see section 5.5.3). The result may be attributed to the amount of experience which influences the perceptions of different groups regarding Barrier 8. The academics with little experience (1-4 and 5-8 years') and a large amount of experience (>12 years') perceived Barrier 8 as a more significant barrier to the PD than the academics with average experience (9-12 years'). It appears that a balanced amount of experience enabled the latter group to be familiar with a PD context and help them to introduce their feedback more effectively after participating in PDPs than the group with less experience. The difference between the group of 9-12 years' and group with more than 12 years' may be due to higher participation of the latter group in PDPs as a result of their longer experience. The higher participation may give academics with long

experience (>12 years') enough opportunity to experience the 'Absence of feedback taken from academics after participating in PDPs' as a more significant barrier to the PD than to academics with average experience (9-12 years').

To sum up, it appears from the perceptions of academics that the most important barriers to the PD focus on a lack of: systematic plans and implementation of PDPs, a clear policy of PD in a college's mission, identification of academics' training needs, and appropriate evaluation processes of PDPs. The significance of each of these barriers supports the significance of others as all associate to and result from a lack of a clear policy and plan for PD. In addition, the significance of these barriers is stressed by the significance of particular factors as perceived by participants in the current study. A number of previous studies also support importance of the barriers as perceived by participants in the current study. For this reason, the MoHE is required to set clear policy and goals for PD at a ministerial level and the CASs are requested to integrate the PD policy in their missions and set systematic plans and implementations of PDPs at the institutional level. Setting clear policy and systematic plans for PD is essential in the situation of a QA application focusing on the development of PD as a critical element in a quality audit scope.

6.4 Perceived Factors to Enhance PD

The survey identified factors perceived to enhance PD for academics in the CASs in relation to the improvement of teaching quality. As described in the previous chapter, the mean of all the factors perceived to enhance PD for

academics reached the value 4.00 or over (out of 5.00). This suggests that all factors are perceived by participants as very important issues in order to enhance their PD in relation to teaching quality improvement. The high importance of these factors reflects the current situation of PD (the limited numbers of PDPs and low participation of academics) and put more emphasis on the needed enhancement of PD in the CASs.

The highest rated factors to enhance PD reinforce, to a large extent, the most significant barriers to effective PD in the CASs according to the perceptions of participants in the current study. The issues of PD plans, PD links with a college's mission, a connection of academics' needs to PD, and facilities and resource allocation are perceived by participants as the most important barriers and as the second to fourth key facilitators of PD (see sections 5.4 and 5.6). Moreover, the most important factor 'reducing academics' workload to enhance participation in PDPs' is possibly supported by the significance of the barriers of: inappropriate evaluation processes of PDPs, a lack of academics' involvement in PD plans, and absence of feedback taken from participants after participating in PDPs. The findings of the focus group support the higher importance of these factors to enhance PD by stressing their influence in setting realistic PD plans, preparing an appropriate content, and encouraging a level of academics' participation.

The importance of the top five factors to enhance PD for academics stresses a need for more ministerial and institutional effort and focus on PD in the CASs. A lack of a national PD policy could be viewed as a central issue, resulting in the highest importance of key facilitators to PD in these colleges. Without a

clear national policy for PD, an institutional PD policy will not be established and integrated in a college's mission in order to set appropriate plans for PD and effective implementation of PD activities. For this reason, participants in the current study (according to their perceptions of the key facilitators) stress the necessity for appropriate planning and implementation of PDPs in order to enhance PD for academics in the colleges.

Another central issue beyond the perceptions of participants regarding the most important factors to enhance PD may be the absence of national and institutional centres concerned with PD in the Sultanate. Because of a lack of authorised and independent centres to deal with issues related to PD in Omani HEIs, PD for academics will not be appropriately planned and implemented. In other words, PD for academics will lack particular official support at national and institutional levels to prepare realistic plans and suitable implementation of PD. For example, the absence of a particular institutional unit for PD could lead to confusion as to who is concerned with the role and responsibility for PD for academics in the CASs. The confusion leads to voluntary and individual efforts made by colleges to plan and implement PD of academics.

Furthermore, the most important factors emphasise the necessity of taking into consideration the current situations of academics before the planning and implementation of PDPs. The participants put emphasis on a reduction of their workload to enhance participation in PDPs and the need for a clear connection between these programmes and academics' training needs. These two perceptions could be explained by the absence of systematic plans for PD (perceived as the most significant barrier to PD), and therefore the failure to

recognise the status of workload and PD needs of academics' prior to PDPs.

Without an understanding of these two important issues, it is difficult to encourage academics to participate more effectively in PDPs and thus, they perceived these two factors as very important to enhance their PD in the CASs.

Previous studies support, to some extent, the importance of these factors to enhance PD, as perceived by participants in the current study. For example, Williams (2008) investigated PD practices of tourism and hospitality educators at Vocational Education and Training organizations (VET) in Melbourne and considered an increasing connection between the educators' work and their PD as a critical recommendation to enhance PD of teachers. In a review of research findings regarding faculty development at community colleges, Murray (2002) found that one of the important factors to enhance faculty development is "The Existence of a Formalized, Structured, and Goal-Directed Development Program" (p. 95). In addition, Sandholtz (2002) explored PD opportunities for 199 secondary teachers in a school/university partnership in the United States and stressed that the participants need more time and support to participate in PDPs because the workload and tightly scheduled day diminishes their participation in these programmes. Hong (1986) also surveyed particular needs of English teachers in their PD at Vietnamese high schools and concluded that these needs of participants should be identified and met in a proposed programme and in future development.

The above studies stress the necessity of setting clear goals for PD, connecting PD to academics' needs, and increasing their participation by a reduction of

workload. These three issues are also perceived by participants in the current study as the most important factors to enhance their PD in the CASs. Although the last two studies were carried out in secondary and high schools, they revealed that PD for teachers needs a reduction of teachers' workload and a connection between their needs and PD. Administrations of HEIs (including the CASs) and schools are called to take into account the current situation of academics' work and workload if they wish to encourage participation in PDPs in order to fulfil the purposes of PD, respecting the improvement of teaching quality.

On the other hand, the least three important factors to enhance PD for academics represent, from bottom to top, encouraging academics' participation in PDPs by using a reward system, implementing supervision and evaluation procedures during and after conducting PDPs, and varying types and activities of PDPs (see section 5.6). The lower importance attached to these three factors, focusing on the implementation of PDPs, reflects the highest importance of the opposite factors which put emphasis on setting a clear policy and a systematic plan for these programmes. It seems that the problem for PD in the colleges (as perceived by participants) did not appear in the stage of implementation but, instead, in a stage of goal-setting and planning.

The low rating of these three factors, according to the academics' perceptions, is possibly explained by the following reasons (as appeared in the findings of the focus group). First, the reward system for participation in PDPs (locally and abroad) has already stated and specified in the financial regulation for the

Omani state HEIs. Second, the supervision procedures and evaluation processes are already used during and after PDPs, but a problem could appear with the use of inappropriate processes because of the lack of realistic PD plans. Finally, consistent with the least rated barrier ‘PDPs are offered in traditional forms’, the participants indicate that the types and activities of PD are already varied and involved more than workshops and seminars.

The low importance of varying types and activities of PDPs, as perceived by respondents, is somewhat inconsistent with the findings of O’Brien’s (2004) study. O’Brien assessed characteristics of effective PDPs in the perceptions of teachers, principals, and training personnel at three Catholic primary schools in Melbourne; the scholar found that 74% (strongly agree) and 17% (agree) of responses perceived the use of a variety of methods in the programme presentation as an important factor for PD. The difference between the findings of O’Brien’s study and the current study regarding the importance of ‘varying types and activities of PDPs’ (as a factor to enhance the PD of academics) is may be due to the different date and location related to the conduct of the two studies. Another reason could reflect a probable difference between the nature and a level of samples, from one point, and the type of empirical context (schools and HEIs) for these studies. The difference between the two results could also be explained by a weakness being revealed in the current study regarding the implementation of PDPs (including a variation of PD activities) rather than planning.

The current study also explores variance in the perceived importance of all perceived factors to enhance PD according to particular demographic variables.

The findings of the study have showed that the t-test results comparing the means of males' and females' responses in relation to the 10 factors to enhance PD reveal there are four statistically significant differences at the 0.05 level in factors 1, 2, 4, and 7 and the measures are higher for female academics (see section 5.7.1). This result may be due to the percentage of female academics who have 1-4 years' experience (44.4%) being higher than the percentage of males with the same number of years' experience (29.5%). The difference in length of experience may indicate that more female respondents are new academics and have less experience of PD and hence, valued these factors more than respondents with longer experience.

Furthermore, the One-way ANOVA test results addressing the differences between the groups of the specialization variable reveal a statistically significant difference at the 0.05 level in Factor 5 (Varying types and activities of PDPs) between the groups of Business and Communication and the measure is higher for the former (see section 5.7.4). The result is possibly attributed to amount of experience which influences the perceptions of the two groups regarding Factor 5. The percentage of academics in the Business group with >12 years' experience (44.0%) is higher than the percentage of those in the Communication group with the same amount of experience (30.4%). These different perceptions may be due to longer experience (>12 years') of the Business group, on which to understand and stress the importance of Factor 5 to enhance PD.

The One-way ANOVA test results also show a statistically significant difference at the 0.05 level in Factor 5 (Varying types and activities of PDPs) between the IT group and the groups of Business, Design, and English Language and the

measure is higher for the three groups (see section 5.7.4). The result may reflect the influence of the level of qualification on the perception of these groups regarding Factor 5. The percentage of academics in Business, Design, and English Language with First Degree is 41.9%, whereas there are none with this level of qualification in the IT group. The Master and PhD qualifications may provide the IT group with the sufficient knowledge and practice regarding the PD and related teaching quality improvement. Thus, this group may rely not only on the formal PD provided within the CASs but also on the self PD. As a result, they do not put more emphasis on the variation of PDPs activities to enhance their PD as the other three groups.

Based on academics' perceptions regarding the importance of key facilitators of PD in the CASs, more attention is needed to meet the requirements of a QA application. A related quality audit scope aims to evaluate policies and processes of PD and teaching quality to ensure the quality of these two important areas. The current perceptions of the most important factors that enhance PD emphasize more attention focusing on the improvement of PD and related teaching quality. The current situations of PD in these colleges require more emphasis and effort at an institutional level and, even, at a national one with the aim of setting a clear policy and a responsibility for PD. PD of academics in these colleges requires an appropriate preparation based on systematic plans and implemented through logical procedures in order to fulfil the improvement of teaching quality and thus, to meet QA requirements.

In brief, the perceptions of participants in the current study indicate that the most important factors to enhance PD in the CASs are: a reduction of

academics' workload to enhance participation, an integration of PD goals in college's mission, an allocation of facilities and resources for PD, a connection between academics' training needs and PD, and setting realistic PD plans. It appears that the significance of these key facilitators is stressed by the high significance attached to particular barriers and is supported by the findings of a number of previous studies. The higher significance of these factors in the study reflects, to a large extent, the lack of a clear PD policy at governmental and institutional levels and no integration of the policy and PD goals in a college's mission. The key facilitators could also reflect the absence of an independent authority concerned with PD at these two levels. Therefore, it is very important for the MoHE and the CASs to define and set a clear policy for PD and integrate PD policy and goals in a national vision and institutional mission. The application of QA in the CASs supports the need for the setting and integration of a PD policy in a college's mission in order to enhance PD and related issues such as the improvement of teaching quality.

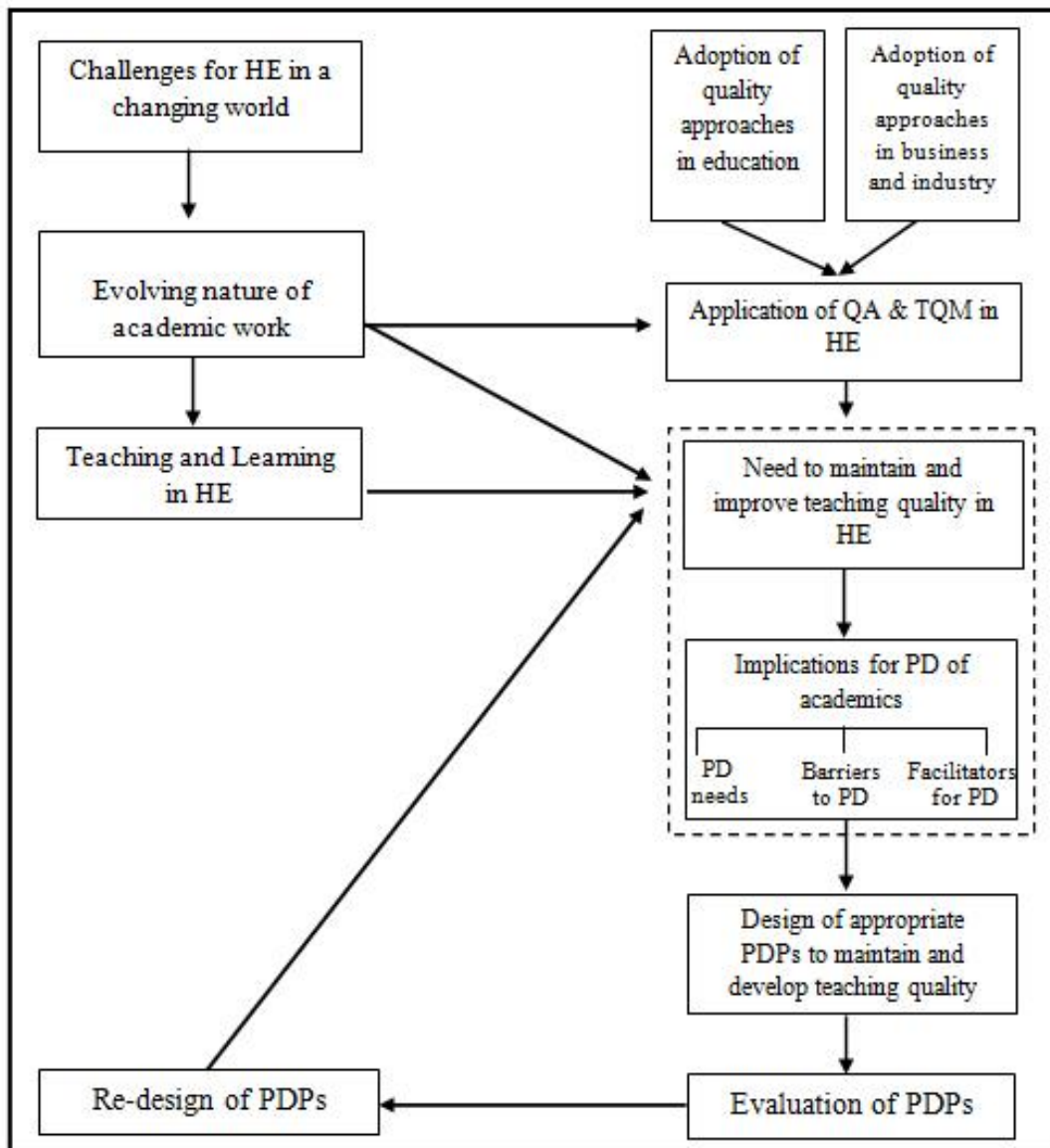
6.5 The Theoretical Model of Research in the light of the Findings

The researcher developed the theoretical model to identify the implications of teaching quality improvement for the PD of academics in the CASs. The model involves particular aspects that relate to and affect the fields of teaching quality and PD of academics. The most important aspect is the identification of the implications of the teaching quality improvement for the PD of academics. These implications encompass PD needs of academics, barriers to effective PD, and factors to enhance PD.

The findings of the study identified the implications for the PD of academics in the colleges. The identification of these implications assumes to fulfil the requirements of the maintenance and improvement of teaching quality in these colleges by the following contributions. First, the prioritization of PD needs of academics can identify the real needs to be involved in PDPs in order to improve teaching quality. Second, the recognition of the barriers to effective PD provides administrations of the CASs with potential problems that encounter PDPs in order to be dealt with in the future. Finally, the identification of the facilitators for PD in helps the colleges to set appropriate plans and implementations for PDPs to improve teaching quality.

It is indicated that the model underlines the issues of the improvement of teaching quality and related PD of academics in the CASs. The model shows the factors that lead to the need for the maintenance and improvement of teaching quality in HE. The improvement of teaching quality focuses on the exploration of the implications for the PD of academics. However, the model did not clearly highlight the two important stages (evaluation and re-design of PDPs) after the identification of the implications of teaching quality improvement for the PD of academics. Based on the discussion of findings and by benefiting from quantitative and qualitative findings, the researcher added these two stages to the model in order to develop real feedback for the improvement of teaching quality and related PD. Figure 16 shows the modified theoretical model used in the current study to identify the implications of teaching quality improvement for PD of academics in the CASs.

Figure 16: The Modified theoretical Model Used in the Current Study



Chapter Summary

The discussion of the survey findings has dealt with the key themes addressed by the study. These thematic issues involve: academics’ participation in PD, perceived PD needs, perceived barriers to effective PD, and perceived factors to enhance PD. From the overall discussion, the current situation of PD in the CASs in the last two years, respecting teaching quality improvement seems to be

unsatisfactorily low. The discussion indicates the low level of academics' participation in PD in these colleges, resulting from the limited number of PDPs made available to academics and/or their reluctance to participate in these programmes. Regardless of possible reasons for low participation, the current perceptions of participants indicate insufficient PD in the colleges to improve teaching quality.

The importance of PD needs of academics may indicate that the low participation and the limited number of available PDPs did not meet these needs of the respondents. The possible explanation for the reasonable prioritization of PD needs could be the low participation and the limited number of available PDPs in the CASs from one point, and the lack of a clear policy and systematic plans of PD from another. The participants' perceptions of particular barriers to PD could highlight and lead to a low level of academics' participation. For example, the high significance of the barriers of the lack of adequate identification of academics' training needs and the lack of academics' involvement in the PD plans may lead to the failure in meeting the real PD needs of the respondents. This failure may not encourage these academics to participate effectively in PDPs.

Furthermore, the discussion of perceived barriers and facilitators regarding PD in the CASs show that most of the issues discussed could be viewed as either barriers or potential facilitators. The discussion indicates a strong correlation between the most important barriers and key facilitators with respect to PD of academics. The issues of (systematic PD plans, integration of PD policy in college's mission, identification and connection of academics' needs to PD, and

allocation of appropriate facilities and resources) are perceived by participants as the most significant barriers and the key facilitators for PD in the same time. In addition, the reduction of academics' workload to enhance participation in PD (as the first important facilitator) could be stressed by the barriers of: a lack of systematic PD plans, inappropriate evaluation processes of PD, and a lack of academics' involvement in PD plans.

From the main themes discussed in this chapter, there is a common relationship between possible reasons beyond thematic issues addressed in different sections in the current study. It seems that unsatisfactorily low participation and limited number of available PDPs in the CASs could reflect the absence of a clear PD philosophy and independent authority concerning PD at national and institutional levels. Because the PD policy and goals are not specified and integrated in a ministry' vision and a college's mission, planning and implementation procedures of PD in the colleges could be accordingly unclear and unstructured. In addition, the ambiguity of PD responsibility nationally and institutionally will lead to unclear policy and role of PD in HEIs. For this reason, the current situation of PD in the CASs, as perceived by academics, need more attention paid by government, institutions, and academics.

Paying more attention to PD at three levels is also needed to fulfil the application of the QA framework in the CASs. The application necessitates the assurance of the quality of academic services and requirements in Omani HEIs. PD of academics in the colleges could not support the aims of QA application unless the PD policy and goals are stated and integrated in the college's mission. For this reason, PD should be encouraged in policy and practice at different

levels to support the application in the colleges. In the next chapter, conclusions from the discussion of the findings will be drawn in order to provide implications for policy and practice to enhance PD regarding the improvement of teaching quality in the CASs.

Chapter Seven

Conclusions and Implications for Policy and Practice

Introduction

The previous chapter discussed the findings of the study by analysing the results of questionnaire, interview, and focus group based on the key themes of the study. The current chapter draws conclusions from the discussion of those key themes related to the results. This chapter also addresses the implications of these conclusions for current and future national policies and practices for HE in Oman. The implications set particular propositions and relevant recommendations to deal with issues highlighted in the study. These issues focused on the perceptions relating to PD to improve teaching quality in the CASs. The following section draws some conclusions from the findings in relation to the key themes discussed in the previous chapter.

7.1 Conclusions Drawn from Findings

From the previous chapter, it appears that each key theme related and involved in the study provides specific and relevant conclusions. These conclusions indicate current perceptions of academics about participation in PD at the CASs with respect to teaching quality improvement. The conclusions draw on the perceptions of the PD needs of academics, barriers to effective PD, and factors to enhance PD of academics in these colleges. Moreover, these conclusions provide visions concerning the relationship between the current perceptions of

PD and the application of QA in the colleges. The first section provides concluding comments regarding academics' participation in PDPs.

7.1.1 Academics' Participation in PDPs and Current Perceptions of PD

Almost three quarters of the total number of participants attended only one or two programmes in relation to the teaching quality improvement in the CASs. The result reveals that the extent of academics' participation in existing teaching quality PDPs in the last two years in the colleges seems to be unsatisfactorily low.

The resultant low level of participation in PDPs in the CASs in the last two years could be due to one or both of the following reasons: a limited number of available programmes and a discouragement of academics to take part. The current study focuses only on asking participants about the extent of their attendance in PDPs in the CASs in the last two years without specific identification of possible reasons for a low level of attendance. For this reason, the issues of limited number of PDPs and a discouragement of academics to participate could be considered as possible reasons for a low level of involvement. The issue of a low participation in PD and related probable reasons is considered as an important direction for further research (see section 8.1)

Regardless of the direct reasons, the low level of participation could reflect particular drawbacks in PD plans and and/or implementation, discouraging effective participation in PDPs. As is noted in the findings, PD in the CASs suffers from a lack of clear policy in college missions. This problem may result from ambiguous responsibility for the management and coordination of setting

systematic plans and implementation of PDPs. Poorly planned programmes could not support the PD of academics to improve teaching quality due to the absence of stated goals for PD, a misconnection of academics' training needs to PDPs, and a lack of academics' involvement in PD plans. As a result, academics are not being encouraged to participate effectively and thus, PD is unlikely to achieve the goals of the teaching quality improvement.

The unsuitable situations of PD, in particular, the poor extent of academics' participation and the shortage of PDPs, will not provide appropriate and sufficient opportunities for academics to take advantage of PDPs in order to meet the accelerated and evolving requirements for teaching quality improvement. The improvement of teaching quality is increasingly important, especially in the context of advanced education and the complicated roles of academic staff. McLoughlin and Samuels (2002) argue, "Academic staff at universities now work in a climate where the need for professional currency in teaching practice is increasingly in evidence" (p. 449). Therefore, the CASs need to take into consideration the necessity of designing appropriately PDPs and promoting academics' participation by setting realistic and systematic PD plans and implementations.

The current perceptions of unsatisfactory involvement of participants in PDPs indicate inadequate opportunities to improve teaching quality and thus, to enhance student learning. Further, the low level of academics' involvement in teaching quality PDPs could not provide sufficient opportunities for those academics to acquire up-to-date knowledge and practices to facilitate student learning. Boyle, Lamprianou, and Boyle (2005) point out that the participation

level of teachers in PD reflects the pressure of the English national government to enhance pupils' achievements in literacy and numeracy. Because of a strong interrelation between the processes of learning and teaching, teachers need to be professionally developed in order to improve teaching quality and support student learning. Thus the academics' participation to take advantage of PD with respect to teaching quality improvement could be regarded as an important factor in assisting and enhancing students' achievements.

The low level of academics' participation and limited number of existing PDPs, based on academics' perceptions, are unlikely to serve the colleges' efforts towards the accomplishment of a quality audit scope. According to the OAC (2008), through a quality audit a HEI evaluates the efficiency of processes independently in line with its mission and vision; the first step is to write a quality audit portfolio after reviewing its QA and quality enhancement practices. A quality audit scope requires a description and evaluation of achievements and improvements in certain areas, such as teaching quality and staff PD. Based on the discussion of findings, the current perceptions of PD in the colleges, respecting academics' participation and available PDPs, need more attention to achieve the objectives of a quality audit process.

Furthermore, the context of a QA application in the CASs stresses a need for the improvement of teaching quality and related PD, as fundamental components of a HE system. The use of QA and quality enhancement in these colleges requires an assurance of teaching quality improvement and quality of PD to meet a quality audit scope and standards assessment (published by the OAC) in order to gain an accreditation certificate. As Manyaga (2008) states, "QA usually refers

to all of the planned and systematic actions necessary to provide adequate confidence that a product or a service will satisfy the specified requirements for quality” (p. 166). A QA framework forces Omani HEIs to ensure the quality of PD in updating the knowledge and skills of academics in order to improve teaching quality. The findings of the current study indicated that the academics’ PD related to teaching quality improvement in the CASs is somewhat below expectations. It appears that PD of academics, as an educational service, may not ensure its quality in line with the application of QA in the colleges. The indication of a probable failure of PD to meet QA requirements may be linked to the newness of the application, which may not as yet enable the CASs to evaluate and improve the PD of academics.

Although the requirements of a quality audit scope have been described and promoted to HEIs, it seems that the number and quality of PDPs in the colleges require more emphasis to meet these requirements. The difficulty in promoting the quantity and quality of these programmes may be due to a delay in applying the stage of a quality audit process in Omani HEIs. The OAC (2008) declares that “The first stage in Provider Accreditation, starting from 2008, involves each HEI undergoing a Quality Audit” (p. 10). The OAC has recently applied the first stage of a HEI Quality Assurance Framework and HEIs still develop their quality audit portfolios. Therefore, the colleges may not yet have completed the portfolio of quality audit in order to evaluate the effectiveness of their efforts in PD based on stated goals and visions. In addition, the stage of self study will be followed by an external review from the OAC in order to check a HEI’s quality audit process according to particular specified standards (published by the

OAC). After the completion of these two stages, the CASs can recognize and evaluate the real status of PD regarding the improvement of teaching quality and hence they will have a chance to enhance the quality of teaching and PD.

7.1.2 Perceived PD Needs

The findings of the study showed that all the 22 PD needs of academics relating to teaching quality improvement are acknowledged as required by participants. Thus the academics, to some extent, require additional PDPs in relation to the improvement of teaching quality in order to develop their professional knowledge and skills.

It emerged in the previous chapter that participants perceived that the realization of innovative teaching methods and the use of IT to support teaching/learning were among the most important of their PD needs. The high importance of these two needs may reflect the lack of a clear policy for PD and systematic plans for PDPs, leading to ineffective implementation of TNA and insufficient involvement of academics in PD planning. The lack of identification of PD needs and insufficient academic involvement in PD planning are perceived by participants as very important issues in terms of barriers and key facilitators regarding PD in these colleges. These two issues could not help the CASs to identify and expose the real needs of academics to be involved in PDPs and thus, to provide appropriate content and activities in PDPs.

The low attention focus on developing the use of innovative teaching methods and IT to support teaching/learning could not fulfil the requirements of the application of a quality audit scope. The scope requires the CASs to describe

and evaluate their system of teaching quality, involving a realisation and utilisation of appropriate and innovative teaching methods. The scope of a quality audit also focuses on a description and evaluation of teaching resources and the use of what will support teaching/learning in a classroom, including different means of IT. The fulfilment of the quality audit portfolio by each college is required, as a first stage in the quality audit process, before carrying out external review by the OAC.

The discussion of perceived PD needs also indicated that academics need more developments in ‘student centred’ skills rather than ‘teacher centred’ skills. This suggests that a ‘student centred’ focus seems to have been less well-addressed based on the academics’ perceptions of their PD needs. All PD needs relating to the ‘student centred’ focus are perceived by academics as high rating needs, including: developing student critical thinking and problem-solving skills, identifying students’ needs, matching teaching to students’ learning styles, providing students with feedback about learning progress, and connecting course materials to students’ environment. The importance attached to student centred skills, as perceived by participants in the study, may be viewed differently in the perceptions of administrations or others in these colleges. However, the high significance of these skills could be considered as the indication of a need of additional PDPs to improve teaching quality.

The high rating perceived needs of ‘student centred’ skills in the study may reflect a lower attention paid by colleges’ administrations to develop these core skills. The high importance attached to ‘student centred’ needs in the study as perceived by academics may not be understood by others, such as the

administration of the CASs. The lower attention paid to developing ‘student centred’ skills (from the academics’ perspective) supports concerns regarding the lack of PD needs identification and the lack of academics’ involvement in PD plans (in the barriers and key facilitators sections). These two issues may explain a failure to develop sufficient focus on the high rating needs of ‘student centred’ skills in the accessible PDPs. The OAC (2008) states, “The HEI should describe and evaluate its policies, resources and processes for ensuring that staff are up to date with the professional and skills-based requirements for their area of responsibility” (p. 30). ‘Student centred’ skills are very important in the context of teaching/learning in HEIs and need to be developed in order to improve teaching quality.

Furthermore, the insufficient focus on the development of ‘student centred’ skills for academics in the CASs is unlikely to fulfil the requirements of the quality system regarding the context of teaching/learning. For example, the quality audit scope includes a description of appropriateness of teaching quality in harmony with the learning environment and student achievement. The description requires academics to realize and practise particular ‘student centred’ skills in order to enhance teaching practices and thus, to meet students’ needs. Kent (2004) believes, “Teachers must be provided with professional development that meets their instructional needs so they may meet the needs of their students” (p. 432). Therefore, the academics in these colleges need extensive PD concerning ‘student centred’ skills to facilitate student learning in order to meet the requirements of the application of the QA approach and related quality audit process.

Because the quality audit scope and QA standards require compliance between teaching quality and student learning, PD requires a consideration and application of this requirement in PDPs offered to academics. For this reason, the development of ‘student centred’ skills need to be included in these programmes in order to help academics practise appropriate teaching methods and strategies within an active learning environment. If academics realize and apply these skills in the learning environment, they are likely to enhance student learning, by encouraging particular skills such as critical thinking and problem-solving skills. Moreover, the realization and application of ‘student centred’ skills is likely to help academics shrink the gap between teaching quality and learning styles in the class and thus, enhance student achievement.

7.1.3 Perceived Barriers and Factors (Potential Facilitators) Relating to PD

It appears, from the discussion of findings, that the high significance of the most important barriers to effective PD is reflected by the high rated factors to enhance PD for academics in the CASs. The issues rated as the five most significant barriers to effective PD in the CASs in relation to the teaching quality improvement are: a lack of systematic plans and procedures in implementing PDPs, unclear PD plan in college’s mission, a lack of identifying academics’ training needs prior to formulating PDPs, inappropriate evaluation processes of PDPs, and shortage of facilities and resources to conduct PDPs. The study also reveals that the five most significant PD enhancing factors focus on reducing academics’ workload to enhance participation in PDPs, including PD goals in college’s mission, providing appropriate facilities and resources for conducting PDPs, connecting PDPs to the academics’ needs, and setting up

directed and realistic plans of PDPs. Because most of the mentioned issues could be viewed as either barriers or potential facilitators to effective PD of academics, each issue will be discussed from both perspectives (as both barrier and facilitator) regarding PD to improve teaching quality in the CASs.

1. Linking PD policy and Goals to College Missions

The current perceptions of PD for academics in the colleges stress a lack of a clear PD policy in a college's mission. It could be either that the mission of the colleges does not include a PD policy and/or the CASs have not introduced the policy to the academics. These two possible conditions reflect the low attention paid to declaring and/or linking the PD policy and goals to the colleges' mission. The low concentration on the PD policy may result in inappropriate procedures in the preparation and implementation of PDPs with respect to the teaching quality improvement. Therefore, these programmes are unlikely to encourage academics in these colleges to participate effectively in order to take advantage of PD, respecting the improvement of their knowledge and practice in teaching quality. The fulfilment of the application of a QA framework and a quality audit scope, regarding PD for academics and the improvement of teaching quality, would also negatively influenced by the lack for a clear policy of PD in these colleges.

The respondents considered the integration of PD goals and policy in college's mission as a very important factor to enhance their PD. The absence of a clear policy of PD may reflect ambiguity about the responsibility for dealing with all issues related to PD of academics in the CASs. The responsibility for setting a

PD policy and goals to be linked to college's mission need to be determined and assigned between the MoHE, the Directorate General of the Colleges of Applied Sciences, and the CASs. By identifying and linking the PD policy and goals to a college's mission, procedures for planning and conducting PDPs may be managed more effectively in order to achieve the goals of PD regarding the improvement of teaching quality. Not only that, a declaration of a PD policy to administrations and academics could provide an opportunity for both groups to take part in and contribute to the success of teaching quality programmes. As a result, the CASs are more likely to meet the requirements of the application of a QA framework and a quality audit process in the areas of PD and related teaching quality improvement.

2. Planning for PD of Academics

It could be argued that PD of academics relating to the improvement of teaching quality in the colleges lacks a clear plan and preparation. This deficiency may not correspond to the MoHE's endeavor towards the development of the colleges. The lack of clear and systematic plans for PD is unlikely to serve the fulfilment of the CASs' objectives relating to the implementation of new and appropriate teaching methods and a constant modernization of teaching courses. These objectives require a clear and systematic plan concerning PD for academics with respect to the teaching quality improvement. Without clear plans, PD could not be able to deal with real training needs and put required emphasis on teaching quality improvement in the PDP offered to academics. As a result, academics may be handicapped in their ability to update teaching practices and innovate new teaching methods. Thus the colleges could not fully

meet their objectives regarding the improvement of teaching quality and accomplishment of student learning in order to fulfil the application of a QA approach.

To facilitate PD for academics in the CASs, well developed PD plans are required, concerning teaching quality improvement. These plans could involve any aspect with respect to PD for academics such as purposes, TNA of academics, contents, types of activities, periods of implementation, administrative support, financial resources, supervision procedures, and evaluation processes. By taking into consideration those aspects in planning, PD is likely to allow academics take advantage of PDPs, concerning the improvement of teaching quality in the colleges. The issue of planning, involving PD of academics, is stressed by a quality audit scope distributed to Omani HEIs. The scope states in this regard, “How does the HEI know that its planning processes are appropriately effective and constructive” (OAC, 2008, p. 18). The statement emphasises the importance of planning processes for every feature in a HEI, including PD for academics with regard to the improvement of teaching quality. For this reason, the administration in the CASs are required to deal with the PD planning by setting realistic plans and systematic implementation procedures for PDPs to encourage academics’ participation in order to improve teaching quality.

3. Identification and Connection of Academics’ Training Needs to PD

The failure to accurately identify academics’ training needs before the conduct of PDPs may explain a misconnection between the content of these programmes

and the PD required for academics in the colleges. The mismatch between PDPs content and actual needs is unlikely to encourage academics to participate effectively and hence, may not allow them to develop their academic skills and improve the quality of teaching. Thus the application of QA and quality audit approaches in the CASs would not be achieved in the areas of PD and teaching quality improvement. The OAC (2008) points out that PD for staff in a self study (the first part of a quality audit process) could include certain analyses, such as ‘aggregated training needs analyses’ and ‘individual training needs analysis’. If academics’ PD training needs had not been identified prior to planning and implementation of PDPs, how could these programmes be properly directed to achieve the improvement of teaching quality?

Therefore, participants perceived the issue of the connection between their PD needs and PDPs as a very important factor to enhance PD for academics in the CASs. The necessity for this factor reflects the high importance attached to the barrier of failing to identify academics’ training needs prior to formulating PDPs. The identification of training needs is likely to help PD focuses on academics’ real needs in the objectives, contents, and activities of PDPs. The identification could also enhance academics’ participation as these programmes are realistic in dealing with and developing real training needs of academics to improve teaching quality. The helpful focus on identifying PD needs could contribute to the achievement of PD goals, concerning the teaching quality improvement in the CASs. As a consequence, the application of a QA approach in the CASs to improve PD and teaching quality (respecting academics’ PD

needs) would be fulfilled by setting a convincing quality audit portfolio (as a first stage in the application).

4. Allocation of Appropriate Facilities and Resources for PD

It appears from the perceptions of participants that the allocation of appropriate facilities and resources to conduct PD activities is considered to be a very important barrier to effective PD of academics in the CASs. The lack of PD plans may explain the neglect of allocation of these important elements prior to the implementation of PD activities. PDPs and associated activities would not be able to be implemented and fulfilled without appropriate facilities and resources. In addition, academics' participation in PD would not be encouraged if these programmes lack necessary facilities and resources. Therefore, PD for academics respecting the improvement of teaching quality could not meet the requirements of a QA framework adopted by the CASs.

The factor of allocating appropriate facilities and resources for the conduct of PDPs was perceived by respondents as a critical issue since the availability of these services is necessary to facilitate the implementation of these programmes. The allocation of facilities and resources to promote PD implementation is undoubtedly consistent with the application of QA in the colleges, requiring the assurance of all aspects of HE services. Further, the allocation of these basic services is likely to support the college's effort to enhance PD for academics and thus, to achieve the goals of a quality audit process. The OAC (2008) states, in a quality audit scope in the section (Facilities Management), "The HEI should describe and evaluate the full range of its general facilities and services" (p. 31).

Facilities management, thus, need to allocate appropriate facilities, resources, and other support services to conduct PD activities in order to achieve the goals of the teaching quality improvement.

5. Workload Issues and Academics' Participation in PD

The most important factor to enhance PD of academics, as perceived by participants, is concerned with a crucial issue in HEIs: academics' workload and participation in PDPs. Respondents to the survey stress the necessity for a reduction of workload to encourage their participation in these programmes. The potential workload in the CASs could include teaching, research, academic advising, participation in particular committees and conferences, and contribution to society. The low level of academics' participation in PDPs due to their workload could not enable academics in the colleges to take advantage of PD, respecting the improvement of teaching quality. Thus, academics would not be encouraged to improve teaching quality and college administration may not be helped to fulfil the requirements of a QA framework and a related quality audit process applied in these colleges.

The focus on a reduction of academics' workload to promote their participation in PDPs requires more attention paid by college administration in the CASs. This attention should underpin the issue of planning for PD, including the examination of current academic workloads to take into consideration a reduction of a heavy workload. In this regard, the tension between teaching and research (as critical roles of academics) needs to be balanced in order to support participation in PD. A reduced or balanced workload is likely to allow

academics find adequate time to participate effectively in PDPs. Thus, the enhancement of participation could help academics in the CASs to take advantage of PD, respecting the improvement of teaching quality. The improvement of teaching quality is likely to support the application of QA and quality audit in terms of the influence of PD on teaching quality.

6. Appropriate Evaluation Processes of PD

The significance of not carrying out appropriate evaluation processes of PDPs emphasizes the need for preparing appropriate plans for the conduct of PD. Because these programmes lack a clear plan, they possibly also lack suitable evaluation processes which should be initially specified in the plan for any activity. Inappropriate evaluation processes for PD may interrupt the achievement of the objectives of PD for academics in the CASs. A deficiency in evaluating these programmes appropriately would not serve the colleges to identify potential drawbacks and obstacles that have appeared in the implementation in order to prepare more helpful PD activities in the future. The lack of appropriate evaluation could not help these colleges to set up a successful quality audit portfolio and fulfil the requirements of QA, particularly in the areas of PD and teaching quality.

The QA framework (represented in a quality audit scope, as the first stage) focuses on the use of appropriate evaluation processes for PD. The OAC (2008) states in the section of (Professional Development) in a quality audit scope, “The HEI should describe and evaluate its policies, resources, and processes for ensuring that staff are up to date with the professional and skills-based

requirements for their area of responsibility” (p. 30). As indicated in the statement, evaluation of PD should involve all related features (policies, resources, and processes) in order to prepare and conduct productive programmes, respecting the improvement of teaching quality. By taking into consideration the implementation of appropriate evaluation processes for PD, academics are likely to benefit from improved PDPs offered regarding the enhancement of teaching practices and professional skills. Moreover, the CASs could benefit from these programmes by preparing a suitable environment for a quality audit process in order to achieve the objectives of the application of a QA framework.

To sum up, PD for academics with respect to the improvement of teaching quality in the CASs is currently below expectations (as perceived by participants). For example, academics’ participation in PDPs offered in the colleges in the last two years is unsatisfactorily low. The low level of participation is unlikely allow academics to develop their teaching practices and professional skills in order to improve teaching quality. In addition, PD needs of academics in the CASs are required as perceived by participants to improve teaching quality, focusing more on ‘student centred’ skills. Available PDPs in these colleges may not be guided by a TNA of academics because of a lack of a clear PD policy and systematic PD plans. Regarding barriers and potential facilitators to enhance PD of academics, the most important barriers and potential facilitators focus on the same issues such as planning, workload, PD needs analysis, and allocation of facilities and resources. The current perceptions of PD for academics in the CASs create particular implications at

different levels in order to be applied in the light of the requirements of a QA framework and a quality audit process. The following section outlines particular implications for policy and practice at the level of government, the CASs, and academics to enhance PD for academics, with respect to the improvement of teaching quality.

7.2 Implications for Policy and Practice

In the previous section, particular conclusions were drawn from the findings of the study. These conclusions raise some issues relating to PD for academics regarding the improvement of teaching quality in the CASs. The issues raised focus on the key themes provided in the study: academics' participation in PDPs and current perceptions of PD, PD needs of academics, barriers to effective PD for academics, and factors to enhance PD of academics in the colleges. The relevant issues will be discussed and analyzed in order to identify implications for current and future policy and practice concerning the context of PD and teaching quality at HEIs in Oman. These implications are grouped in three major areas: implications for policy and practice at governmental/MoHE level, implications for policy and practice at institutional/CASs level, and implications for practice at individual/academics level. The following section presents a number of implications for policy at the governmental/MoHE level.

7.2.1 Implications for Policy and Practice at the Governmental/MoHE Level

1. Defining PD Philosophy in the Light of a National Vision and Global Changes

It is important for PD to be defined in a clear philosophy at a governmental level. The philosophy should highlight a definition, nature, and role of PD in the Omani HE sector. As the concept of PD has been developed to meet the challenges of global changes and educational innovations, it is critical then to set a clear philosophy for PD. The philosophy needs to be guided by a national vision regarding the role of PD consistent with the requirements of economic and social developments in the Sultanate of Oman. The definition and purposes of PD stated in the philosophy should take into consideration global changes and educational innovations. These changes and innovations should be utilised to serve and develop the evolving role of PD. Without a clear definition and underlying philosophy and nature of PD in the Omani HE sector, the aim of PD for academics to improve teaching quality could not be achieved. After setting a clear philosophy for PD in HE, it is very important to set and integrate PD policy and goals in a national plan.

2. Setting and Integrating PD Policy and Goals in National Plans

The issue of incorporating PD policy goals in the long-term and short-term national plans is considered as a fundamental requirement, particularly in a changeable social and economic context. The national plan involves particular priorities in various sectors based on their importance and role in a comprehensive development. The changeable context could force the

government to prioritise development requirements of particular sectors, including HE and related issues such as PD. The integration of PD policy and goals in the national plans indicates the high priority placed on PD by the government, regarding a nationally comprehensive development. This integration also reflects the government aim to manage and enhance the role of PD in HRD. The priority given to PD by the Government could encourage HEIs to set and integrate a PD policy in their missions. As a result, a PD plan and goals would be maintained and improved by the government's administrative and financial support from one point, and by current and future plans in HEI from another point.

3. Establishing a National Authority/Council for PD

The government's attention paid to PD goals requires the establishment of a national authority/council for PD issues in the HE sector. The authority should be regarded as a governmental responsibility for managing any issues associated to PD in HE at a national level. These issues could involve a review of a national PD vision and goals, a review and evaluation of the institutional PD policy, a contribution to the institutional PD plans, a supervision of the institutional PD activities, and cooperation with institutional PD units and international agencies and networks for PD. The national authority is likely to help the government achieves the goals and enhance the role of PD in the HE sector according to a national vision and aspirations. PD, thus, is likely to prepare an appropriate environment in order to serve academic staff in HEIs consistent with the government's intention and effort. The improvement of teaching quality could also be fulfilled taking into consideration the

government' need for enhancing the quality of HE services in the light of quality approaches.

4. Setting up National Criteria and Standards for PD Quality

To ensure the quality of PD in Omani HE, it is important to form relevant national criteria and standards. The national criteria should focus on every aspect and element involved in PD. These aspects and elements could represent policy, goals, services allocation, activities, planning, implementation, and evaluation. The criteria could support the government' effort and attention paid to enhancing the quality of PD according to pre-specified national standards. The criteria and standards could also help HEIs to manage and improve the quality of PD in the light of the government' policy. Therefore, potential barriers and failures affecting the quality of PD in HE are likely to be prevented. With respect to the quality of PD in HE, the national authority for PD is required to cooperate with the OAC in the Sultanate (as a national authority for academic accreditation of HEIs). The cooperation is likely to serve the enhancement of the quality of PD in Omani HE by looking into the related quality audit portfolio written by a HEI and reviewed by the OAC in order to fulfil the application of QA.

5. Organising a Periodically International Conference for PD

The PD concept has been progressed continuously according to the requirements of social and economic developments and educational innovations. To follow the progression in the context of PD, it is important for the Sultanate to set up a particular agenda for organising international conferences, concerning PD and

related issues. An international PD conference is likely to help those concerned with PD present their experiences and studies locally and internationally. The conference will be regarded as a widely based scientific meeting for exchanging local and global knowledge and practices relating to PD issues. The Omani HEIs (such as the CASs) could have the opportunity to take advantage of the findings and recommendations of different studies discussed in the conference in order to promote PD and related issues. In addition, academics could benefit from their participation and contribution to the conference by expanding their knowledge and advancing their practice in the areas of PD and teaching quality. As a result, the improvement of teaching quality is likely to be promoted through appropriately innovative PD in the colleges in order to fulfil the application of QA and quality audit.

6. Establishing a National Periodical/Journal for PD

Because PD is considered as a critical national task, it is important to document related issues and encourage research focusing on PD practice. The periodical/journal should contain the government's PD policy, local PD schemes, institutional PD plans and activities, achievements and innovations of PD, international experiences in PD, and current studies in PD. By setting up a national periodical for PD, it is more likely for the government to encourage continuing discussion of current and future issues of PD in the HE sector (at national, institutional, and individual levels). The periodical could also help the government to manage and evaluate PD efforts at different levels in the country and to investigate and follow PD innovations locally and globally. HEIs in the Sultanate should benefit from the national journal by realising and recognising

the government's effort towards PD in order to improve the quality of PD and related purposes, such as the improvement of teaching quality. Moreover, HEIs (including the CASs) will investigate innovations and studies in PD in an attempt to prepare appropriate PDPs for academics, respecting the improvement of teaching quality, in order to meet the requirements of QA application.

7.2.2 Implications for Policy and Practice at the Institutional/CASs Level

1. Defining an Institutional PD Philosophy Based on a National PD Philosophy

A philosophy of PD, including a definition and objectives of PD, should be described at the institutional level. It is important to use the definition and objectives of PD stated in the government's vision as guidance for the development of an institutional PD philosophy. The institutional PD philosophy should be critically identified as a first stage in the formulation of a clear PD policy in the CASs. The identification of a PD definition and goals, based on the government's vision, is likely to set a concrete basis for PD for academics in the colleges. Moreover, the identification could help college administrations to address all issues associated with PD for academics in order to promote the PD role in the area of teaching quality improvement. As a result, a clear and strong emphasis is likely to be put on a PD progression to serve academic staff in the context of teaching/learning in order to ensure the quality of PD and teaching quality improvement.

2. Setting up a Clear PD Policy Derived from a National PD Policy

A clear PD policy in the CASs should be derived from a national PD policy. Without a clear policy for PD at the institutional level, the administration in these colleges is unlikely to fulfil the aim of PD for academics, respecting the improvement of teaching quality. The PD policy in the CASs should involve any issues related to the context for PD in academic work in HE. The issues involved in the institutional PD policy could involve clarity of PD responsibility, stated institutional PD goals, planning of PD, analysis of academics' training needs, reduction of academics' workload, management of PD activities, and evaluation processes for PD. The institutional PD unit in these colleges is required to cooperate with the national PD authority to review and modify the PD policy consistent with the government's plans.

3. Integrating a Policy and Goals for PD in a College's Mission

To activate a formal PD policy in HE, it is essential for it to be integrated in a college's mission. The mission including a PD policy and goals should be exposed to all who work in the academic context in HEIs. The integration of the PD policy with goals in a college' mission is likely to influence administrations and those responsible for PD in the CASs to put more attention on PD for academics, concerning the improvement of teaching quality. The integration could also encourage academics to value the role of the PD in the enrichment of their knowledge and practice in the academic work. Further, the academics are likely to be encouraged to take part more effectively and thus, to take advantage of PD plans and activities regarding the improvement of teaching quality. As a

result, the purposes of PD with regard to the improvement of teaching quality, as required by the QA application, would be fulfilled in the CASs.

4. Stating a Clear Commitment to PD in College's PD Policy

Great attention should be paid to considering and declaring a clear commitment to PD for academics in a college's PD policy. A commitment to PD supports efforts made by a PD unit to promote PD and to take into consideration the fulfilment of the goals of PD using scientific methods and processes. The commitment is likely to help college administrations draw appropriate strategies and prepare systematic plans concerning PD for academics. The commitment could also demonstrate for academics the value placed on PD and hence, will foster trust in the role of PD in enhancing their professional skills and teaching practices. The effort made by administrations and academics (along with a commitment to PD) would serve and promote the improvement of teaching quality in the light of the requirements of the QA application.

5. Establishing an Institutional Centre/Unit for PD

The current perceptions of PD in the CASs indicate a lack of particular procedures prior to the conduct of PD such as setting systematic PD plans, identifying academics' training needs, academics' involvement in PD plans, and emphasis on teaching quality improvement. The lack of these arrangements may reflect the absence of an official body within the college concerning the role of PD. The establishment of a PD centre is likely to enhance the effectiveness of PD in the CASs by paying attention to PD issues and cooperating with a national PD authority. The centre could set a database for PD in the college in

order to set appropriate plans and implementation for PDPs. The database could contain the number of academics, academics' workload, academics' PD needs, allocation of facilities and resources, information about previous programmes, and findings of academics performance appraisal. Therefore, the efforts made by the centre (based on PD database) could improve teaching quality in the colleges by planned and systematic PDPs.

6. Encouraging Academics' Participation in PD by Reducing their Workload

The respondents perceived a reduction of workload as a very important factor to enhance their participation in PD. It seems that a heavy workload decreases the motivation to participate in PDPs and thus, PD for academics may not best serve the improvement of teaching quality in the CASs. As discussed in reference to an institutional PD policy, workload issues should be addressed and integrated in the policy in order not to be a barrier to effective participation in PDPs. The institutional PD unit should pay more attention to dealing with and reducing academics' workload to encourage their participation in these programmes in order to improve teaching quality. The better management of workload (such as teaching, research, academic advising, membership of scientific committees, participation in meetings, and contribution to conferences) could provide academics more opportunity to participate effectively in these programmes. Academics who feel less pressured by their workload may be more likely to attend PDPs and hence, to take advantage of PD with respect to teaching quality improvement.

7. Using Appropriate Evaluation Processes of PD

One of the most important barriers to effective PD, as participants perceived, is the use of inappropriate evaluation processes for PD. It could be argued that the current evaluation processes for PDPs in the colleges are no more than assessment of participants' satisfaction with the services provided in PD activities. The current evaluation procedures may focus on measuring the appropriateness at the time of implementation, organisation of activities schedule, length of programme, and attendance issues. For this reason, the administration of colleges (represented in a PD unit) is required to take into consideration the preparation and implementation of appropriate evaluation processes for PDPs. Before that step, it is essential to set and integrate a clear evaluation map in the institutional PD policy. The evaluation plan for PDPs needs to involve the assessment of their benefits and weaknesses based on the stated purposes. It is also important for the evaluation plan to examine participants' feedback regarding the conduct of PDPs with respect to the goals, content, facilities and resources, necessary PD needs, appropriateness of time, and other potential barriers and key facilitators. The use of appropriate evaluation processes is likely to help administrations and academics achieve the goals and take advantage of PD with respect to the improvement of teaching quality.

8. Allocating Appropriate Facilities and Resources for PD

The study noted that a shortage of facilities and resources to conduct PDPs is regarded as a significant barrier to effective PD in the CASs. The administration

of the colleges (represented in a PD unit) is required to focus more on allocating these critical requirements in order to prepare an encouraging environment for PD. For example, it is important for college administrations to provide suitable spaces with supplied with up to date equipment of ICT to facilitate the conduct of PD activities. It is also essential to rely on specialists and experts in HRD and PD to lead PDPs and train academics, respecting teaching quality improvement. The provision of these facilities and resources requires good control and support during the conduct of PD activities in order to take advantage of PD. The allocation and supervision of facilities and resources for PD may encourage academics (trainees) to participate and may help PD experts (trainers) to provide productive PD activities and courses.

9. Analysing and Connecting Academics' Training Needs to PD

The study found there is a failure to fully identify academics' training needs prior to the design of PDPs. This failure could not encourage academics' participation in PDPs and thus, is unlikely to fulfil the purpose of PD to improve teaching quality. An analysis of academics' training needs regarding teaching quality improvement should be carried out by the PD unit in the CASs to prepare associated PD activities. The institutional PD policy, as mentioned above, should focus initially on the issue of TNA to take into consideration these real needs in a PD plan. A TNA should use scientific methods and techniques (such as surveys, interviews, observations, peer review, and performance appraisal) in order to gather valid and reliable data on real PD needs. To achieve the PD objectives regarding the improvement of teaching

quality, the content and activities provided within PDPs need to be significantly connected to the academics' perceived and actual training needs.

10. Focusing on 'Student Centred' Skills in PD

The academics in the study perceived 'student centred' skills, such as critical thinking and problem-solving skills, as very important PD needs to improve teaching quality in the colleges. The participants require relevant training in practising those skills in order to enhance their teaching and associate their teaching methods to learning styles. The problem of not focusing on 'student centred' skills in PD could reflect, to a large extent, the absence of TNA in current practice resulting in a misconnection between academics' training needs and PD content. Therefore, the colleges' administration (represented in a PD unit) is required to undertake the analysis of academics' training needs prior to PD to ensure the real needs are reflected in PDPs. The highly rated training needs, as perceived by participants, involve: practice of 'student centred' skills, use of IT to support teaching/learning, an adoption of a 'lifelong learning' concept, a connection between course materials and the local environment of students, and the identification of students' needs. By analysing training needs to focus on particular required needs in PD, academics are likely to develop their professional skills in order to improve and match teaching quality to student learning.

7.2.3 Implications for Practice at the Individual/Academics Level

1. Putting More Emphasis on a PD Demand to Improve Academic Work

It is necessary for academics to stress the need for PD for a development of academic work, leading to the improvement of teaching quality. The need for PD is emphasised, particularly in the context of accelerating changes in HE and advanced educational innovations. Academics would not be able, by themselves, to pursue and practise all academic innovations in the context of HE academic work. To develop academic work by taking advantage of these changes and innovations, it is essential for academics to value a need for PD in order to improve their professional skills. The academics' attitudes towards PD is likely to help administrations in the CASs put more emphasis on preparing more accessible PDPs, focusing on the improvement of teaching quality. By stressing a need for PD, academics could also be encouraged to request and take part PD in order to ensure the quality of teaching quality and to support student learning.

2. Believing In and Trusting the Role of PD in Improving Academic Work

Another important issue for PD status for academics in HE is trust in the PD role in the development of academic work. Believing in and trusting the PD role could be considered as a psychological motivation for academics to put emphasis on PD in order to improve academic work, including teaching quality. Once academics trust the role of PD, they are more likely to contribute to PD plans and to participate in PD activities. In this regard, the administration should involve academics in the planning process for PD in order to raise the impact of PD in academics' work life. The improvement of teaching quality in the colleges

may be fulfilled through trusted PD in order to meet the requirements of QA and a related quality audit process.

3. Cooperating with Administration Regarding Planning and Execution of PD

Because PD focuses on the development of academics' knowledge skills, it is necessary for academics to cooperate with the administration in setting realistic plans and appropriate implementation of PDPs. The cooperation provides academics a good opportunity to ensure their real PD needs are reflected in PD plans and to manage their workload in order to raise their participation. The cooperation should enable academics to take part in the design of PDPs, based on their needs, and to select appropriate periods/times to conduct these programmes. By this cooperation, the administration should be able to set realistic and valid plans and deal with particular weaknesses that may have emerged in previous PDPs. Academics should also assist administration in the implementation of these programmes by following the stated discipline and directions, cooperating with trainers, and providing their feedback in order to achieve the objectives of PD.

4. Assisting Administration in Identification of Real PD Needs

Administration of colleges should identify academics' training needs prior to PD. Consistent with the administration's endeavour in undertaking effective TNA, academics should declare their valid and real needs without any uneasiness. The declaration of these needs is likely to help a PD unit in the CASs sets realistic plans for PD taking into consideration actual requirements to

improve teaching quality. The declaration could also support the administration's effort with regard to PD evaluation as these real needs reflect the effectiveness of previous PDPs. As a result, the improvement of teaching quality in the CASs is likely to be promoted in harmony with real training needs addressed by the academics themselves.

5. Committing to Participate and Take Part in PD

The survey results illustrated that academics' participation in PDPs in the last two years has been too low. Therefore, academics should be motivated to participate in these programmes in order to take advantage of PD activities. The participation of academics should go beyond attendance to include involvement into planning and design for PD and contribution of their comments and enquiries during the conduct of PDPs. The academics should also provide their feedback and suggestions after the end of these programmes. This feedback and suggestions help the administration in evaluating the effectiveness of PD against stated objectives. As a result, academics are more likely to help administration and themselves fulfil the goals of PD with respect to the teaching quality improvement.

6. Increasing a Use of Self-Directed PD to Improve Teaching Quality

One of the important means to develop academic work, including teaching quality improvement, is the use of self-directed PD. Academics in the CASs are encouraged to enhance their use of this type of PD in order to improve teaching quality. The methods of self-directed PD could involve reading, doing research, colleague interactions, navigating the Internet, and participating in local and

international conferences. By engaging in these activities, academics are able to follow up-to-date theories and practices in teaching methods and professional skills. This will help academics to apply these theories and practices in their academic work and thus, to improve teaching quality. The use of self-directed PD will complement the effort of formal PD offered by the colleges with regard to teaching quality improvement.

To conclude, it could be said that the three groups of implications are very important to enhance PD for academics with regard to teaching quality improvement not only in the CASs but in different HEIs in Oman. The first implications for policy and practice at governmental level are to help policy and decision makers to draw a clear and effective national philosophy and policy for PD consistent with a national vision. The national policy of PD should be integrated in a comprehensive national plan to be considered as formal guidance for institutional PD policy in the CASs. At the CASs level, the implications assist the policy and practice regarding institutional PD by defining a PD policy, based on a national policy, and integrating a clear policy in a college's mission. A clear PD policy in the colleges helps administrations to set systematic plans and appropriate procedures for the implementation of PDPs related to teaching quality improvement. The third group of implications, concerned with the individual level, encourage academics to contribute to PD plans by articulating their real PD needs and the need for better workload management. The implications also promote cooperation with administrations in following a PD discipline and participating effectively in different steps of PD in order to take advantage of PD activities.

Chapter Summary

The chapter drew conclusions from the findings related to the main key themes in the current study. The conclusions highlighted particular issues concerning a participation in PDPs, PD needs of academics, barriers to effective PD, and factors to enhance PD of academics in the CASs. The important issues in the key themes were concluded with some discussion in order to be connected to the real situation of PD in these colleges. The chapter also connected concluding issues to previous studies referred to in the literature to address a number of implications for current and future policy and practice for Omani HE at three levels: governmental, institutional, individual. These implications were presented as relevant propositions and recommendations by indicating a connection between particular thematic issues at the three levels. The issues involved in implications deal with a preparation of a suitable environment to improve academic work (including teaching quality) in the CASs, in particular, and different types of HEIs in Oman, in general. The next chapter will summarise particular accomplishments of the current study, contributions to knowledge, and directions for further research.

Chapter Eight

Achievements, Contributions, and Directions for Further Research

Introduction

In the previous chapter, conclusions were drawn from findings of the study. Particular implications for policy and practice were also addressed in order to deal with issues raised in those conclusions. The current chapter concludes the study by focusing on the significance of the work done by the identification of achievements, contributions, and directions for further research in each of the main themes discussed in the study. First, the chapter identifies particular achievements of the study regarding the fulfilment of the related research questions. This chapter also refers to particular research contributions to knowledge in the areas of PD and teaching quality improvement and current situations of these two areas in the CASs and general HEIs. Finally, the chapter outlines particular potential directions for further research related to the key themes of this study. These directions focus on how future research can augment the findings of the study and examine recommended issues and topics raised in the study.

The current study focused on recognizing the implications of the teaching quality improvement for PD for academics in the CASs. The research focus was addressed through seven questions in order to clarify the relevant key themes for PD and teaching quality improvement. These seven research questions focussed

on academics' participation in PDPs and current perceptions of PD, perceived PD needs of academics, barriers to effective PD for academics, and factors to enhance PD for academics. Each main theme in the current study will be dealt with by identifying the achievements of study, research contributions, and directions for further research. The following section identifies these three aspects related to the theme of academics' participation in PD and current perceptions of PD with respect to the improvement of teaching quality in the CASs in the last two years.

8.1 Academics' Participation in PDPs and Current Perceptions of PD

One of the aims of the study was to recognize the current perceptions of PD in the CASs by the identifying the level of academics' participation in existing PDPs with respect to the teaching quality improvement. The study has illustrated an unsatisfactorily low level of participation due to discouragement of academics' involvement and/or limited available programmes. The study indicates insufficient engagement of academics in PD to improve teaching quality in these colleges. The outcomes of the examination of the academics' participation and current perceptions of PD in the colleges are outlined in the following sub-section.

8.1.1 Achievements of Study

It is indicated that the study has revealed an unsatisfactory level of engagement with PD in the colleges as indicated by the low participation of academics in PDPs in the last two years. The low level of academics' participation in these programmes reflects, in part, a heavy workload preventing academics in the

CASs from effective participation (as perceived in section: potential factors to PD). Another potential explanation for the low participation in PDPs to improve teaching quality is the limited number and a low efficacy of these programmes. The limited available PDPs in the colleges may not encourage the respondents to participate effectively owing to particular obstacles, such as the lack of systematic plans and organised implementation of PDPs and the lack of adequate identification of academics' training needs (the first and third significant barriers to effective PD respectively).

Based on the perceptions of participants, the current accessibility of PDP to improve teaching quality in the CASs seems to be low, limiting opportunities for academics to participate. The poor availability of programmes, as perceived by participants, points to a lack of a clear PD policy at national and institutional levels. These programmes, accordingly, lack systematic and realistic plans and appropriate evaluation processes, according to the participants' perceptions. The current study, thus, achieves the aim of investigating academics' participation in PDPs and current perceptions of PD in the CASs in the last two years. The fulfilment of the aim stresses the necessity for the encouragement of academics' participation in PD by increasing the number and quality of available PDPs and before that, putting more focus on the establishment of a clear PD policy and a preparation of systematic plans of PD for academics.

8.1.2 Research Contributions

By examining the extent of academics' participation in PD, the current study contributes to knowledge regarding the fields of PD and teaching quality

improvement in a HE context. The identification of the participation level in PD puts more emphasis and focus on the academics' involvement as a critical and important factor to improve teaching quality. Moreover, the investigation of current perceptions of PD, based on the academics' participation, indicates particular requirements for PD to be set and met in order to prepare an appropriate environment for PD, concerning teaching quality improvement. The current study also contributes to knowledge of PD by focusing on preparation at different stages of PD (planning, implementation, and evaluation) in order to more effectively improve teaching quality. The promotion of academics' participation (as emphasised in the study) is a very important issue in order to achieve the goals of PD with respect to teaching quality improvement. A related issue to the promotion of participation (as stressed in the study) is better management of a heavy workload and a balance between research and teaching, which should be dealt with in the context of PD in order to enhance academics' participation in PD.

Furthermore, the indication of deficient engagement of academics with PD emphasizes an urgent need for the MoHE and the CASs to realise and apply particular directions within a HEI quality audit scope in the areas of PD and teaching quality improvement. This scope would encourage the CASs and all Omani HEIs to ensure that academic staff are professionally developed with up-to-date instructional knowledge and skills. The current study helps policy makers and administrations deal with the problem of the limited participation of academics in PDPs and the unsatisfactory situation with respect to PDPs for the improvement of teaching quality. As revealed in the current study, the problem

could be managed by paying more attention to setting a clear national and institutional PD policy and preparing systematic and real PD plans and appropriate implementation. The fields of QA application and the related quality audit process in HEIs are likely to take advantage of the findings regarding the current and prospective condition for academics' participation in PD in order to improve teaching quality.

8.1.3 Directions for Further Research

The explanations of the low level of participation in PDPs were not the direct focus of the current study and although this issue was not included in the purpose of the study, it could be dealt with in future research. Further research could investigate the extent of participation in PDPs for different purposes in different periods to compare the findings in order to develop a more comprehensive assessment of PD. Suggested explanations for a low level of academic participation in PDPs identified particular obstacles to effective participation in PD. Future research could explore ways to overcome these obstacles in order to raise participation and to enhance the effectiveness of PD for academics. The encouragement of academics' participation in PDPs helps the CASs and Omani HEIs more generally to accomplish their aims in terms of more effective PD and related teaching quality in order to meet the requirements of the application of a quality audit and QA.

The low level of participation in PDPs indication raises a recommendation for further research in order to examine a link between attendance in PDPs and teaching quality improvement in the CASs. By investigating the nature of this

link, an appropriate environment for organising these programmes may be developed by college administrations of the colleges to improve teaching quality. The future research could also examine the influence of involvement in these programmes on the improvement of teaching quality. This influence could be studied by surveying a sample of participants after attending certain PDPs related to teaching quality improvement. These recommended studies can aim to provide answers to some of the issues raised in the current study and hence, to enhance PD and teaching quality in the CASs and general Omani HEIs.

To sum up, it could be said that the current study has fulfilled the expected examination of the extent of academics' participation in PD in the CASs in the last two years. The current study contributes to the knowledge of PD and teaching quality improvement by focusing on the importance of participation and the need for promotion in order to achieve the objectives of PD regarding the improvement of teaching quality. The current study also contributes to the field of the application of QA and the related quality audit regarding academics' participation in PD. Further research can deal with particular issues raised such as the identification of potential obstacles to participation in PDPs. In addition, the link between academics' attendance in PD and the improvement of teaching quality could be considered as an important topic for future research. The following section addresses particular achievements of study, research contributions, and directions for further research with regard to the perceived PD needs of academics in the CASs.

8.2 Perceived PD Needs

The study aimed to identify the perceived PD needs of academics in the colleges with respect to the teaching quality improvement. The identification of these perceived needs revealed that the ‘student centred’ skills are more important to be developed than the ‘teacher centred’ skills. This identification prioritizes the significance of each PD need relating to the teaching quality improvement in the CASs. The study thus, fulfilled the aim of the identification and prioritization of PD needs for academics regarding the improvement of teaching quality, as detailed in the following sub-section.

8.2.1 Achievements of Study

It is shown from the survey results of perceived PD needs that the academics require more focused development of ‘student centred skills’. This suggests that available PDPs, respecting the teaching quality improvement in the CASs do not focus on developing those skills, such as critical thinking skills, problem-solving skills, and a lifelong learning concept. Although the prioritization of PD needs was perceived from only the participants’ perspective, the higher priority attached to the ‘student centred’ focus reflects a lack of effective TNA and limited involvement of academics in PD planning.

It also appears from the finding of the study that the academics in the CASs did consider time management, interactive communication, a preparation for lessons, and use of appropriate teaching method(s) as less important PD needs. The lower priority assigned to these four PD needs may assume good knowledge and practice of these skills or maybe an adequate understanding of

how important they are. By identifying the least important PD skills, the study fulfils the identification and prioritization of perceived PD needs of academics regarding the improvement of teaching quality. The administration of these colleges should take into consideration the importance of effective TNA to identify and connect real PD needs in PD plans and thus, to serve teaching quality improvement. The implementation of effective TNA processes is required to promote the positive impact of PD on teaching quality improvement, especially in the context of a QA application.

8.2.2 Research Contributions

The current study puts emphasis on PD needs of academics as a critical part of PD plans as the identification and prioritization of these needs assists the preparation of realistic PD for academics. Moreover, the study deepens understanding of the importance of the processes of TNA in the promotion of teaching quality improvement in HEIs. Because the survey was conducted in different environments (six colleges in different regions), the findings could be used as an indication for other Omani HEIs, concerning the prioritization of PD needs of academics. The importance of perceived PD needs, as revealed in the study findings, encourages college administrations to focus on the identification and connection of PD needs for academics in the planning and implementation of PDPs.

The quality audit scope, released by the OAC in Omani HEIs, stresses the use of aggregated/individual TNA as a process for evaluating the PD needs of academics in order to prepare appropriate and realistic PD plans. The indication

of a failure to develop ‘student centred’ skills guides college administrations to implement and meet the requirements of a quality audit scope in analysing training needs of academics prior to PD. The study, thus, supports the colleges’ efforts towards the application of a quality audit scope in the areas of PD and the improvement of teaching quality. The contribution could help different Omani HEIs to draw and practice appropriate processes of TNA with the aim of setting realistic PD plans, focusing on real PD needs of academics. Therefore, the application of QA in Omani HEIs may be promoted by the current study by ensuring the quality of PD relating to the improvement of teaching quality.

8.2.3 Directions for Further Research

The possible explanations of the survey results regarding perceived PD needs raise some issues for future research. The resultant strong focus on developing ‘student centred skills’ could support the need for studying the academics’ actual practice of these skills in classroom teaching in HEIs. Further research can examine the extent of real and expected practice of ‘student centred’ skills in a teaching/learning environment. The recognition of these practices can more accurately address and deal with particular weaknesses in these skills in order to improve teaching quality in the CASs.

The current study revealed a low priority for particular PD needs of academics to improve teaching quality in the CASs. The low rated needs (particular teaching skills), as perceived by respondents, suggests an important issue to be studied by future research, focusing on the extent of practice of these skills in the context of teaching/learning. Further research could attempt to assess

whether the low rating of these particular skills is really reflected in the academics' professional work regarding the improvement of teaching quality. Moreover, further research can undertake a particular study, respecting PD needs of academics in different environments (different types of HEIs) to examine the influence of the environment on the prioritization of these needs. Further research can also study teaching skills, using qualitative research methods (such as observation and interviews) to investigate the understanding and practice of these skills in the context of teaching/learning.

To conclude, the prioritization of the PD needs of academics, relating to teaching quality improvement in the CASs was achieved in the current study. The findings of study have revealed high and low rated PD needs to improve teaching quality according to the perceptions of academics in these colleges. By the prioritization of PD needs of academics, the current study contributes to the field of PD, putting more emphasis on the process of TNA as a fundamental stage prior to PD planning. In addition, the study supports the application of QA and a related quality audit processes in HEIs including the CASs) by focusing on the improvement of PD to improve teaching quality. Further research could study the real and expected practice of teaching skills to investigate the extent of academics' understanding and application of the high and low rated PD skills. Further research can also use, in addition to academics in the CASs, other samples (administrations and students) from different types of HEIs to investigate the prioritization of PD needs and the practice of teaching skills more broadly from different perspectives in different HE environments.

8.3 Perceived Barriers to Effective PD

Another aim of the study focused on the identification of perceived barriers to effective PD for academics in the CASs related to the teaching quality improvement. As revealed in the findings of the study, the high rated barriers focus on particular issues related to PD planning, whereas the low rated barriers refer to the implementation issues. The following section explains the achievement of the purpose of the identification of these barriers in the current study.

8.3.1 Achievements of Study

As stated in the objectives, the study aimed to identify perceived barriers to PD for academics regarding the improvement of teaching quality. The current study has found that PD for academics in the colleges encounter particular important obstacles related to PD planning. The implications for PD for academics in the CASs are investigated by putting more emphasis on dealing with the high rated barriers to improve PD and thus, to improve teaching quality. The significance of barriers related to PD plans could be explained by the lack of a clear PD policy in a college's mission. The explanation indicates the current perceptions of PD in the colleges, which reinforce the need for a clear national and institutional policy to facilitate the improvement of teaching quality, particularly through the application of a QA framework.

Furthermore, the high significance of the barriers relating to PD plans is consistent with the most significant factors for enhancing PD for academics. The similarity between the issues represented as either barriers or potential

facilitators relating to PD of academics indicates consistency in the participants' perceptions and accordingly, provides some validation of the identification of barriers to effective PD of academics in these colleges.

8.3.2 Research Contributions

Through the identification of particular barriers to effective PD and the analysis of potential reasons for these barriers, the field of PD can be more fully understood in order to deal with related problematic issues in the context of PD in a HE sector. Moreover, PD for academics, considered as a part of the HE context, could be influenced by some problems raised in other parts in the same context. For this reason, an appropriate context for PD (focusing on the management of barriers) should be established through communication and cooperation with different areas and services in a HEI.

The high significance attached to barriers related to PD policy and plans stress the need for the promotion of a QA application. The current study contributes to the field of QA and the related quality audit process by the focus on setting a clear institutional PD policy and appropriately realistic PD plans. The quality audit scope adopted in the colleges demands administrations in HEIs to ensure the quality of PD, preparing a clear policy and realistic plans for PD to improve teaching quality. By identifying the barriers to PD for academics, particularly in PD planning, HEIs are able to prepare an appropriate context to deal with this potential problem in order to achieve the goals of PD relating to teaching quality improvement.

8.3.3 Directions for Further Research

The high rating of particular barriers, indicating inappropriate preparation and planning for PD in the colleges reflects a lack of clarity regarding the role and responsibility for PD efforts. This barrier stresses the necessity of addressing the important issue of who is responsible for setting up a clear policy, stated goals and systematic plans for PD at national and institutional levels. Therefore, future research can use particular research methods such as historical analysis, textual analysis, and case studies to follow the movement and development of PD in the Sultanate of Oman.

The current study survey covers only academics' perceptions of perceived barriers to effective PD and hence, the administration' perceptions could be examined in further research and compared with faculty perceptions. The comparison can address the importance of these barriers from two perspectives and benefit the enhancement of PD related to the teaching quality improvement. Moreover, further research can also identify the barriers to effective PD in some private HEIs and compare the results with findings of the current study which is conducted in the CASs, as a public HEI in Oman. The current perceptions of the relationship between the application of a quality audit process and barriers to PD in the CASs could be considered as a very important issue to be studied in the further research. Such a study could identify the nature of the connection and the impact of each element on the other one in order to improve PD for academics and thus, to fulfil the objectives of the QA application in Omani HEIs.

8.4 Perceived Factors to Enhance PD

The identification of perceived factors to enhance PD of academics in the CASs was considered as one of the central aims of the current study. All 10 factors covered in the survey were perceived by participants as very important issues to enhance PD of academics with respect to the teaching quality improvement in these colleges. The following section explains how the study achieves the identification of potential facilitators for PD for academics, relating to teaching quality improvement in the CASs.

8.4.1 Achievements of Study

The most highly rated factors focus on coping with the most significant perceived barriers to effective PD for academics in the CASs. In other words, the highest facilitators for PD for academics reflect some issues indicated by the highest barriers (workload issues, PD policy and plans, TNA processes, and facilities allocation). The findings of study regarding key facilitators for PD for academics stress what has been revealed in the barriers section (particular weaknesses in PD policy and plans).

The fulfilment of the identification of important factors to enhance PD for academics emphasises the need for more emphasis on the advancement of PD to improve teaching quality in the CASs. For example, the issues of a heavy workload of academics and PD policy and plans should be dealt with in order to increase the effectiveness of PD related to the improvement of teaching quality in these colleges. The identification of the high rated facilitators relating to PD reflects the current perceptions of the PD effort in the colleges, requiring more

attention, especially in the context of QA application. The application puts a pressure on Omani HEIs to ensure the quality of PD and teaching quality in order to meet particular national standards. The contribution of the current study to the field of a QA application and knowledge of PD will be clarified in the following section.

8.4.2 Research Contributions

The identification of particular facilitators relating to PD for academics in the current study is regarded as a contribution to knowledge of PD and teaching quality improvement in the context of HE. The important factors to enhance PD for academics deepen our understanding of the context for PD, involving different parts of a HEI environment. PD of academics, thus, should take into consideration all types of HE services and components in order to prepare comprehensive and systematic PD plans with respect to the improvement of teaching quality. The field of teaching quality will be benefited and developed by these facilitators as they promote the PD efforts to update academics' knowledge and practice with the aim of improving teaching quality.

Furthermore, the current study contributes to the application of a QA framework and a quality audit process in the HE sector. The identification of important facilitators relating to PD for academics supports the aim of a quality promotion in the areas of PD and teaching quality improvement. Administrations of HEIs have chance to discuss and deal with every factor to prepare a helpful environment for PD, benefiting and supporting the improvement of teaching quality. The preparation of a suitable PD context helps academics to participate

more effectively and HEIs to fulfil the objectives of a quality audit process regarding the assurance of PD and teaching quality. Thus, HEIs are able to meet the requirements of QA in order to gain a HEI and programme accreditation certificate.

8.4.3 Directions for Further Research

The importance of particular factors to enhance PD with respect to the improvement of teaching quality in the CASs has been described in this study. Future research could categorize these factors to develop an understanding of the connection and influence of these factors on the enhancement of PD to improve teaching quality.

Further research could deal also with the distinctive results of particular factors(s) according to their importance in the enhancement of PD. For example, the factors of workload management and use of rewards to promote academics' participation in PD (as the highest and least important factors respectively) could be extensively studied in future research. Further research could investigate the reasons behind these issues, their influences on PD for academics, and how HEIs could deal with them to enhance PD relating to teaching quality improvement. The further study could add administrators (as an additional sample) and conduct surveys in particular public and private HEIs in order to focus on these two mentioned factors from different perspectives in different environments.

Chapter Summary

The chapter summarised the current study by dealing with the key main themes from the following three aspects. First, the chapter provided concluding summary of the particular achievements of the current study according to the specified research questions. The chapter also focused on the presentation of particular contributions of the study to the knowledge of PD and teaching quality, from one point, and to the field of the application of QA and a related quality audit process in HEIs. Moreover, the chapter drew some directions for further research to study particular important issues raised by the current study, relating to the areas of PD and teaching quality improvement in HEIs.

It is apparent that the current study fulfilled the chief purpose: the identification of particular implications of the improvement of teaching quality for PD for academics in the CASs in the Sultanate of Oman. The implications have been understood in the identification of the extent of academics' participation in PD, perceived PD needs of academics, perceived barriers to PD, and perceived factors to enhance PD in the colleges. By the fulfilment of its objectives, the current study contributed to the knowledge and understanding of the fields of PD and related teaching quality improvement from one point, and the knowledge and application of QA and quality audit in HEIs. The current study raised particular issues through the conclusions drawn from the discussion of findings and based on a research design of the study. Further research could study these relevant issues in different contexts to serve the purpose of PD and teaching quality in HEIs, adding other types of sample and using other research methods.

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Appendix 1: The Final Draft of Questionnaire

The Survey on the Improvement of Teaching Quality and Professional Development



The University of Waikato

Waikato Management School

Implications of the Improvement of Teaching Quality for Professional Development (PD) of Academics at the Colleges of Applied Sciences (CASs) in the Sultanate of Oman

The researcher greatly appreciates your consent to participate in this study, "*Implications of the Improvement of Teaching Quality for Professional Development of Academics at the Colleges of Applied Sciences (CASs) in the Sultanate of Oman*". The Ministry of Higher Education (MoHE) has adopted the concept of Quality Assurance (QA) in the colleges in order to improve their educational services. The adoption necessitates the improvement of teaching quality and identifying its implications on professional development of academics. This survey is considered as an important part of the current study. The study is a partial fulfilment of the requirements for the degree of PhD in Human Resource Management.

In order to improve teaching quality and enhance the effectiveness of related professional development programmes, there is a need to investigate the connection between these interrelated concepts. This investigation will identify the features of this correlation and can enhance faculty development in order to improve teaching quality. Therefore, your responses to this survey are very important and supportive in collecting relevant data. These responses and data will definitely be anonymous and will be held in strict confidence. The information collected from the questionnaire will not be utilised except for the scientific purposes of this study.

Sincerely,

Mohammed Al Aufi

Mobile No. 99446711

Email: mma10@students.waikato.ac.nz

ouf7m@hotmail.com

Instructions

- Please answer all questions as they relate to your current experience and real work situation. This questionnaire should take no more than 30 minutes to complete.
- Please make sure that your answers will not be connected to your position or promotion. Instead, the real data provided will benefit the development of teaching practices and learning environments at the colleges.
- The questionnaire consists of four sections:
 - * **Section 1**: Contains **five questions** about demographic information.
 - * **Section 2**: Contains **22 items**, with a five-point scale, about ‘professional development needs for academics to improve teaching quality’.
 - * **Section 3**: Contains **14 items**, with a five-point scale, about the ‘barriers to professional development for academics related to the improvement of teaching quality’.
 - * **Section 4**: Contains **10 items**, with a five-point scale, about ‘factors to enhance professional development programmes for the improvement of teaching quality’.
- Please notice that the abbreviation **(PD)** refers to **Professional Development**, while **(PDPs)** refers to **Professional Development Programmes**.
- Your answers and productive cooperation are much appreciated. Thank you in advance for your help and time.

Definition of terms used in the questionnaire:

1. *Teaching Quality*: "includes creating a positive learning climate, selecting appropriate instructional goals and assessment, using the curriculum effectively, and employing varied instructional behaviors that help all students learn at higher level" (Kaplan and Owings, 2001, p. 64).
2. *Professional Development of Academics*: is a systematic and continuous improvement of academics’ knowledge, skills, competencies, beliefs, and attitudes leading to the enhancement of teaching quality and student learning.

Section 1: Demographic Information

Please answer the following questions as required by marking or/and writing the appropriate answer.

1. What is your gender? 1 Male. 2 Female.

2. What is your highest qualification?
 1 PhD. 2 Master. 3 First Degree (Bachelor /Licence).

3. What major or specialization do you teach in the college?
 1 Business. 2 Communication. 3 Design.
 4 English Language. 5 Information Technology (IT).

4. **How many years** have you been teaching in higher education?
Number of years: (.....)

5. **How many teaching quality professional development programmes (PDPs)** have you attended in the current college in the last two years?
Number of PDPs: (.....)

.....

Section 2: Professional Development Needs of Academics to Improve Teaching Quality

Bellow are listed 22 professional development needs to improve teaching quality. Based on your case as an academic, please indicate the extent to which you require an appropriate programme(s) to develop each need. For each item, please use the five-point scale below to mark the column that fits your real response.

- 5= Critical Need:** I have no idea about the subject and I definitely require appropriate PDPs to develop it.

- 4= High Need:** I have little idea about the subject and I require, to a large extent, appropriate PDPs to develop it.

- 3= Moderate Need:** I have some idea about the subject and I reasonably require appropriate PDPs to develop it.

- 2= Low Need:** I have adequate idea about the subject but I require more appropriate PDPs to develop it.

- 1= No need:** I have excellent idea about the subject and I never require any PDPs to develop it.

No.	Professional Development Need	5	4	3	2	1
1	Goal-setting for course materials					
2	Preparation for lessons and subject matters					
3	Use of appropriate teaching method(s)					
4	Matching teaching methods to learning styles of students (surface, deep, strategic)					
5	Connecting course materials to a local environment of students					
6	Continuous development of curriculum					
7	Interactive communication with students					
8	Adopting a 'student-centered' approach					
9	Adopting a 'lifelong learning' strategy					
10	Development of student problem-solving skills					
11	Constitution and management of student teamwork					
12	Time management of class and course					
13	Use of appropriate assessment to evaluate student learning					
14	Use of self professional development (e.g. reading, colleague interactions)					
15	Use of information technologies to support teaching & learning processes					
16	Student involvement at different stages of a learning process					
17	Continuous improvement of teaching & learning during the whole course					
18	Development of student critical thinking skills					
19	Feedback provision to students about their learning progress					
20	Training application in class					

21	Identifying students' needs before and during the course						
22	Realization of innovative teaching methods						
<i>Others (please specify):</i>							

.....

Section 3: Barriers to Professional Development of Academics related to the Improvement of Teaching Quality

Bellow are listed 14 barriers to professional development for the improvement of teaching quality. Considering your experience as an academic, please indicate the extent to which each barrier could encounter those professional development programs. For each item, please use the five-point scale below to mark the column that fits your real response.

5= Very Significant: I consider the barrier to be a very significant obstacle to PD for the improvement of teaching quality.

4= Significant: I consider the barrier to be a significant obstacle to PD for the improvement of teaching quality.

3= Moderate: I consider the barrier, to some extent, to be an obstacle to PD for the improvement of teaching quality.

2= Minimal: I consider the barrier to be a weak obstacle to PD for the improvement of teaching quality.

1= None: I do not consider the barrier to be an obstacle to PD for the improvement of teaching quality.

No.	Barrier to Professional Development	5	4	3	2	1
1	Unclear PD plan for academics in a college's mission					
2	Lack of academics' involvement in PD plans					
3	Lack of emphasis on teaching quality improvement in PDPs					
4	Lack of identifying academics' training needs prior to formulating PDPs					
5	Lack of college administration support					
6	inappropriate evaluation system of PDPs					
7	Lack of academics' participation in PDPs					
8	Absence of feedback taken from academics after participating in PDPs					
9	PDPs are offered in traditional forms (e.g. workshops and seminars)					
10	PDPs present out-of-date pedagogic knowledge					
11	PDPs are conducted in unsuitable times/periods					
12	Shortage of facilities and resources to conduct PDPs					
13	Gap between college's quality audit approach and PDPs					
14	Lack of systematic plans and procedures in implementing PDPs					
<i>Others (please specify):</i>						

.....

Section 4: Factors to enhance Professional Development programmes related to the Improvement of Teaching Quality

Bellow are listed 10 factors to enhance professional development programs for the improvement of teaching quality. According to your experience in higher education teaching, please indicate the extent to which each factor could enhance those professional development programs. For each item, please use the five-point scale below to mark the column that fits your real response.

5= Very Important: I think the factor is extremely a very important to enhance PDPs for the improvement of teaching quality.

4= Important: I think the factor is important to enhance PDPs for the improvement of teaching quality.

3= Undecided: I have no idea if the factor can enhance PDPs for the improvement of teaching quality.

2= Less Important: I think the factor is slightly important to enhance PDPs for the improvement of teaching quality.

1= Not Important: I think the factor is not important to enhance PDPs for the improvement of teaching quality.

No.	Factor to Enhance PDPs to Improve Teaching Quality	5	4	3	2	1
1	Including professional development goals in a college's mission					
2	Setting up directed and realistic plans for PDPs					
3	Connecting PDPs to the academics' needs					
4	Choosing a suitable period/time for PDPs					
5	Varying types and activities of PDPs					
6	Facilitating the conduct of PDPs by administrative and financial support					
7	Providing appropriate facilities and resources for conducting PDPs					

8	Encouraging academics' participation in PDPs by using a reward system						
9	Reducing academics' workload to enhance their participation in PDPs						
10	Implementing supervision and evaluation procedures during and after conducting PDPs						
<p><i>Others (please specify):</i></p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>							



Thank you again for your assistance

Appendix 2: The Demographic Information about Respondents to Trial Questionnaire

Demographic Information about Respondents to Trial Questionnaire

Variable	Group	Frequency	Percentage
<i>Gender</i>	Male	35	87.5
	Female	5	12.5
<i>Qualification</i>	PhD	30	75.0
	Master	9	22.5
	First Degree	1	2.5
<i>Experience</i>	1-4 Years'	8	20.0
	5-8 Years'	4	10.0
	9-12 Years'	12	30.0
	>12 Years'	16	40.0
<i>Specialization</i>	Business	1	2.5
	Communication	7	17.5
	Design	3	7.5
	English	14	35.0
	IT	15	37.5
Full Total		40	100.0

Appendix 3: Request for Authorization

Department of Strategy and Human Resource Management

Waikato Management School

University of Waikato

Private Bag 3105

Hamilton 3240

New Zealand

1st December 2009

The DG of the Colleges of Applied Sciences

Ministry of Higher Education

P.O. Box 82, P.C. 112

Ruwi, Sultanate of Oman

Dear Dr Said bin Hamad Alrubaei,

Authorization Letter: *Implications of the Improvement of Teaching Quality for the Professional Development of Academics in the Colleges of Applied Sciences in Oman*

I am writing to you for your authorization to allow me to conduct my research survey, the identification of the improvement of teaching quality for the professional development of academics in the Colleges of Applied Sciences in: Al-Rustaq, Ibri, Nizwa, Salalah, Sohar, and Sur. I appreciate your approval to inform and enable the Deans of these Colleges to invite their academics to participate in the study and administer my questionnaire in the colleges.

The collected data will be used to write a research report for my Human Resource Management Thesis as a part of Doctor of Philosophy (PhD) from Waikato Management School, New Zealand. This authorization is required by the Waikato Management School Ethics Committee.

This study will survey academics, who teach the majors of English and Applied Sciences in the six colleges, in February 2010. It focuses on identifying the potential implications of the improvement of teaching quality for the professional development of academics. The study will provide relevant recommendations to improve the quality of higher education teaching and professional development of academics. The results of this study will also guide future research and development of Omani higher education, particularly in relation to the Ministry's vision about Quality Assurance and Audit in these colleges.

I promise that confidentiality of data will be guaranteed and privacy of participants will be maintained throughout the survey and study. The collected data will be securely stored, will not be used except for the scientific purpose of this study, and will be destroyed three years from the completion of the study. The participants have their right and chance to withdraw from the study during the conduct of survey.

Your attention would be very much appreciated.

Sincerely,

Mohammed Al Aufi

CC: Dr John Gilbert

PGS Supervisor

AProf Maria Humphries-Kil PGS Chief Supervisor

Deans – The Colleges of Applied Sciences

Appendix 4: Information Sheet for Participants

Information Sheet for Participants

1. Remember that your participation in this survey is voluntary but is very valuable to improve academic work in the colleges.
2. Each participant will be given questionnaire booklets with the envelopes attached for putting the questionnaire in.
3. Complete the questionnaire anonymously; for example, do not sign your name on any of the pages of the questionnaire.
4. Read the instructions for each section and respond to the questions within no more than 35 minutes.
5. If you want to withdraw from completing the questionnaire, you can do so at any stage of the survey by signing the attached withdrawal form.
6. At the end, please seal your questionnaire in the attached envelope and sign on the seal. This is to ensure that no one else reads your responses except the researcher and my supervisor.
7. If you have any questions, please send me an email to **mma10@waikato.ac.nz** or email my supervisors at **mariah@mngt.waikato.ac.nz** or **kgilbert@mngt.waikato.ac.nz**
8. Thank you for accepting to participate in this survey. A copy of the findings of the research will be sent to the Learning Resources Centre in your college in the year 2012.

Your cooperation is immensely appreciated.

Researcher

Mohammed Al Aufi

Appendix 5: Withdrawal Form

Withdrawal Form

If you wish to withdraw in the course of completing the questionnaire, please feel free to do so and sign below.

I wish to withdraw from participating in this questionnaire. I understand that my data will not be used for the study and it will be immediately destroyed.

Name:

Signature:

Date:

Appendix 6: Questions for Semi-structured Interview

Questions for Semi-structured Interview

1. What policies exist on professional development, in the ministry/college?
2. If policies exist, what do they say about professional development, particularly for academics?
3. Who, or what department/unit in the ministry/college has responsibility for PD of academics?
4. Is there any annually plan(s) in the ministry/college regarding the professional development of academics?
5. If plan(s) are available, what is the majority of topics/activities provided in professional development programmes?
6. What has the ministry/college offered in the way of PD over the past two years?
7. What statistics/records have been kept for professional development programmes in the college? That is, how many academics attended, if known?
8. What monitoring/evaluation in the college has taken place of the quality of the professional development offered in each college?

Appendix 7: Questions for Focus Group Discussion

Questions for Focus Group Discussion

1. Why the number of PDPs offered to academics in the college is limited in the last two years?
2. What are the potential reasons beyond a low participation of academics in PDPs in the college in the last two years?
3. Why do you think that the following issues are the most important PD needs to you?
 - Development of student critical thinking and problem-solving skills?
 - Realization of innovative teaching methods.
 - Use of IT to support teaching/learning.
4. Why do you think that the following issues are the least important PD needs to you?
 - Use of self PD.
 - Use of appropriate teaching method(s).
 - Preparation for lessons and subject matters.
 - Interactive communication with students.
 - Time management of class and course.
5. Why do think that the following issues are the most significant barriers to your PD?
 - Lack of systematic plans of PDPs.
 - Unclear PD policy in college's mission.

- Misconnection between PDPs and academics' PD needs.
- Inadequate evaluation system of PDPs.

6. Why do you think that following issues are the lowest rated barriers to your PD?

- Conduct of PDPs in unsuitable time/period.
- Lack of college administration support.
- PDPs present out-of-date pedagogic knowledge.
- PDPs are offered in traditional forms.

7. Why do you think that the following issues are the highest rated factors to enhance your PD:

- Reduction of academics' workload.
- Inclusion of PD policy in college mission.
- Allocation of appropriate facilities and resources to conduct PDPs.
- Connection between academics' PD needs and PDPs.

8. Why do you think that the following issues are the least important factors to enhance your PD?

- Encouragement of academics' participation in PDPs by rewards.
- Implementation of supervision and evaluation for PDPs.
- Variation of PDPs types and activities.

Appendix 8: Percentage Data for the Ratings of PD Needs

Percentages for the Ratings of 22 Items Included in Section 2 (PD Needs)

Need 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	21	14.0	14.2	14.2
	High Need	27	18.0	18.2	32.4
	Moderate Need	31	20.7	20.9	53.4
	Low Need	41	27.3	27.7	81.1
	No Need	28	18.7	18.9	100.0
	Total	148	98.7	100.0	
Missing	System	2	1.3		
Total		150	100.0		

Need 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	24	16.0	16.2	16.2
	High Need	24	16.0	16.2	32.4
	Moderate Need	18	12.0	12.2	44.6
	Low Need	34	22.7	23.0	67.6
	No Need	48	32.0	32.4	100.0
	Total	148	98.7	100.0	
Missing	System	2	1.3		
Total		150	100.0		

Need 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	18	12.0	12.2	12.2
	High Need	23	15.3	15.5	27.7
	Moderate Need	31	20.7	20.9	48.6
	Low Need	45	30.0	30.4	79.1
	No Need	31	20.7	20.9	100.0
	Total	148	98.7	100.0	
Missing	System	2	1.3		
Total		150	100.0		

Need 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	18	12.0	12.1	12.1
	High Need	28	18.7	18.8	30.9
	Moderate Need	48	32.0	32.2	63.1
	Low Need	36	24.0	24.2	87.2
	No Need	19	12.7	12.8	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Need 5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	16	10.7	10.7	10.7
	High Need	37	24.7	24.7	35.3
	Moderate Need	37	24.7	24.7	60.0
	Low Need	38	25.3	25.3	85.3
	No Need	22	14.7	14.7	100.0
	Total	150	100.0	100.0	

Need 6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	15	10.0	10.0	10.0
	High Need	33	22.0	22.0	32.0
	Moderate Need	41	27.3	27.3	59.3
	Low Need	44	29.3	29.3	88.7
	No Need	17	11.3	11.3	100.0
	Total	150	100.0	100.0	

Need 7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	18	12.0	12.0	12.0
	High Need	23	15.3	15.3	27.3
	Moderate Need	33	22.0	22.0	49.3
	Low Need	32	21.3	21.3	70.7
	No Need	44	29.3	29.3	100.0
	Total	150	100.0	100.0	

Need 8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	14	9.3	9.3	9.3
	High Need	29	19.3	19.3	28.7
	Moderate Need	38	25.3	25.3	54.0
	Low Need	44	29.3	29.3	83.3
	No Need	25	16.7	16.7	100.0
	Total	150	100.0	100.0	

Need 9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	11	7.3	7.4	7.4
	High Need	36	24.0	24.2	31.5
	Moderate Need	49	32.7	32.9	64.4
	Low Need	34	22.7	22.8	87.2
	No Need	19	12.7	12.8	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Need 10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	15	10.0	10.1	10.1
	High Need	39	26.0	26.2	36.2
	Moderate Need	37	24.7	24.8	61.1
	Low Need	44	29.3	29.5	90.6
	No Need	14	9.3	9.4	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Need 11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	13	8.7	8.7	8.7
	High Need	33	22.0	22.0	30.7
	Moderate Need	40	26.7	26.7	57.3
	Low Need	40	26.7	26.7	84.0
	No Need	24	16.0	16.0	100.0
	Total	150	100.0	100.0	

Need 12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	14	9.3	9.4	9.4
	High Need	25	16.7	16.8	26.2
	Moderate Need	33	22.0	22.1	48.3
	Low Need	32	21.3	21.5	69.8
	No Need	45	30.0	30.2	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Need 13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	15	10.0	10.1	10.1
	High Need	32	21.3	21.5	31.5
	Moderate Need	36	24.0	24.2	55.7
	Low Need	38	25.3	25.5	81.2
	No Need	28	18.7	18.8	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Need 14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	12	8.0	8.0	8.0
	High Need	26	17.3	17.3	25.3
	Moderate Need	44	29.3	29.3	54.7
	Low Need	43	28.7	28.7	83.3
	No Need	25	16.7	16.7	100.0
	Total	150	100.0	100.0	

Need 15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	22	14.7	14.7	14.7
	High Need	34	22.7	22.7	37.3
	Moderate Need	39	26.0	26.0	63.3
	Low Need	41	27.3	27.3	90.7
	No Need	14	9.3	9.3	100.0
	Total	150	100.0	100.0	

Need 16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	14	9.3	9.3	9.3
	High Need	34	22.7	22.7	32.0
	Moderate Need	40	26.7	26.7	58.7
	Low Need	45	30.0	30.0	88.7
	No Need	17	11.3	11.3	100.0
	Total	150	100.0	100.0	

Need 17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	18	12.0	12.1	12.1
	High Need	26	17.3	17.4	29.5
	Moderate Need	45	30.0	30.2	59.7
	Low Need	40	26.7	26.8	86.6
	No Need	20	13.3	13.4	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Need 18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	27	18.0	18.0	18.0
	High Need	35	23.3	23.3	41.3
	Moderate Need	45	30.0	30.0	71.3
	Low Need	27	18.0	18.0	89.3
	No Need	16	10.7	10.7	100.0
	Total	150	100.0	100.0	

Need 19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	20	13.3	13.3	13.3
	High Need	32	21.3	21.3	34.7
	Moderate Need	37	24.7	24.7	59.3
	Low Need	39	26.0	26.0	85.3
	No Need	22	14.7	14.7	100.0
	Total	150	100.0	100.0	

Need 20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	11	7.3	7.4	7.4
	High Need	35	23.3	23.5	30.9
	Moderate Need	42	28.0	28.2	59.1
	Low Need	40	26.7	26.8	85.9
	No Need	21	14.0	14.1	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Need 21

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	18	12.0	12.0	12.0
	High Need	30	20.0	20.0	32.0
	Moderate Need	49	32.7	32.7	64.7
	Low Need	32	21.3	21.3	86.0
	No Need	21	14.0	14.0	100.0
	Total	150	100.0	100.0	

Need 22

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Need	21	14.0	14.1	14.1
	High Need	31	20.7	20.8	34.9
	Moderate Need	45	30.0	30.2	65.1
	Low Need	42	28.0	28.2	93.3
	No Need	10	6.7	6.7	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Appendix 9: Percentage Data for the Ratings of Barriers to PD

Percentages for ratings of 14 items included in section 3 (Barriers to PD)

Barrier 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	38	25.3	25.3	25.3
	Significant	51	34.0	34.0	59.3
	Moderate	36	24.0	24.0	83.3
	Minimal	17	11.3	11.3	94.7
	None	8	5.3	5.3	100.0
	Total	150	100.0	100.0	

Barrier 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	29	19.3	19.3	19.3
	Significant	47	31.3	31.3	50.7
	Moderate	46	30.7	30.7	81.3
	Minimal	20	13.3	13.3	94.7
	None	8	5.3	5.3	100.0
	Total	150	100.0	100.0	

Barrier 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	27	18.0	18.0	18.0
	Significant	49	32.7	32.7	50.7
	Moderate	45	30.0	30.0	80.7
	Minimal	21	14.0	14.0	94.7
	None	8	5.3	5.3	100.0
	Total	150	100.0	100.0	

Barrier 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	38	25.3	25.5	25.5
	Significant	41	27.3	27.5	53.0
	Moderate	47	31.3	31.5	84.6
	Minimal	19	12.7	12.8	97.3
	None	4	2.7	2.7	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Barrier 5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	46	30.7	30.7	30.7
	Significant	24	16.0	16.0	46.7
	Moderate	37	24.7	24.7	71.3
	Minimal	26	17.3	17.3	88.7
	None	17	11.3	11.3	100.0
	Total	150	100.0	100.0	

Barrier 6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	32	21.3	21.6	21.6
	Significant	48	32.0	32.4	54.1
	Moderate	40	26.7	27.0	81.1
	Minimal	19	12.7	12.8	93.9
	None	9	6.0	6.1	100.0
	Total	148	98.7	100.0	
Missing	System	2	1.3		
Total		150	100.0		

Barrier 7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	30	20.0	20.0	20.0
	Significant	46	30.7	30.7	50.7
	Moderate	40	26.7	26.7	77.3
	Minimal	23	15.3	15.3	92.7
	None	11	7.3	7.3	100.0
	Total	150	100.0	100.0	

Barrier 8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	23	15.3	15.3	15.3
	Significant	50	33.3	33.3	48.7
	Moderate	48	32.0	32.0	80.7
	Minimal	23	15.3	15.3	96.0
	None	6	4.0	4.0	100.0
	Total	150	100.0	100.0	

Barrier 9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	22	14.7	14.7	14.7
	Significant	29	19.3	19.3	34.0
	Moderate	46	30.7	30.7	64.7
	Minimal	30	20.0	20.0	84.7
	None	23	15.3	15.3	100.0
	Total	150	100.0	100.0	

Barrier 10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	33	22.0	22.0	22.0
	Significant	30	20.0	20.0	42.0
	Moderate	54	36.0	36.0	78.0
	Minimal	25	16.7	16.7	94.7
	None	8	5.3	5.3	100.0
	Total	150	100.0	100.0	

Barrier 11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	26	17.3	17.6	17.6
	Significant	49	32.7	33.1	50.7
	Moderate	41	27.3	27.7	78.4
	Minimal	22	14.7	14.9	93.2
	None	10	6.7	6.8	100.0
	Total	148	98.7	100.0	
Missing	System	2	1.3		
Total		150	100.0		

Barrier 12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	35	23.3	23.3	23.3
	Significant	47	31.3	31.3	54.7
	Moderate	33	22.0	22.0	76.7
	Minimal	22	14.7	14.7	91.3
	None	13	8.7	8.7	100.0
	Total	150	100.0	100.0	

Barrier 13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	25	16.7	16.8	16.8
	Significant	45	30.0	30.2	47.0
	Moderate	47	31.3	31.5	78.5
	Minimal	29	19.3	19.5	98.0
	None	3	2.0	2.0	100.0
	Total	149	99.3	100.0	
Missing	System	1	.7		
Total		150	100.0		

Barrier 14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Significant	39	26.0	26.0	26.0
	Significant	44	29.3	29.3	55.3
	Moderate	45	30.0	30.0	85.3
	Minimal	19	12.7	12.7	98.0
	None	3	2.0	2.0	100.0
	Total	150	100.0	100.0	

Appendix 10: Percentage Data for the Ratings of Factors to

Enhance PD

Percentages for ratings of 10 items included in section 4 (Factors to
 Enhance PD)

Factor 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very Important	73	48.7	48.7	48.7
Important	45	30.0	30.0	78.7
Undecided	20	13.3	13.3	92.0
Less Important	9	6.0	6.0	98.0
Not important	3	2.0	2.0	100.0
Total	150	100.0	100.0	

Factor 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very Important	62	41.3	41.3	41.3
Important	60	40.0	40.0	81.3
Undecided	17	11.3	11.3	92.7
Less Important	9	6.0	6.0	98.7
Not important	2	1.3	1.3	100.0
Total	150	100.0	100.0	

Factor 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very Important	67	44.7	44.7	44.7
Important	54	36.0	36.0	80.7
Undecided	14	9.3	9.3	90.0
Less Important	7	4.7	4.7	94.7
Not important	8	5.3	5.3	100.0
Total	150	100.0	100.0	

Factor 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	56	37.3	37.3	37.3
	Important	56	37.3	37.3	74.7
	Undecided	27	18.0	18.0	92.7
	Less Important	7	4.7	4.7	97.3
	Not important	4	2.7	2.7	100.0
	Total	150	100.0	100.0	

Factor 5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	48	32.0	32.0	32.0
	Important	64	42.7	42.7	74.7
	Undecided	26	17.3	17.3	92.0
	Less Important	6	4.0	4.0	96.0
	Not important	6	4.0	4.0	100.0
	Total	150	100.0	100.0	

Factor 6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	52	34.7	34.7	34.7
	Important	63	42.0	42.0	76.7
	Undecided	26	17.3	17.3	94.0
	Less Important	5	3.3	3.3	97.3
	Not important	4	2.7	2.7	100.0
	Total	150	100.0	100.0	

Factor 7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	68	45.3	45.3	45.3
	Important	54	36.0	36.0	81.3
	Undecided	16	10.7	10.7	92.0
	Less Important	9	6.0	6.0	98.0
	Not important	3	2.0	2.0	100.0
	Total	150	100.0	100.0	

Factor 8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	56	37.3	37.3	37.3
	Important	53	35.3	35.3	72.7
	Undecided	28	18.7	18.7	91.3
	Less Important	7	4.7	4.7	96.0
	Not important	6	4.0	4.0	100.0
	Total	150	100.0	100.0	

Factor 9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	71	47.3	47.3	47.3
	Important	47	31.3	31.3	78.7
	Undecided	24	16.0	16.0	94.7
	Less Important	5	3.3	3.3	98.0
	Not important	3	2.0	2.0	100.0
	Total	150	100.0	100.0	

Factor 10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	55	36.7	36.7	36.7
	Important	55	36.7	36.7	73.3
	Undecided	29	19.3	19.3	92.7
	Less Important	8	5.3	5.3	98.0
	Not important	3	2.0	2.0	100.0
	Total	150	100.0	100.0	