ONLINE CPD FOR TEACHERS IN SAUDI ARABIA: APTITUDE, ATTITUDES AND BARRIERS

By

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Abstract

This study was undertaken to investigate the reality of readiness of Islamic education teachers in Saudi Arabia to using the Internet as a medium of delivering online continuing professional development (CPD) programmes. Specifically, it aims to explore Islamic education teachers' competencies in using computers and the Internet for professional development, teachers' attitudes toward online CPD, barriers that might affect teachers' participation on online CPD and, finally, teachers' suggestions that might encourage their peers to participate on online CPD.

Both qualitative and quantitative data were collected to fulfill the aims of this study. Seven-hundred and sixty eight teachers were surveyed and 23 teachers were interviewed among the full time Islamic education teachers working in state schools in Asir region, Saudi Arabia. Data were collected by different instruments involving semi-structured interviews and questionnaires. Both quantitative and qualitative analyses were applied to the collected data. Quantitative analysis involved both descriptive and inferential analyses using means, standard deviations, and parametric tests; whilst QRS Nvivo was used as the coding method for qualitative analyses.

The results showed that teachers had the competency of using computer and the Internet for professional development in the beginner level. Male teachers had significantly higher scores in the aptitude of using computer than female teachers. There was also a significant difference among teachers due to all the study's independent variables. Regarding teachers' attitudes toward the online CPD, the results revealed that teachers, in general, have positive attitudes but female teachers have much positive attitudes toward online CPD than male. Clear evidence were indicated that there are significant correlation between experience in using computer, experience in accessing the Internet, availability of using computer at home and school, availability of the Internet access at home and school, and previous participation and teachers' attitudes toward online CPD.

Teachers reported some barriers of implementation online CPD such as lack of good Internet service, incentives, technical support, teachers' experience in using

computers, teacher's level of English language and the high cost of computer equipments. To overcome these barriers and encourage teachers to engage in online CPD, teachers added some suggestions.

1. Introduction

1.1 Introduction

In recent years, many changes have taken place in educational environments worldwide, and as a consequence, there have been major changes in teachers' responsibilities. For example, the roles of teacher have changed from just lecturing students to assisting them to learn (Spicer, 2008). Among the factors contributing to these changes are the proliferation of information and communication technologies and the associated rapid production and flow of knowledge, globalisation, a digitalised knowledge base, permeable educational boundaries, and an environment of intensified global marketisation in which education is increasingly viewed in economic terms and with a marketplace ethos (Rose, 2003). This puts pressure on teachers to change their roles and prepare themselves on a much more regular basis; otherwise, they could lose their profession to external or stronger competitors.

As we begin the new century, education systems around the world have become more inclusive and society-driven. Delors (United Nations Educational Scientific and Cultural Organization, 1996) states that "the problems of the social environment can no longer be left behind at the school gates: poverty, hunger, violence and drugs enter classrooms with children, whereas in the not-so-distant past they were kept outside with the unschooled" (p. 146). The expectation that all students should learn, albeit not in equal ways, places new demands on teachers and consequently on their preparation, in that they need to understand their subject matter differently, to understand student development and motivation, to know about curriculum planning and development as well as the processes involved in teaching and learning (Reimers, Reimers, & College, 2000).

Teachers' professional development is considered to be a crucial aspect of any educational reform, and a considerable number of studies have shown a positive relationship between teachers' participation in high-quality professional development programmes and their performances in classrooms (Borko, 2004; Penuel, Fishman, Yamaguchi, & Gallagher, 2007). Moreover, one study on school

effectiveness and school improvement points to teachers' professional development as a critical element in supporting education reform and as the single most important factor in explaining how and why some schools do better than others (D. Cohen & Hill, 1999). The same study also shows that student performance is positively linked to teacher quality. In Reimer's words, "If teachers are given the opportunity to learn about and from new educational policies, they can change their practice and indirectly influence student performance" (2000, p. 12). Spicer (2008) confirmed in his study that teachers are the most important predictors of student achievement; the better the teacher, the more successful the students. However, many studies, in turn, have shown that the performance of low-achieving students can be upgraded by 53% when they are taught by qualified and highly effective teachers (Haycock, 1998). Thus, in order to raise students' achievement, more attention has been focused on the standard of professional development programmes (Campbell, McNamara, & Gilroy, 2004). From this perspective, it is accepted that teachers' professional development is the key to enhancing student learning and that knowing what, how, why and when to teach is a long-term process that requires not only the acquisition of specific and complex skills but also the promotion of certain ethical values and attitudes. Therefore, the planning of teachers' professional development programmes must respond to teachers' professional needs, their personal interests and the level of professional development that is required by the educational organisations.

Having stated all this, it is clear that many countries have identified teachers' professional development programmes as the key to improving the quality of their education systems. Such countries include the United States, the UK, France, Spain, Japan, South Africa and Namibia (Al-Zaher, 2005). In the United States, for instance, increasing public expectations place mounting responsibility upon classroom teachers to better prepare students for their life roles, and noticeable attention is being paid to facilitating opportunities for teachers to keep pace with 21st century teaching and pedagogy through professional programmes that respond to their true needs (Campbell, Philips, & Gilroy, 2004). Likewise, in the United Kingdom, all teachers are required to participate in professional development, especially since the implementation of the National Curriculum. In Scotland,

professional teacher development has been a target of stakeholders, particularly since the establishment of the position of 'chartered teacher' for experienced teachers who engage in professional development (Campbell, McNamara, et al., 2004), and it is compulsory for every teacher to participate in at least 35 hours of continuing professional development (CPD) every academic year (Boyd, 2005). However, there are also other countries where these programmes have not been prioritised in the core of their educational agendas, and Saudi Arabia is one example. This study, therefore, is built around teachers' professional development programmes in an attempt to investigate the attitudes of teachers towards CPD programmes and the practicality of using the Web to deliver this kind of training. It seeks to deliver an understanding of what barriers and incentives should be taken into account when stakeholders in education plan future online CPD courses.

1.2   Rationale for the Study

A teacher is increasingly viewed as a cornerstone of any given educational institution and a key to the excellence or failure of that institution. Through a deep reading of the efforts that have been made by Saudi public schools to develop their in-service teaching staff and the policies and regulations related to teachers' training and upgrading in Saudi Arabia, it becomes clear that this issue has not been prioritised or has simply been ignored in most of the country's boys' and girls' schools. Only a handful of modest attempts have been made through the presentation of tutorials or workshops, which lack a holistic perspective on the complex and multi-level roles and needs of teachers. Instead, stakeholders in education, governing bodies, and teachers should consider developing a common recognition that one of the main ways to improve the educational services provided by schools is through investing in human resources by upgrading the quality of staff, both academically and professionally, and that this is unlikely to be realised without making teacher professional development a high priority on schools' agendas. To consider the issue from another side, researchers have emphasised the same conclusion: that Saudi public schools have an obvious deficiency in terms of training their staffs and keeping them up to date.

One example may stand for many. Jalal and Ahmed (1999) asserted that they found neither clear missions nor strategic plans that aim at developing the knowledge and skills of schoolteachers. Likewise, Al-Daud's (2004) study revealed that teachers in Saudi schools suffer from a large number of problems, most of which are linked to insufficient training and weak professional preparation, particularly in the field of information and communications technologies (ICT). Moreover, Al-Thobaiti (2001) found a lack of professional development programmes for teachers within Saudi intermediate and secondary schools, although he excluded the Model School in the city of Jeddah, which holds regular workshops on pedagogy and new teaching techniques through its development centre. Mahboob and Baroom (1997) considered the lack of development programmes, especially for newly qualified teachers, along with the failure to facilitate teachers' enrolment in local and national conferences and workshops, to be two of the most vexing problems facing the country's public schools. They went even further, expressing their worries that one of the emerging challenges to national schools is that a large proportion of teachers of both sexes lack knowledge and experience in how to deal with computers and make use of the Internet in their teaching, which will have a negative impact on the quality of their scientific productivity and teaching strategies. Furthermore, one of the most interesting studies related to teachers' work is the investigation conducted by Mahdad (2001), who reached a significant conclusion that a great number of secondary teachers, particularly Saudis, are inactive in adding to the body of knowledge and catching up with new developments in their field of specialisation. This finding not only supports the argument that there are few professional development programmes in schools but also suggests that systems to evaluate teachers' work and performance are inadequate, if they exist at all.

In light of all this, it is clear that there is a need to deliver more CPD programmes, as the programmes provided are inadequate. However, the rapid growth of the educational population in Saudi Arabia, which covers more than 830,000 miles, now has more than 425,000 teachers working in 31,000 schools (Ministry of Education, 2008b), and this makes it difficult and complicated to fulfil teachers' training needs.

Recently, as a result of the emergence of the online educational environment, it has become clear that using advanced technology to deliver programmes for teachers' professional development would be valuable in this field and would help stakeholders to fulfil teachers' professional development needs (Vrasidas & Zembylas, 2004) as well as to secure a variety of professional development programmes to encompass a wide range of teachers' interests.

An overview of previous research reveals not only the success of online continuing professional development programmes in increasing teachers' knowledge and skills but also the development of the profession of teaching at all levels and in all areas (Lock, 2006; Shih, 2002). Moreover, online CPD has increased the opportunities for teachers of all levels to receive high-quality training in different subjects (Urquhart, Callahan, Scot, & Reed, 2008). Online continuing professional development seems to be one of the possible solutions for providing high-quality professional development programmes to every teacher, wherever, whenever and however he prefers to establish himself in the profession. Subsequently, the Ministry of Education in Saudi Arabia recently started to provide its CPD programmes online as the first attempt at using the Internet to deliver such training in order to overcome some limitations of the normal, face-to-face delivery of professional development. Generally, the application of online CPD aims to create a solution that allows teachers to:

- accomplish their CPD requirements without leaving their schools

- decrease their training, travel and accommodation expenses

- take the CPD training at a convenient time and location

- give trainers and trainees opportunities to evaluate their process

- build and update their knowledge and skills by using pleasant tools that offer a high standard of quality (www.FirstCPD.com, 2009).

Despite the fact that a number of studies have pointed to the importance of using the Internet to alleviate a range of training problems (Gallagher, 2003; Hartley & Bendixen, 2001; Vallieres, 2008), it was surprising that when 1,200 teachers were invited to participate in the first online CPD programme in Saudi Arabia, fewer

than 200 teachers participated, indicating the presence of a problem that requires investigation

Therefore, this study addresses the attitudes of Islamic education teachers, who make up a substantial proportion of teachers in Saudi Arabia, towards online CPD programmes, and the factors that may affect their attitudes, as well as the obstacles and incentives that impact the implementation of such programmes.

1.3   The Importance of the Study

This study is significant for several reasons. First of all, it provides valuable information regarding online CPD in Saudi Arabia since the sample for this study has been drawn from the biggest group of Saudi teachers, Islamic education teachers, thus making it possible to generalise the findings of this study nationally.

Second, the information gathered through this study provides much-needed information to the decision-makers in Saudi Arabia who wish to investigate a larger sample of attitudes about online CPD before attempting to use the online environment for teacher-training purposes. To the best of the writer's knowledge, which is based on an extensive review of the relevant literature, no other research in Saudi Arabia has been directed at investigating teachers' attitudes towards online professional development programmes. What is available are a number of studies that examine the actuality of continuous professional development or look for the best way to investigate the teachers' training needs, which does not touch on the broader meaning of teachers' professional development. Hence, it is assumed that the outcomes of this study will prove to be a valuable addition to the field of online professional development planning and implementation.

Third, the study will shed light on new and perhaps better approaches to the simultaneous delivery of professional development programmes of high quality and a variety of contents, especially to very large educational populations such as that found in Saudi Arabia.

Finally, the results of this study might help educational planners, even outside

Saudi Arabia, to understand factors that might improve teachers' use of computers and the Internet for professional development purposes as well as their attitudes towards online CPD.

1.4   **Aims of the Study**

The study aims to explore whether Islamic education teachers in the Asir region of Saudi Arabia were ready to benefit from the Internet service to develop their competency and knowledge in teaching. To be more specific, the aims are to:

- Measure the current Islamic education teachers' levels of competency in using the computer and Internet for professional development purposes.
- Explore the attitudes of Islamic education teachers towards online professional development programmes.
- Explore the major barriers that prevent teachers from participating in online CPD.
- Gain an in-depth understanding of Islamic education teachers' perceptions of online CPD programmes and how to overcome any barriers that might hinder teachers' participation in such training and make these programmes more effective and inspiring.
- Provide a holistic theoretical framework for teachers' professional development in Saudi Arabia in order to fill the gap in the national literature about this subject**.**

1.5   **Research Questions**

The previous aims were developed into a set of questions that could facilitate the research through generation of relevant data. Thus, the study seeks to answer the following main and secondary questions.

The first main question is:

Do Islamic education teachers have the competency to use computers for professional development purposes?

This question is followed by some secondary questions:

- Do Islamic education teachers have the competency to use computers for professional development purposes?
- Do male Islamic education teachers have the competency to use computers for professional development purposes?
- Do female Islamic education teachers have the competency to use computers for professional development purposes?
- Are there any significant differences between male and female teachers' competency to use computers?
- Are there any significant differences in the competency to use computers related to other variables?

The second main question is:

What are the Islamic education teachers' attitudes towards online CPD?

This question is followed by some secondary questions:

- What are the Islamic education teachers' attitudes towards online CPD?
- What are the attitudes of male Islamic education teachers towards online CPD?
- What are the attitudes of female Islamic education teachers towards online CPD?
- Are there any significant differences between male and female teachers' attitudes towards online CPD in relation to gender?
- Are there any significant differences in the attitudes towards online CPD related to other variables?

The third main question is:

What are the major barriers that affect participation of teachers on online CPD?

This question is followed by some secondary questions:

- What are the major barriers that affect participation of teachers on online CPD in the view of Islamic education teachers?

- What are the major barriers that affect participation of teachers on online CPD in the view of male Islamic education teachers?
- What are the major barriers that affect participation of teachers in online CPD, in the view of female teachers?
- Are there any significant differences between male and female teachers regarding the barriers that affect participation of teachers in online CPD?
- Are there any significant differences between male and female teachers regarding the barriers that affect participation of teachers in online CPD related to other variables?

The fourth main question is:

What are the major incentives that would encourage teachers to participate in online CPD?

The following table shows the relationship between the research aims, research questions, secondary questions, instruments and methods of data analysis.

Table 1.1: Research Aims, Questions, and Methods of Data Analysis

Research aim (1)	Measuring the current Islamic education teachers' levels of competency to use the computer and Internet for academic purposes
Main Question (1)	Do Islamic education teachers have the competency to use the computer for professional development purposes?

secondary questions	Instruments		Methods of data analysis
	Questionnaire	Interview	
Do Islamic education male teachers have the competency to use the computer for professional development purposes?	Part:2	Part:B1	one sample T-test
Do Islamic education female teachers have the competency to use the computer for professional development purposes?	Part:2	Part:B1	one sample T-test
Do Islamic education teachers have the competency to use the computer for professional development purposes?	Part:2	Part:B1	one sample T-test
Are there any significant differences in male and female teachers' competency to use a computer?	Part:2	Part:B1	Independent sample test
Are there any significant differences in the competency to use the computer related to other variables*?	Part: 1&2	Part: A &B1	Analysis of variance

Research aim (2)	Exploring the attitudes of Islamic education teachers towards online professional development programmes
Main Question (2)	What are the Islamic education teachers' attitudes towards online CPD?

secondary questions	Instruments		Methods of data analysis
	Questionnaire	Interview	
What are the male Islamic education teachers' attitudes towards online CPD?	Part:3	Part:B2	one sample T-test
What are the female Islamic education teachers' attitudes towards online CPD?	Part:3	Part:B2	one sample T-test
What are the Islamic education teachers' attitudes towards online CPD?	Part:3	Part:B2	one sample T-test
Are there any significant differences between male and female teachers' attitudes towards online CPD?	Part:3	Part:B2	Independent sample test
Are there any significant differences in the attitudes towards online CPD related to other variables*?	Part: 1&3	Part: A &B2	Analysis of variance

Research aim (3)	Explore the major barriers that prevent teachers from participating in online CPD
Main Question (3)	What are the major barriers that affect participation of teachers on online CPD?

secondary questions	Instruments		Methods of data analysis
	Questionnaire	Interview	
What are the major barriers that affect teachers' participation in online CPD, according to male teachers?	Part:4	Part:B3	one sample T-test
What are the major barriers that affect teachers' participation in online CPD, according to female teachers?	Part:4	Part:B3	one sample T-test
What are the major barriers that affect teachers' participation in online CPD, according to teachers in general?	Part:4	Part:B3	one sample T-test
Are there any significant differences between male and female teachers' views of the barriers that affect participation in online CPD?	Part:4	Part:B3	Independent sample test

Are there any significant differences among teachers' views of the barriers that affect participation, in relation to other variables*?	Part: 1&4	Part: A &B3	Analysis of variance

Research aim (4)	**Gaining an in-depth understanding of how to make these programmes more effective and inspiring**
Main Question(4)	**What methods should be used to improve online CPD programmes' efficiency and effectiveness?**

secondary questions	Instruments		Methods of data analysis
	Questionnaire	Interview	
What methods should be used to improve online CPD programmes' efficiency and effectiveness?	Part:5	Part: B4	Descriptive statistical

* The study variables are teachers' gender, the highest degree they have obtained, the number of years of full-time teaching experience, the number of years of experience using a computer, the place where they usually use the computer, the place where they usually access the Internet, and their prior online training experience.

1.6   **Scope of the Study**

The study population consists of all Islamic education teachers in the Asir region, which is in the south-western part of Saudi Arabia. However, the study sample was selected randomly from teachers in all areas of the Asir region, including Abha, Mehail, Regal Almaa, Sarat Abeedah, Alnamas and Bishah.

Because of limited time and resources and because the population came from a very large region covering more than 81.000 km^2, it is crucial for the researcher to select a representative sample and try to find a familiar environment in which to carry out his study. Denscomb (1998) argued that it is legitimate for sampling to be carried out on the basis of convenience, provided it does not interfere with the validity of the selection. Therefore, the present researcher preferred to conduct the study in his country targeting teachers of Islamic education, a subject he has taught.

This study was also restricted to full-time teachers working in Saudi state schools at the time of the investigation. Part-time teachers or persons under contract outside the school or the country were not included in this study.

1.7　Terms Used in the Study

In order to better understand the methodology and outcomes of this study, it is important to understand the terms utilized in this study, so they are defined in this section.

1.7.1　Continuing Professional Development (CPD)

Professional development is simply defined as any planned activity that aims to help teachers to equip themselves to do their task (Monroe, 2008). In other words, it is the enhancing and upgrading processes of teachers in different areas of their professional roles (Al-Khamisi, 1994). Glatthorn (1995), on the other hand, refers to teachers' professional development as "the provision of organised in-service programmes designed to foster the growth of groups of teachers... It is only one of the systematic interventions that can be used for teacher development". A number of educational writers argued that professional development aims to meet the needs of teachers and the educational organisation in order to make teachers feel more empowered and help them to learn, develop, and share new ideas about teaching (Boyd, 2005; Bryce & Humes, 1999; Rasmussen & Northrup, 2002). More arguments about this term and any related terms, such as in service training and teachers' education, will be discussed in the third chapter.

Professional development programmes, as defined in this study, are all planned and structured programmes that foster areas in which teachers in Saudi Arabia need to develop their knowledge, competencies and skills. Such areas include students' scientific thinking skills, using supporting technologies in teaching modules and units, designing and developing curricula, managing dialogues, and scientific discussions.

1.7.2　Online Professional Development Programmes

The word "online" is defined in Longman's as anything "connected to other computers through the Internet or available through the Internet"("Longman Dictionary of Contemporary English," 2001, p. 889). Online professional development is just one example of distance education (Andrews &

Haythornthwaite, 2007; Cavalluzzo, Lopez, Ross, Larson, & Miguel Martinez, 2005; Ross, Thigpin, & Guzman, 2004) which is defined as providing that which occurs when learners and instructors are not with each other due to barriers of time or location. Henderson (2003) stated that distance education enables learners to use technology, usually the Internet, to learn without needing to travel anywhere.

Thus, online professional development programmes typically use the Internet to deliver a programme designed to improve the work-related knowledge and competencies of teachers.

1.7.3 Islamic Education Teachers

Islamic education teachers are people who are qualified to teach Islamic curricula, such as the reciting of the Holy Quran, *Tafseer* (the meaning of the Holy Quran), Islamic beliefs, *Figh* (Islamic jurisprudence), *Serah* (The Biography of the Prophet Mohammed), etc., in elementary, intermediate and secondary schools in Saudi Arabia. Usually, they have a bachelor's degree or above in Islamic studies and are well qualified in their educational preparation, having trained for one-half to one full academic year in an educational college.

1.8   Structure of the Study

This study includes eight chapters. The **first chapter** is the introduction and includes a discussion of the significance of the study and a presentation of the research aims and questions, the scope of the study and a brief explanation of the terms used in the study. The **second chapter** provides a general background of Saudi Arabia and contains four subsections. The first subsection focuses on Saudi Arabia's location, economic environment and poplation, and general information about its cultural and social environment. The second subsection provides general information about the educational system in Saudi Arabia. The third subsection provides general information about teacher training in Saudi Arabia. The last subsection provides some information about information and communication technology in Saudi Arabia. **Chapter three** is a review of the literature related to the topic of the present study and includes three sub sections. The first one

discusses continuing professional development, including definition of professional development, its importance, characteristics, forms and purposes. The second subsection discusses online CPD, advantages, strategies for effective online CPD, methods of online CPD, compression of traditional and online CPD. In addition, it reviews prior studies on factors that influence the implementation of online CPD programmes. The third subsection provides information about Islamic education in Saudi Arabia. **Chapter four** describes the study methodology, including the research design, sampling; participants in the questionnaire survey, the questionnaire design, piloting, the distribution and collection process, the interview process, and its administration, as well as ethical considerations and the statistical data used. **Chapter five** reports on the quantitative data analysis. **Chapter six** reports on the qualitative data analysis. **Chapter seven** discusses the findings of this study. **Chapter eight** concludes the research by summarising the main findings, discussing its limitations, implementations, making recommendations, and outlining the contributions of the study.

2. The Study Setting, Saudi Arabia

2.1 Introduction

The aim of this chapter is to place the study in context in terms of its location in Saudi Arabia, a developing country that is not Western. Understanding Saudi Arabia is important factor to understanding this study since one needs information about the society in which the research is conducted.

This chapter provides brief information about Saudi Arabia and organised into eleven sections. A general background of the country is presented in section two, while the country's political and economic background are outlined in section three. The fourth section presents the cultural and social environment. The fifth, sixth, seventh and eighth sections review the educational system, while ninth and tenth sections revisit the issue of teacher training and related policies. The final section summarises the chapter.

2.2 General Background
2.2.1 Formal name, flag and map

The Kingdom of Saudi Arabia is the official name of the country in which this study took place. It is one of the largest countries in Asia and the largest country of the Arabian Peninsula. Saudi Arabia is about a quarter of the size of the United States and 27 times bigger than Scotland. It is spread over 2,150,000 square kilometres (830,000 square miles). It covers almost four-fifths of the Arabian Peninsula and is bordered by Jordan and Iraq on the north and northeast; Kuwait, Qatar, Bahrain, and the United Arab Emirates on the east, Oman to the southeast; and Yemen to the south (Ministry of Economy and Planning, 2009; Ministry of Education, 2009)

Saudi Arabia is considered to be an actively developing country. The map below shows the location of Saudi Arabia and many of its important cities, as well as its flag.

Figure 2.1: Map and Flag of Saudi Arabia

Source: (Saudi-US Relations Information Service, 2009)

Riyadh is the capital of Saudi Arabia. Saudi Arabia has five main regions: the Central Region, the Northern Region, the Southern Region, the Eastern Region and the Western Region. The Kingdom of Saudi Arabia is divided into thirteen administrative territories: Al Bahah, Al Hudud ash Shamaliyah, Al Jawf, Al Madinah, Al Qasim, Ar Riyad, Ash Sharqiyah (Eastern Province), 'Asir, Ha'il, Jizan, Makkah, Najran, Tabuk (Ministry of Economy and Planning, 2009)

Geographically, Saudi Arabia is diverse, with forests in the south, mountain ranges in the west and southwest, and deserts covering more than 50% of its area. As a result of the huge area encompassed by Saudi Arabia, the climate varies from region to region. In the summer, temperatures can exceed 100 degrees Fahrenheit in the desert, while in the winter, temperatures can drop down below freezing (Royal Embassy of Saudi Arabia, 2009).

2.2.2 The economic environment and the population

The main source of income is oil and its products, which are estimated to be responsible for more than 90% of the national income. It is worth noting at this point that Saudi Arabia, especially the eastern region, has the richest reservoirs of oil in the world, 26% of the world's oil reserve (Ministry of Economy and Planning, 2009; Royal Embassy of Saudi Arabia, 2006).

In 2007, the population of Saudi Arabia was estimated to be 27.5 million. With an annual population growth rate of 2.3%, Saudi Arabia is among the nations with the highest population growth rates worldwide (Ministry of Economy and Planning, 2009). It is expected that in five decades, the Saudi population will double. More than 65% of Saudi people are under the age of 30 years of age (Ministry of Economy and Planning, 2009). Consequently, it not surprising that both the Ministry of Education and the Ministry of Higher Education consider this population growth rate to be a major challenge that must be taken into account when they plan for the future.

2.2.3 The cultural and social environment

Saudi Arabia is an Islamic state in which the Shari'ah (Islamic Holy Law) serves as both constitution and legal framework (Royal Embassy of Saudi Arabia, 2006). For millions of Muslims worldwide, Saudi Arabia is the Holy Land and pilgrimage target. The Saudi government considers Islamic education to be a compulsory subject at all public educational stages (Alhamid, Zeyada, Alotaibi, & Motwalli, 2007). Saudi society derives its values and ideals mainly from its religion, Islam, and from the local culture, traditions and customs. The Arabic language is the official language in Saudi Arabia, whereas English language is widely used in business.

2.3　The Educational System in Saudi Arabia
2.3.1　Briefing about the education in Saudi Arabia

The educational system in Saudi Arabia is one of the young and developing educational systems. Historically, The first formal educational system in Saudi Arabia was established in the 1920s (Alharbi, 2002; Ministry of Education, 2005) and in 1935, the School of Scholarships was opened to prepare students to study abroad. The development of the Saudi educational system was halted until the Second World War finished. After that date, the Saudi government felt a real need to develop the educational system and its facilities. Consequently, the College of Islamic Law, established in 1949, was opened as the first college in Saudi Arabia, followed by the College of Teachers, which was opened in 1957 (Alhamid, et al., 2007; Alharbi, 2002; Ministry of Education, 1999)

The first school for girls opened in 1962, and the General Presidency of Girls' Education was established to supervise and open girls' schools (Alhamid, et al., 2007; Ministry of Education, 2005).

Considerable changes have taken place in the Saudi educational system in the last 10 years. For instance, the general regulation of the education of girls, which was formerly completely independent from the Ministry of Education, has been integrated into the Ministry of Education, and the College of Teachers has been transferred from the Ministry of Education to the Ministry of Higher Education. In addition, many projects have been established in Saudi Arabia to develop the educational system. The King Abdullah Project is developing the entire public educational system and there are other project working on parts of the system such as the development of the Saudi curricula.

It should be noted that the educational system in Saudi Arabia is gender-based. Boys and girls are separated in all schools and universities that are under the supervision of the Ministry of Education and the Ministry of Higher Education.

2.3.2 The structure of the general educational system in Saudi Arabia

The Saudi educational system consists of three stages: (a) 6 years of elementary school; (b) 3 years of intermediate school; and (c) 3 years of secondary school. The student starts elementary school when he/she is 6 years old and finishes secondary school when he or she is 18. In addition, there is an optional nursery school stage (Almaghidi, 2004; Ministry of Education, 2009)

The academic year consists of two terms and is normally about 30 to 35 weeks long, with 15 to 18 weeks in each term. Students usually study for 25 to 36 hours each week. Each class lasts 45 minutes. Mid-term and final exams are used to evaluate students in intermediate and secondary schools, whereas a formative evaluation is the only approach used in elementary schools.

2.3.3 Aims of the Ministry of Education, Saudi Arabia

The Ministry of Education in the Kingdom realizes that the foundation of its strength and success lies in thinking and good planning. However, in order to update its program, it has drawn up the following two aims (Ministry of Education, 2009):

- To provide opportunities for education to every citizen of learning age, according to his or her abilities and inclinations, and to facilitate these opportunities by providing the appropriate infrastructure and services
- To improve the curriculum and renew the general education system in accordance with current industrial and social requirements.

2.3.4 Policies of the Ministry of Education, Saudi Arabia

The Ministry of Education is seeking to develop, upgrade and improve its educational system and its outcomes. Hence, it is necessary to materialize such objectives and policies and translate them into national plans and specialized work programs. The ministry has adopted the following policies:

- Enrolling all Saudi children old enough to attend primary school

- Increasing the number of enrolments by encouraging educational programs to fulfil the aims of the ministry and the needs of industry
- Implementing educational and training programs for teachers' colleges and others to improve teachers' skills and enrich their experiences
- Raising the minimum educational requirements for primary-level teachers seeking admission to the teachers' colleges to a bachelor's degree to ensure that all teachers have attended university
- Implementing educational and training programs for the society as a whole through the Social Service Centres in the teachers' colleges
- Constructing schools and initiating campaigns and programs to eradicate illiteracy in all parts of the Kingdom
- Setting up night schools for elementary and secondary levels of education for adults
- Enhancing students' skills, abilities and interests through scientific, cultural, social, sports, technical and scouting activities
- Overseeing and enabling special educational services for the handicapped, including the blind, the deaf and those with other disabilities
- Working on the early detection of disabilities and publishing information on ways to deal with them
- Working towards initiating specialized library services such as talking libraries, publishing talking books and the like
- Increasing the construction of libraries and museums
- Working towards the achievement of self-sufficiency by enabling Saudi citizens to be capable of teaching at all educational levels
- Reducing the average amount of failures and dropouts at all educational levels by raising educational standards
- Exchanging industrial and cultural information between the Kingdom and the Arab, Islamic, and other friendly countries
- Tracking the progress of curricula and the development of educational plans in teachers' colleges to ensure the achievement of the ministry's aims and the integration of the same with the curricula for general education

- Participating in international and national exhibitions with a view to introducing the educational and cultural activities of the Kingdom
- Constantly supervising and providing technical and material help to private education institutes and working towards improving their systems and procedures
- Developing a spirit of national solidarity and national integration through well-designed curricula (Ministry of Education, 2009).

As these policies were selected and determined in 1970, it is not surprising that there are continued demands to renew them so they fit with the recent development plans in Saudi Arabia. In the field of education, it is clear that the educational population in any place in the world is considered to be one of the most rapidly changing, and the Saudi educational population is no exception. Accordingly, the policies of education have to be changed, revised, and developed from time to time to keep pace with changes and developments in the Saudi educational population and in the international educational population in general.

2.4 Teacher Training in Saudi Arabia
2.4.1 Brief information about teacher training in Saudi Arabia

One of the important aims from the perspective of Saudi educators is to provide high-quality teacher in-service training, which is provided through two types of institutions that specialise in such training; teachers' colleges and teacher training centres, which were established in 1998 and are devoted to this purpose.

Teachers' colleges and teacher training centres play an important role in the development of both pre-service and in-service training. There are eighteen teachers' colleges and 42 teachers training centres across the Kingdom that aim to ensure that teachers have the finest and most up-to-date tools to do their jobs.

Three key features of teachers' education in Saudi Arabia should be highlighted. Recently, there has been a focus on ensuring that all teachers are willing and able to use modern technology in their work, such as using Information Resource Centres

and electronic libraries and browsing and designing the Internet pages for academic purposes.

The second feature is the transfer of colleges of teachers from the Ministry of Education to the Ministry of Higher Education, which aims to give these colleges adequate support to fulfil their aims.

The third aspect is that the Ministry of Education has paid more attention to using the Internet to deliver training to all teachers by implementing online continuing professional development. For instance, as mentioned in the previous chapter, in May 2008, 1200 teachers were invited to participate in the first Online CPD in Saudi Arabia, but, surprisingly, only around 200 teachers participated in this program. This has encouraged researchers to investigate teachers' attitudes and beliefs about online CPD as well as the barriers that prevent them from participating in such programs.

2.4.2 Policies of Educational Training, Saudi Arabia

To confirm that teacher training is a strategic choice, the Ministry of Education has drawn up the following points (Ministry of Education, 2009):

First: Professional Development

This is established by

1. Developing manpower in the educational field, with an emphasis on increasing its participation and raising its efficiency through training and continuing professional development

2. Paying more attention to rehabilitation and training to raise productivity rates in order to achieve maximum utilization of equipment and techniques

3. Coverage of educational training for all workers in the areas of education, including teachers, leaders, supervisors, and others.

Second: Mandatory Educational Training; training is a right and a career duty for all educational workers.

This can be achieved through the following methods:

1. Require teachers to attend training programmes that meet their needs; within the training programmes available.

2. Require teachers to participate in at least one training programme every five years;

3. Include teachers' participation in the job performance evaluation form, contributing not less than 10% of the total points.

4. Provide opportunities for training for all educational workers, facilitating and enabling them to join them according to their actual needs.

As mentioned in the last section, the revision of the policies and goals of any educational system is a fundamental step that must be taken before embarking on any other stages. It is noteworthy that the Ministry of Education has not revised and updated its general policies and goals since 1970 although it has changed and updated many aspects of its system, such as curricula, plans for teachers' preparation and qualification, study plans, etc. Moreover, the rapid changes worldwide in all aspects of education require rapid revision and change in all educational systems, and this is what the Saudi education system has been trying to do but without official long-term goals.

2.5   ICT in Saudi Arabia
2.5.1   Brief information about ICT in Saudi Arabia

Saudi Arabia has the second-largest Internet user base in the Middle East. According to the latest international statistics, the numbers of the Internet users in Saudi Arabia increased sharply from 200,000 users in 2000 to 7,700,000 in 2009, which represents a 3850% increase over nine years and, without a doubt, reflects

the population's awareness of the importance of the Internet (www.internetworldstats.com, 2009).

The government of Saudi Arabia has also paid more attention to the Information and Communications Technology (ICT) sector. One example of that is the huge amount of money that has been spent to provide for and improve the ICT sector in Saudi Arabia. For instance, according to Alahmidi (2003), Saudi Arabia spent approximately 1.5 billion pounds on improving ICT in 2003. Furthermore, the Saudi ICT market is the largest in the Middle East, with spending of $2.3 billion in 2005, and this figure is predicted to exceed $3.7 billion dollars in 2010 (www.theinnovestgroup.com, 2008).

2.5.2 **The Internet in Saudi Arabia**

The government of Saudi Arabia, as a part of its national development plans, responded to the need for developing the ICT sector nationwide and announced that it would start to provide access to the Internet for the public in Saudi Arabia in March 1997. It made King Abdulaziz's City for Science and Technology (KACST) responsible for accomplishing this task. According to its official website, KACST (King Abdulaziz city for Services and Technology, 2008) established a special unit called the Internet Services Unit (ISU). According to the ISU's website, the unit aims to:

- Connect Internet Service Providers (ISPs) and universities in KSA to the international Internet
- Manage and operate the Network Operation Centre, including hardware and software necessary for connecting to the Internet
- Manage and operate the Saudi Network Information Centre (SaudiNIC), including domain name registration and IP number allocation
- Establish a network security centre in cooperation with other government agencies
- Participate in general awareness programs related to the Internet and provide technical advice (The Internet Services Unit, 2009).

The ISU, in cooperation with the Saudi Telecommunication Company (STC) and a number of (ISPs), became responsible for providing Internet access in Saudi Arabia "with a mission to provide outstanding services and fair competition between service providers, to transfer technology, and to increase awareness about the Internet in the society" (King Abdulaziz city for Services and Technology, 2008)

The government of Saudi Arabia as a result of its concern about providing safe and suitable content of the Internet to citizens, it established filtering protocols for the content of the Internet provided to all users in the Kingdom. The filtering protocols aim to ensure that the Internet content does not conflict with the cultural, religious and legal system of Saudi Arabia. It is a unique system that makes Saudi Arabia "one of the a few countries where the Internet use and contents are filtered to make it suitable for the society and to maintain the cultural and traditional values"(Sait, Altawil, & Shahid Ali, 2002)

2.5.3   Internet users in Saudi Arabia

As mentioned earlier and as shown in Table 2.1 and *Figure 2.2*, since the establishment of the Internet services in Saudi Arabia, there has been a dramatic increase in the number of the Internet users in the Kingdom.

Table 2.1: The Number of the Internet Users in Saudi Arabia from 2000 to 2009

Date	The number of Internet users
December 2000	200,000
April 2001	690,000
December 2001	900,000
July 2002	1,110,000
December 2002	1,453,000
September 2003	1,462,000
December 2003	1,500,000
December 2005	2,540,000
December 2006	4,800,000
March 2008	7,200,000
September 2009	7,700,000

Source: (Communications and Information Technology Commission (CITC), 2010; www.theinnovestgroup.com, 2008)

The following figure, below, illustrates the dramatic increase in the number of the Internet users in Saudi Arabia in each 6-month period between December 2000 and June 2009.
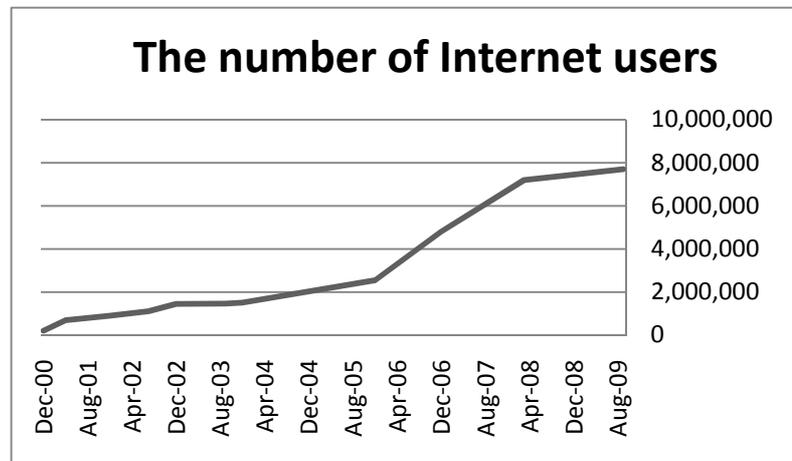
Figure 2.2: The Number of the Internet users in Saudi Arabia during the period 2000 and 2009**.**

The most frequently used Internet applications in Saudi Arabia include the following: banking, training, business, searching and educational. Moreover, it is available for both private institutions and the general public, with various speeds from 128 kbps to up to 20 mbps, and the charges for these services range from 109 SR (about £15.6) to 999 SR (around £142.8) per month.(Saudi Telecommunication Company (STC), 2009).

2.5.4   The use of the Internet for Academic Purposes in Saudi Arabia

As in other countries in the world, the emergence of the Internet is considered to be an important phenomenon in Saudi Arabia. All of the government's systems and ministries have set out to invest in this technology to improve their performance. In addition, the Saudi population, including the government and the people, has found that the Internet is an important medium suitable for facilitating many aspects of education, such as teaching, researching and training, which are considered to be the main aspects affected by the Internet in Saudi Arabia (Sait, et al., 2002). In the coming sub sections, brief information will be given about the most popular uses of the Internet in the educational field in Saudi Arabia.

The use of the Internet for teaching purposes

As a matter of fact, the emergence of the Internet in the educational environment in Saudi Arabia has enhanced the emergence of many other aspects, such as distance learning, e-schools, e-learning and online and digital curricula. For instance, distance learning has become popular in Saudi Arabia since the expansion of the Internet in the Kingdom. Given the distributed nature of the student population in Saudi Arabia, distance learning might be the logical way to ensure the provision of a high quality educational environment to the entire population. Hence, many universities in Saudi Arabia have started to provide some courses through distance learning. What is more, some universities have established a special deanship or centre just for providing distance learning for their students. King Abdul-Aziz University (KAU) is one example. According to its official website, the university established the Deanship of Distance Learning in 2005 to contribute to effective support for educational development in Saudi Arabia in general and at KAU in particular through the implementation of the latest technology for use in distance learning worldwide. KAU is looking forward to being among the distinguished international universities that employ the latest methods to provide a modern education by using Internet applications (King Abdulaziz University, 2009). Nowadays, most Saudi universities have a centre or deanship that specializes in providing distance learning.

Regardless of individuals' desire to use computers and the Internet in the academic setting in Saudi Arabia, some Saudi universities agreed to provide a bonus equalling one fourth of his or her salary for every academic member using computers and the Internet at work.

In terms of general education schools, the Ministry of Education has started outfitting all schools with advanced technology as a part of its plan to prepare schools for the information era. In 1996 before the Internet's existence in Saudi Arabia, the Computer and Information Centre (CIC) was established in the Ministry of Education to be responsible for planning and preparing schools to use and benefit from computers and the Internet (Ministry of Education, 2008a). In 2000,

70 information resource centres (IRCs) were opened in selected secondary schools and outfitted with all the equipment required to create and support a new learning environment and help both students and teachers to find out more information related to their curricula through various information resources such as e-libraries, digital curricula, the Internet and e-learning. These IRCs aim to develop students' learning and research skills as well as to train students in thinking skills and problem solving. Recently, IRCs have become a part of each school in Saudi Arabia. In addition, in 2003, computer skills were introduced as a compulsory unit at some stages of the general educational system in Saudi Arabia.

The latest statistics published by the CIC in 2008 indicated its achievements in many sectors. These achievements include:

- Deployment of IT labs in the Kingdom schools for boys and girls sector:

o   More than 3,000 labs for all secondary schools (around 51,000 PCs)
o   2,300 labs for intermediate and elementary schools (around 39,100 PCs)
o   More than 2,000 Learning Resources Centres. (around 12,000 PCs)
o   Every lab has its own LAN, screen monitoring software
o   Each system is equipped with e-learning nuggets and other utility software

- Implementing a Wireless LAN pilot project with 3com, HP, Cisco and local partners in selected schools
- Partnering with IT majors for the following:

o   Initiatives for teacher training.(30,000 teachers)
o   Supporting the software, content and implementation process for an e-learning pilot project
o   IT consultancy
o   Supporting the network of the e-learning pilot project
o   Training 6,000 teachers in ICT (over the next 4 years) (Ministry of Education, 2008a)

Having stated this, it is clear that the stakeholders in Saudi Arabia are mindful of the importance of advanced technology in education and are determined to update the educational population in Saudi Arabia to equip it with modern technology.

Using the Internet for research purposes

In response to the rapid expansion of the Internet in Saudi Arabia, Saudi researchers have taken this opportunity to reduce the effort, budget and time consumed in conducting research by using the Internet. One of the earliest studies of the use of the Internet for research purposes to be conducted in Saudi Arabia was by Aljodi (2003) who aimed to examine the reality of the Internet use among a number of academic staff and postgraduate student in Saudi colleges. The findings revealed that three quarters of the colleges' members used computers and the Internet and half of the postgraduate students used computers for researching and writing reports and assignments. Other research was conducted by Qashqari and Qashqari in (2004) to explore to what extend the academic staff in the college of education for girls in Jeddah used the technology. They surveyed 93 of the academic staff and found that more than 88% of them used the Internet for research purposes.

Studies have discovered several factors that enhance scholars' use of the Internet for research. The high-speed access to vast quantities of modern information via the various search engines was identified as the first reason for using the Internet for research purposes by a sample of students from King Saudi University in 2004 (Alsharhan, 2004)

Saudi libraries have taken remarkable steps towards providing e-resources for researchers and visitors. Nowadays, the majority of universities' libraries have subscribed to many international databases. King Saudi University's library, for instance, had subscriptions to 27 international databases in 2007.

Generally, the electronic resources in libraries consist of facilities for finding the required information by using advanced international research engines, databases and specialised websites. Other facilities provide access to electronic copies of theses and dissertations as well as hundreds of electronic journals. However, in

recent years, noteworthy changes in electronic research tools have enhanced the level and position of educational research in Saudi Arabia. These changes not only increase the number of materials and references available online but also provide an appropriate environment for educational research, which is reflected in the research outcomes.

Using the Internet for training purposes

As mentioned in the first chapter, the Ministry of Education is heavily involved in professional electronic training schemes, and the first attempt to implement a scheme was made in May 2008. Although the rate of participation in this course was lower than expected, it must be acknowledged that it was a considerable step towards fulfilling the desired goals of online training in Saudi Arabia. According to the official website of the course, *Tadreebi*, (http://tadreebi.net, 2008) which means "my training" in English, this project is a 100% online training course and consists of 80% individual training and 20% supervised training provided by virtual lecturers. The official website identified the following advantages of this project:

- The project offers access to training at any time and from anywhere.
- The project offers the possibility for both tutor and trainee to monitor progress.
- It provides training using attractive methods.
- It helps to improve teachers' skills in computer and Internet use as well as e-learning.
- It qualifies teachers to get free International Computer Driving Licence (ICDL).

Recently, this project has been merged with the King Abdullah project for developing the public education in Saudi Arabia.

2.5.5 The national centre for e leaning and distance learning

The National Centre for e-leaning and Distance learning (NCEL) seeks to develop a variety of research and development agendas aimed at facilitating the next generation of e-learning(The National Centre for E-learning and Distance Learning,

2009) It is considered to be the main sponsor of e-learning in Saudi Arabia. NCEL plans to spread e-learning and its applications in order to become a substantial part of the educational system in Saudi Arabia. In addition, it aims to keep all the educational stages and sectors up to date in this sector.

The primary goals of establishing NCEL are:

- Spreading the e-learning and distance learning applications in the educational system using quality standards
- Contributing to an increase in the learning capacity in educational institutes through electronic and distance learning applications
- Spreading the technical awareness as well as e-learning and distance learning culture as a contribution to building an information society
- Supporting research conducted in the field of e-learning and distance learning
- Providing quality standards for designing, producing and publishing digital educational materials
- Contributing to evaluating projects and programmes of e-learning and distance learning
- Providing consultation to parties in the field of electronic and distance learning
- Building and distributing educational software to serve the educational process in the private and public sector
- Encouraging distinguished projects in the field of e-learning and distance learning
- Conducting meetings and organizing conferences and workshops that contribute to developing e-learning and distance learning
- Cooperating with international firms and organisations and related bodies in the field of e-learning and distance learning.

It is NCEL's policy to meet the needs and provide the technical support to relevant education organization and experts in Saudi Arabia, so it has made several efforts sponsoring and hosting the international conference of e-learning and distance learning in Riyadh on March 17 and 18, 2009

2.5.6 King Abdullah's project to develop public education (Tatweer)

In 2007, Saudi Arabia started an outstanding project to develop its education system, The King Abdullah Project for the Development of Public Education also called *Tatweer*, which in English means development. The main objective of this project is the overall development of all the educational sectors in Saudi Arabia. The Kingdom has allocated approximately SR9 billion ($2.4 billion, £1.5 billion) for this project which will be in operation for six years. SR2.94 billion of the budget for this project has been set aside just for teachers' training and development while the development of Saudi curriculum and improving the entire Saudi educational environment will receive SR980.000.000 ($261.33 million) and SR4.200.0000 ($1.12 million), respectively. What is more, about SR3.6 billion (about $1 billion) will be spent on extra-curricular activities (Al-Shemary, 2007). The previous minister of education, Dr Alobaid, confirmed that the project will provide teachers with all that they need to keep up with new information and educational technology. "They will also be given intensive training to help them become familiar with modern developments and changes," he added (Ghafour, 2007). To be more specific, *Tatweer* focuses on training teachers in various sectors. Their specializations, school administration, educational supervision, and computer usage are just a few examples. "The atmosphere in classrooms will be improved by providing modern technological facilities such as interactive boards, displaying devices, communication networks and Internet services," Alobaid explained (Ghafour, 2007).

Table 2.2: King Abdullah Education Development Project (*Tatweer*) Goals.

Curricula Development	Develop educational curricula to meet psychological, social, mental, physical, vocational and knowledge needs of students
Teacher Training and Professional development	Train and prepare teachers to professionally perform their educational tasks
Improve Learning Environment	Improve the educational environment to create a school environment that motivates students to learn and achieve at the highest level
Extra-Curricular Activity Support	Promote self-confidence, awareness, skills and creativity

Source: (www.tatweer.edu.sa, 2008)

In terms of teacher training and professional development programmes, the project aims to:

- Enhance teachers' professional development through training programmes
- Spread computer literacy among teachers while developing and enhancing learning through the integration of technology in education prepare and provide interactive training packages as knowledge-rich resources that integrate sound, video and images.
- Prepare effective and qualified trainers (www.tatweer.edu.sa, 2008).

Interestingly, as a result of establishing the *Tatweer* project, the Kingdom of Saudi Arabia and the United Kingdom recently agreed to connect some schools from both countries in order to facilitate and enhance sharing ideas among teachers through educational visits (www.tatweer.edu.sa, 2008).

During the last few years, a number of schools nationwide have been selected to implement the King Abdullah Project for Development of Public Education. Schools were equipped with all technical, administrative and organizational requirements. *Tatweer* schools maintain the highest standard among smart schools in the world. For example, each school has smart boards and projectors, class and lab computers, a high-speed wireless access network, a smart card attendance system, a digital locker system, an electronic school management system, a smart training and conference room, and free laptops provided to all students and teachers.

2.6 **Summary**

These days, Saudi Arabia's national general educational system consists of about 30,000 schools, more than 400,000 teachers, and nearly 5 million students. More than one-fourth of the budget of the country is distributed to education. Additionally, all educational requirements, such as textbooks, health care, and tuition, are totally free of charge no matter what a student's age, sex or nationality (Ministry of Education, 2009). This chapter has presented a brief background of Saudi Arabia, providing information about the economic environment and the

populationas well as overview of the cultural and social environment. The educational system in Saudi Arabia was discussed, including some information about the history of education in Saudi Arabia, the structure of its general educational system, and the aims and the policies of the Ministry of Education. Moreover, a description of the teacher training program in Saudi Arabia was provided in the third chapter. The fourth section presented some information about the ICT in Saudi Arabia including the Internet and its users, using the Internet for academic purposes in Saudi Arabia which was divided into five subsections; the use of the Internet for teaching purposes, using the Internet for research purposes and using the Internet for training purposes, the national centre for e leaning and distance learning; and King Abdullah project for development the public Education. In the next chapter, a comprehensive review of the literature related to this study is undertaken mainly of prior studies related to the online professional development but also including some brief contextual information about teaching Islamic education in Saudi Arabia.

3. Literature Review

3.1   Introduction

This chapter is divided into five sections. Following the introduction, the second section discusses the traditional models of professional development. The following aspects of professional development will be presented: (a) defining professional development; (b) the importance of professional development programmes, (c) characteristics of effective professional development programs; (d) delivery methods of professional development; and (e) the purpose of professional development. Information about online CPD will be presented in the third section. Specific attention is paid to a historical perspective of distance education, the impact of using the Internet for teachers' training, the advantages of online professional development, the characteristics of successful online professional development programs, and methods of online CPD. This section includes a comparison of traditional and online CPD and a review of previous studies that examined the factors that might influence online CPD implementation. The fourth section provides some information about Islamic education in Saudi Arabia, including: (a) pre-service preparation programmes for Islamic education teachers and (b) in-service teachers' training. Finally, a summary of this chapter is provided in the fifth section.

3.2   Continuing Professional Development (CPD)

In recent years, there has been a general trend, especially in developing countries, in educational development. They have responded to global changes with many attempts to reform their educational systems through review, evaluation and development. Nonetheless, without revising and improving teachers' training programmes, whether pre service or in service, and updating them on a regular basis, no educational reform can succeed (Yung, 2005).

The following subsections highlight details about continuing professional development programmes and their importance .

3.2.1   **Definition of Professional development**

Reviewing the literature related to professional development, there is an agreement that the term professional development is defined as any systematic programme that aims to develop teachers' skills and knowledge related to their jobs. In other words, professional development programmes consist of "those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students" (Guskey, 2000). In his book *Evaluation of An Online Professional Development Program For Part-Time Faculty*, Monroe (2008) agrees with Guskey's definition. He has defined professional development in higher education institutes and faculties as "any activities designed to improve the faculty member's ability to teach and/or facilitate the teaching and learning process"(p. 22). One of the problems with these definitions is that they limit the aims of professional development programmes. In fact, the researcher support Borko's (Borko, 2004) opinion when they confirming that professional development programmes are vital to the development of schools if not the entire educational system.

One question that needs to be asked is whether the term professional development as a term, is a synonym for "training," "staff development," and "in-service training," or whether they are distinctive. Many educators have argued that professional development is just a synonym for training. For instance, Shaw (1995) stated that training is used to provide continuing professional development. Moreover, Dean (1991) stated that the terms "staff development," "professional development," and "in-service training" can be used to describe activities of individual development and organization growth and all that has changed is the role of schools because recently schools have became responsible for their training plans as a result of having their own budgets.

However, others have found differences in the concepts of training and professional development. Goldman (2002), for example, said "It is important to go beyond the concept of professional development as training"(p. 835) . Moreover, Grant (1997), as cited in (Goldman, 2002) claims that the definition of professional development must include formal and informal means of teachers to, not only learn new skills,

but also develop new insights into pedagogy and their own practice, and explore new or advanced understandings of content and resources". Boyd (2005) explained that even though the phrase professional development emerged just a few years ago, the concept of teacher training, which is the initial steps of professional development, which covers both pre- and in-service training, had been widely used for more than a century before it was changed to the new concept "professional development". He describes this shift occurring as the role and organisation of educational institutes shifted and accordingly merged colleges of education with universities in the 1980s. He added that long after the faculties of education started using the term professional development unit in place of "in-service department". At the same time, the term "initial teacher education" replaced "teacher education" and the concept of "training" has been replaced by "professional development" with more emphasis on professionalism and pedagogy than skills and knowledge. Other authors have stated that the difference between professional development and in-service training is that in-service training includes some optional activities planned for teachers who do not have the desired abilities and skills in teaching whereas professional development is an attempt to balance and meet all teachers' and organizational needs (Bryce & Humes, 1999). Rasmussen and Northrup (2002) and Zibit (2003) confirmed that professional development programmes try to meet the needs of teachers and educational organizations but at the same time make teachers feel more empowered to choose what they need and want and provide them with more opportunities to plan their learning and development based on their needs and desires.

However, some authors have described their difficulties in defining professional development. Alexandrou, Field et al (2005) contend that the meaning of the term "professional" is not that clear and it is difficult to find a clear definition for it because of the difficulties in stating the meaning of the word "profession". However, Millerson (1964) as cited in (Whitty, 2006) identified the following main features of a profession:

- "The use of skills based on theoretical knowledge
- Education and training in those skills certified by examination

- A code of professional conduct oriented towards the "public good"
- A powerful professional organisation" (p. 2).

In view point of the researcher, the relationship between in-service training and professional development is extremely strong and that any in-service training program could be a part of professional development but that professional development should not necessarily considered being merely in-service training. In other words, in-service training is just one example of what is included in professional development programmes, which include a variety of courses and go beyond the limitations of the term "training". This view is supported by Vrasidas and Glass (2004) who wrote that professional development can take many shapes: "collective or individual development, continuing education, pre-service and in service education, group work, team curriculum development, peer collaboration and peer support" (p. 2).

What is more, even though both in-service training programmes and professional development programmes are for the improvement of teachers, (Borko, 2004) professional development programmes tend to require long-term training, more professionalism, and be highly ethical (Dean, 1991).

3.2.2 Importance of Professional Development

Since the purpose of education is preparing pupils for life in their societies that are changing as a result of developments in societies worldwide, education is expected to respond to these changes and be updated (Fullan & Hargreaves, 1992). In other words, the speed of change and the explosion of knowledge might not only make our information out of date but also our teaching in schools. Thus, the concern about professional development programmes nowadays is much stronger than it was two decades ago (Dean, 1991).

Internationally, there are real demands for revising the current professional development programmes to adapt them to the constant changes in the educational environments because teachers and all school staff are being held accountable to do the best job they can to assist students to improve their achievements (Kathleen

Norris & Javetz, 2008). In Scotland, for instance, many changes have taken place in the professional development programme as a result of the rapid changes that have occurred in various subjects; changes in the curriculum and teaching methods; development of technology, particularly information and communication technology; and the constantly evolving role of school, all of which means that a teacher's competence and knowledge need to be frequently reviewed and updated (SEED, 2000).

The context of Saudi Arabia is another example. Alhamid, Zeada et al. (2007) stated that it is clear that developmental technologies will create a different educational environment in the future, and this puts demands on stakeholders to prepare teachers to be able to play their roles in that new and different environment. They added that international reports have discussed the impotence of teachers in any educational system, and they responded that the psychological and financial situations of teachers can be refined by providing them with updated professional development programmes to assist them in realizing modern education's purposes.

Many educational studies have confirmed that teachers are a cornerstone in any educational reform, and without their contributions, no educational reform can succeed (Brunvand & Fishman, 2005; Dede, 2006; Yung, 2005). In addition, Othman (2001) stated that an excellent teacher in a corrupted system is better than a useless teacher in an excellent system in a discussion of the importance of the existence of qualified teachers in any educational system.

It may be argued that, the importance of teachers' roles in any educational reform comes as a result of their responsibilities and roles in teaching pupils, and that, consequently, teachers need more and more opportunities to make continual progress and grow professionally (Yung, 2005).

The positive impact of high-quality professional development programmes is widespread, and it is not only providing a benefit for teachers but also offering many advantages for pupils and society as a whole (Alexandrou, et al., 2005; Dean, 1991).

The importance of professional development in improving teachers' practices inside classrooms has been confirmed by several studies. Borko (Borko, 2004), indicated that there is a noticeably positive impact of professional development programmes not only on teachers' practices but also on their knowledge, collaboration, and aptitude to provide high-quality teaching to students. On the other hand, professional development programmes are considered to be one of the fundamental pillars of any educational reform in the world. In other words, professional development programmes seem to be "at the heart of most of the developments designed to improve schools" (Boyd, 2005). It has become clear in Scotland, for example, that the government is more aware of the central role of professional development in improving learning and teaching. As one of its efforts to adapt to the dramatic changes in the educational environment, the government launched a variety of useful steps, moving in the direction of meeting the challenges of these changes: a national curriculum, the Excellence in Cities programme, training schools, specialist schools and colleges, city academies, and networked learning communities (Campbell, McNamara, et al., 2004). Fullan and Hargreaves (1992) stated that:

> "… it has become clear that previous assumptions about linking staff development and effective change confined to specific innovations were extremely limited. We now begin to ensure that comprehensive career-long teacher development and institutional reforms in faculties of education and school systems is the real agenda. Teacher development is thus positioned to get a central role in educational reform in the 1990s" . (p. 8)

Nowadays, every teacher in Scotland is required to participate in not less than 35 hours of continuing professional development every academic year (Boyd, 2005). *A Teaching for the Profession for the 21st Century* report argues that teachers in Scotland must engage in CPD and maintain a portfolio to record all their participation and discuss it with a line manager. Every teacher will have an annual continuing professional development (CPD) plan approved by her/his immediate

manager, and every teacher will be required to maintain an individual CPD record (SEED, 2000).

In the United States, as a second example, there is general agreement that teacher professional development is an essential feature for the success of any educational reform (Vrasidas & Glass, 2004). Many researchers in the United States considered the No Child Left Behind (NCLB) Act, enacted in 2002, to be a vital step to prove the importance of the quality of teaching. NCLB sheds a light on some issues such as what and how students learn and, significantly, how teachers can improve their teaching practices. The Teaching Commission (2004) issued a report "*Teaching at Risk: A Call to Action,*" which confirmed the importance of teaching by asserting that teaching is "our nation's most valuable profession" (p. 12). It asserted that "helping our teachers to succeed and to enable our children to learn is an investment in human potential, one that is essential to guaranteeing America's future freedom and prosperity" (p. 11).

Recently in Saudi Arabia the government has talked much about the necessity of developing the quality of education, and initiative after initiative has been launched to develop all aspects of education in Saudi Arabia. Obviously, as in other countries in the world, professional development programmes represent the key role of these initiatives. As mentioned in the second chapter, one of the central and latest initiatives, started in 2007, in Saudi Arabia is the King Abdullah Project for Improvement of the Public Education. Teacher professional development is one of four programmes in the whole project. Alqahtani (2006) identified teacher professional development as one of the programmes that needed the attention of educational leaders to enhance and help attempts to improve the educational component in Saudi Arabia.

The importance of professional development programmes could be summarised in the following points:

- Teachers' roles have increased and become more diverse in recent years.
- Skills and knowledge required of teachers have also increased, such as using the computer and the Internet and other advanced technology.

• Teachers need to follow and adapt to the rapidly changing curriculum and educational systems.

3.2.3   **Characteristics of Professional Development**

Providing professional development programmes or even requiring teachers to participate is not enough to improve teaching practices unless these programmes have a number of characteristics that are considered as the spirit of successful of any professional development program. Many authors have identified these characteristics in different ways. One of the fundamental characteristics of successful CPD programmes that the programs should be designed to raise teachers' motivation to their job and offer teachers regular instruction over a long period (Saylor & Kehrhahn, 2003).

Additionally, any professional development course designed without clear and identified goals would be, at the end of the day, just a useless effort, delivering no meaningful results, which would affect not only the outcomes of such programmes but also the attitudes of teachers towards forthcoming programmes. Goals of professional development programmes must be identified in the light of the desired outcomes with consideration given to the needs of individuals and organizations alike. Research suggests that planners and designers of professional development programs need to be more efficient and concentrate on the enrichment of the pedagogical knowledge (Boyle, While, & Boyle, 2004).

Clay (2008) indicated that there is a positive and strong correlation between enriching teachers' knowledge of their subjects and students' achievement. He argued that improving teachers' knowledge in their disciplines will increase their confidence in front of their students and provide students with excellent opportunities to get more reliable knowledge from their teachers, which, in turn, will affect students' outcomes positively.

One of the important characteristics of successful professional development is an excellent evaluation and assessment system during the program or/and at its end. Guskey (2004) mentioned that professional development must be assessable and

evaluated to explore and understand both its strong and weak points to determine how effective and successful it is.

Other authors listed fundamental characteristics of effective programmes, such as "an exploration of theory, demonstrations or modelling of skills, simulated practice, feedback about performance, and coaching in the workplace (Hendricks, 2004). In his paper "*Does It Make a Difference?*" Guskey (2004) added five more key characteristics, can be summarized into the flowing: (a) focusing on content and/or pedagogical knowledge; (b) using information from the reality of teachers' classroom experiences; (c) making the programme active by providing feedback for each participant; (d) making the programme collaborative by inviting the participation of teachers who have the same background, such as teachers from the same school or the same subject area; and (e) choosing an appropriate and adequate time.

Edmondson (2006) listed these characteristics of effective and successful programmes:

- Enhances teachers' content and pedagogical knowledge
- Provides sufficient time and other resources
- Promotes collegiality and collaboration
- Aligns with other reform initiatives
- Models high-quality instruction
- Based on teachers' identified needs
- Focuses on individual and organizational improvement
- Based on best-available research evidence
- Takes a variety of forms
- Provides opportunities for theoretical understanding
- Promotes continuous inquiry and change

Dean (1991) added three more points that should be taken into account by professional development planners. Firstly, a programme must aim to improve pupils' experience in the classroom. Secondly, it should improve the staff. Thirdly, it should concern everyone in the school. Othman (2001) suggested that

professional development programmes must depend on the results of studies conducted in the field of teacher training and adult education. The Training and Development Agency (2009) claimed that continuing professional development activities are expected to be helpful if:

- They are directly relevant to participants
- Intended outcomes are clearly identified
- Prior knowledge and expertise is taken into account
- They model effective teaching and learning strategies
- Impact evaluation is planned from the outset (Training and Development Agency, 2009).

To sum up, it can be clearly seen that the above list contains and summarizes as well as adds valuable points to what had been mentioned in the other literature.

3.2.4 Frequencies Forms of Professional Development

The concept of professional development programmes is still not clear enough to determine exactly which courses or activities could be considered to be a part of them (Glover & Law, 1996). While some teachers and researchers, such as Dean (1991) and Shaw (1995), thought there were no differences between in-service training and professional development programmes, so both terms could be used interchangeably, others identified a difference between them. Glove and Law (1996), for example, expressed the belief that even though there are similarities among the activities included in in-service training and professional development programmes, there are clear differences in their aims and procedures. To be specific, in-service training programmes usually consider schools' needs while professional development programmes consider more than that. Glove and Law's investigation (2002) revealed that professional development programmes in the majority of schools try to meet four kinds of needs:

- "Individual needs by developing the skills and knowledge of each teacher in the school so they can teach effectively

- Departmental, year, group needs by developing common approaches and sharing expertise within a group of teachers
- Whole-institutional needs by establishing common values that determine the general policies for the school
- Multi-institutional needs by bringing a group of schools together to work cooperatively to establish area-wide values" (p. 32).

Delivering professional development may be done in a number of different forms, including a wide range of activities that are planned to meet identified goals. The existence of all these forms of professional development programmes might be powerful and healthy for those who want to accomplish two aims. First, it creates an excellent opportunity for teachers to take on a student role. This opportunity, in fact, makes teachers aware of advantages and disadvantages of each method. It also provides another chance for teachers to learn and understand new methods of teaching and learning.

Vrasidas and Glass (2004) argued that considerable research has revealed that teachers usually practice the methodology that was used by their teachers. In the other words, they "teach as they were taught" (Vrasidas & Glass, 2004). In addition, it is clear that there are many considerable differences among teachers, so the form or methods preferable to one might not be preferable to others since "one size for all" does not fit the profile of well-planned professional development activities.

The Scottish Executive provided a list of activities in its handout "*Professional Review and Development*" (SEED, 2003) that might be helpful to planners. The following activates are related to achieving national standards (Standards for Full Registration, Standards for Chartered Teacher, and Standards for Headship):

- "self-evaluation and personal reflection, including preparation for the professional review and development meeting
- subject-based activities, including involvement with professional bodies and associations
- attendance at in-service

- membership in school committees and task groups
- developing school, local authority and national policies
- visits to and from colleagues and other schools
- co-operative teaching
- lesson observation and analysis
- secondments
- professional reading and research
- mentoring/supporting colleagues
- curricular planning/development
- management and leadership development opportunities
- teacher placement
- working with others, including being part of inter-agency teams involving colleagues from social work, health service, etc
- working with parents/careers" (p. 8).

Most professional development programmes are conducted using single or short face-to-face courses (M. Henderson, 2007) including large-group presentations and discussions, workshops, and seminars (Hendricks, 2004) and college courses, lecturers, readings, activities, and research components (Fink, 2003). Yet, it can be said that the variety of traditional formats and delivery methods for teacher professional programmes might be put into two categories:

- Group activities such as workshops, in-service training, and membership on school committee, task groups and general lectures
- Individual activities such as supplemental reading, teaching research, teaching observation, and analysis.

Professional development activities might also be classified based on the development sectors, into seven areas:

- Subject knowledge and understanding
- Pedagogical content knowledge
- Development of teaching and assessment skills
- Understanding teaching and learning

- The wider curriculum and other changes affecting teaching
- Management skills; managing people; managing yourself and your professional development (Association for Science Education (ASE), 2000)

3.2.5   **The Purpose of Professional Development**

Obviously, the purpose of professional development is different depending on individual circumstances, but through development programmes teachers can:

- Develop and adapt teachers with different range of practice
- Reflect on their experience, research and, practice in order to meet pupil needs collectively and individually
- Contribute to the professional life of the school and interact with the school community and external agencies
- Keep in touch with current educational thinking in order to maintain and develop an appropriate practice
- Give critical consideration to educational policy, in particular how to raise standards
- Widen their understanding of society, in particular information and communication technology (ICT) (Banks & Mayes, 2001).

In addition, Othman (2001) provided another list of aims:

- Update teachers' knowledge in their subjects
- Enhance teacher professionalism to help correct any problems associated with the lack of pre-service training programmes
- Enhance the positive attitude towards teaching and a teacher's job in general
- Help refresh teachers to adapt to their jobs
- Rehabilitate teachers to changes (e.g., promotion, new roles, etc.).

3.3 Online Professional Development
3.3.1 Introduction

Historically, teachers have been ordered to attend in-service training sessions and given little or no choice in selecting the type or the content of the session in which they participate. Following the emergence of the concept of professional development programmes, the door was opened to teachers to choose among many different opportunities. After many years of application and as a result of the rapid changes in the educational environment, standard professional development programmes have not kept pace with diverse teachers' needs. Subsequently, the necessity of using alternative methods to meet a variety of teachers' needs has become evident. Further, conventional approaches to professional development have not provided a continuous supervision for teachers when they try to implement new curricula or pedagogies, creating frustration with professional development (Dede, 2006). In addition, standard professional development programmes face challenges, such as lack of financial resources and teacher time and geographical constraints (K. Smith, Chapman, Pedulla, & Meeks, 2009).

As a result, there is a need for a new type of professional development programme that can meet the different needs of teachers. Yung (2005) stated that "In order to respond to different and varied needs, distance education will increasingly be used to meet the requirements. Under the current circumstances, an online curriculum is well suited for these needs" (p. 2)

The Internet has affected not only the economic or even telecommunications societies but also the educational and social societies which have been clearly affected and changed in the same speed. The number of the Internet users increases year by year and month by month worldwide. Nielsen gathered a global sample to investigate active Internet users during two months, February and March, 2009.

Table 3.1: Worldwide Active Internet Home Users in 2009

Country	February 2009	March 2009	Growth (%)	Difference
Brazil	24806130	25457070	2.62	650941
France	29048856	29942172	3.08	893316
Germany	36064430	37091022	2.85	1026592
Italy	16740304	17686382	5.65	946078
Japan	47697327	48923223	2.57	1225896
Spain	18832433	19295233	2.46	462800
Switzerland	3667056	3692639	0.7	25583
U.K.	27849946	29550591	6.11	1700646
U.S.	153839882	155034306	0.78	1194424

Source: Based on data provided at www.clickz.com and collected by Nielsen in 2009(Marshall, 2009).

Nielson data, shown in the Table 3.1, confirmed the rapid growth of Internet users in many countries. The number of Internet users in Saudi Arabia has increased dramatically, as mentioned in the second chapter, from 200,000 users in 2000 to more than 7.5 million users in September 2009.

Educational organisations have investigated the emergence of the Internet in extending the margin of teachers' freedom regarding the time, place, and methods used in their training.

Next section presents brief information about the concept of online professional development.

3.3.2 The concept of online professional development

To understand what online continuing professional development means, one must understand the concept of distance learning since online professional development is considered to be just one example of distance education and training applications (Andrews & Haythornthwaite, 2007; Cavalluzzo, et al., 2005; Ross, et al., 2004).

Moore and Kearsley (2005) defined distance education as that style of teaching that is used when learners and/or instructors cannot be with each other due to barriers of time or location. Rosenberg (2001) pointed out that distance learning could be defined as "the use of the Internet technologies to deliver a broad array of solutions that enhance knowledge and performance" (p. 28). Similarly, Keengwe, Whittaker

et al. (2004) stated that distance education includes all kinds of formal education that occurs when teachers and students work outside of actual classrooms. Henderson (2003) added more details, saying that online learning is using technology, usually the Internet, that enables the student to learn without moving or travelling anywhere.

The relationship between distance education and online professional development becomes clearer if one follows the history of distance education. Moore and Kearsley (2005) divided the history of distance learning into four periods, described below.

First Generation: the period between 1890s and 1950s: During this period, distance education aimed to provide instruction to students who lived far away from schools or educational institutes. Books and all study materials were sent to students by mail and students sent their work and received feedback on it by post as well. This style of learning might better to be identified as studying by correspondence. There was no immediate way for instructors and students to communicate because it took a long time for letters to be delivered.

Second Generation: the period between 1950s and 1960s: During this period, technology was integrated into education for the first time. Universities were the first to use various technologies, such as television, video, radio, and audio tape. In this format, the direction of instruction went in just one direction, from instructors to students, so students could not ask questions during the learning process .

Third Generation: the period between 1970s and1980s: Institutions of higher education started to use more technologies to facilitate teaching students who are a long distance away from the classroom. Satellite, television, videotape, telephone, and cable digital networks were used to provide instruction.

Fourth Generation: The period between 1990s until the Present: More technologies and a more prosperous education system emerged in this period. Students and teachers at all levels have benefited from computer networks, computer-based multimedia, and distance conferencing. Many studies have

indicated that the most influential technology that emerged in this period and was used in the educational environment was the Internet (Al-Wehaibi, Al-Wabil, Alshawi, & Alshankity, 2008; Alshehri, 2005) In the Internet era, the majority of schools and universities started to use the Internet to provide online instruction (Barton, 2006; Graham, 2004; Ross, et al., 2004) and many other schools and universities currently are improving their plans to do so (Wang, 2007). In addition, the Internet service has improved and become more popular, Broadband has become faster, and Internet users are better able to use their mobile devices to access digital images, movies, and online service. Individual users can easily connect their personal computer to wireless networks. Indeed, the impact of the technology affected all societies (Bach, Haynes, & Smith, 2007).

Rasmussen and Northrup (2002) described online professional development as the delivery of instruction for participants and instructors who are separated by time and usually by distance using the World Wide Web as the tool for instruction, communication, and collaboration. This definition explains just one type of online professional development in which students and instructors log on to the Internet at different times. They might also log on together in real time. In this thesis, the term online professional development will refer to those planned activities provided via the Internet and aimed at improving the professional knowledge, skills, and attitudes of teachers.

3.3.3 The Internet and professional development

Undoubtedly, emerging technologies, in general, and the Internet, in particular, brought dramatic changes to various educational sectors. For example, using the Internet has provided notable changes not only in teaching or learning but also in the roles of students and teachers (Ally, 2008). Furthermore, the practice has prompted schools and educational organizations to rethink their roles in the educational operation. Alshehri (2005) stated that computer technology is "the most influential factor in the field of education, especially with the change in both practice and application of delivery" (p. 9). Indeed, in the educational field, the Internet is considered to have real potential for making learning faster, more comprehensive, less tedious, more challenging, less expensive, and more fun

(Cross, 2005). Moreover, it is argued that interaction between students and teachers is highly dynamic when they use the Internet as a mechanism of communication because the Internet prompts and supports all the interactions of the online learning live (Ally, 2008).

It is apparent that Internet communications technology is a vital instrument for online education (S. Smith & Meyen, 2003). White (2005) argued that both schools' and students' roles were changed immediately after they used e-learning. On the other hand, constantly changing technology and the appearance of many new inventions in the world of telecommunications means that educational institutions and schools need to update their methods and modify their systems to keep up with the competition (Jaffee, 1997).

E-learning applications have a wide range of environments that can be categorised based on the complexity level of integration online tools in learning. Table 3.2 shows different levels of online learning, moving from the sample approach to the complete online course:

Table 3.2: Simple to Complex Ways to Use the Internet to Deliver Learning and Training Worldwide

Sample	A quick and easy way to use the Web to distribute course materials and carry out course administration
	A gateway to additional online materials
	A means of communication between learners/trainers , tutors and outside contributors
	A 'shell' for computer-based learning resources
	Provision of examination practice and administration of summative examination
	Provision of additional support and practice for campus-based students
	A platform for collaborative student project
	Delivery of complete online courses with fully integrated activities, e.g., distance learning course.
Complex	

Source:(Bach, et al., 2007)

There is no doubt that online learning is fast becoming noteworthy in all educational organizations (S. Fallows & R. Bhanot, 2005), E-learning is not the only utilization of the Internet in the educational field. There are many other

utilizations of the Internet for the educational proposes. Online teacher professional development is another example of that.

Yung (2005) confirmed that e-learning applications are now a popular method to provide professional development programmes. He added that teachers prefer to train online rather that train using face-to-face methods. Likewise, Zibit (2003) argued that online professional development is quite suitable for the current fast-changing K-12 educational environment where demands on teachers to be re-certified means that teachers must constantly learn new and challenging content and pedagogy.

Online professional development has made it possible for teachers to boost their knowledge and skills in teaching practices without restrictions as to time and place or any other barriers related to cultural or religion.

With the Internet, teacher education has become easier, and their training is more flexible than if the face-to-face approach were used. Seok (2006) stated that the flexibility of online learning and training allows receivers "to maintain academic pursuits, career obligations, and domestic responsibilities" (p. 44).

In a few words, according to Culp, Honey et al. (2005) there is evidence that introducing technology into teachers' professional development programmes is one of the keys to the successful integration and investment of technology in education. Cavalluzzo, Lopez et al. (2005) confirmed that online professional development programmes have a direct and serious impact on teachers' knowledge.

3.3.4 Advantages of Online Professional Development

The ideas being taught to teachers through online professional development programmes are no different from those being taught through the traditional face-to-face professional development programmes, so it is correct to say that online professional development aims are the same as those of traditional professional development, and there are many advantages to using an online environment to provide such training.

Goldman (2002) pointed out some advantages of online professional development, such as teachers' freedom to choose what, when, and where they prefer to be trained. From a wide range of activities, they can determine freely what courses are most suitable for them based on their time, expertise, and needs. Moreover, online professional development programmes allow teachers to overcome problems previously caused by workloads and find time, perhaps in the evening or on weekends, to engage in learning.

Yung (2005) argues that using the Internet for professional development purposes has many different advantages: (a) receivers can search the Internet websites for information related to any course being leaned; (b) instructors can easily use the World Wide Web to upload online courses and make them available from anywhere at any time; (c) the Internet and software make it possible for discussions to take place between instructors and students and among students themselves.

Having reviewed the literature related to using the Internet for teacher training purposes, it is clear that the accessibility of the Internet is one its essential features. Smith Chapman et al. (2009) confirmed that one of the significant benefits of using such training is the ability of a teacher to choose from numerous workshops and courses rather than being forced to attend a specific one-day course.

Online professional development programmes make it possible to go beyond the barriers of location, time and cost. To engage in on online professional development programmes, there is no need to be absent from schools, if the training takes place in the morning or take much time away from other responsibilities if the training takes place in the evening. Teachers no longer have to travel long distances as they did sometimes to participate in conventional training.

Participant need nothing more than a log-in code and a computer to start training from any place at any time. Alaugab (2007) said, "Students are the ones who benefit most from online instruction, because it is flexible, so students are able to get their education regardless of the time or location" (p. 29). Green and Cifuente (2008) asserted that online professional development programmes allow teachers to obtain professional development at their own convenience and allow them to

overcome the problem of lack of time. Teachers who have busy schedules and other responsibilities can easily obtain the highest level of benefits from online professional development. (Jolly & Saldivar, 2007; Yung, 2005). What is more, Cooper (2001) stated that when students were asked about the advantages of online learning, 75% of them, confirmed that conducting online learning helped them to learn with more flexibility.

Moreover, teachers might find online professional development more attractive than other kinds of training. Alaugab (2007) has stated, "Online instruction has improved interaction between instructors and students and, among students, asynchronous communication, as an advantage of online instruction, makes communication and discussion more interactive. It allows them to communicate and get feedback quickly, which makes learning even more interesting and more collaborative" (p. 2). Teachers who have a disability or some serious weakness may find it very difficult if not impossible to attend traditional classes whereas online professional help allows those teachers to participate and benefit from all programmes provided online. Fallows and Bhanot (2005) added other advantages to disabled people using online learning and training:

- Easily transcribe notes or record lectures
- Receive lecture notes / assignments by email, via the Internet or on disc
- Access relevant information sources for assignments or research using library databases and the Internet
- Produce high-quality written work using adapted computer equipment, such as large monitors, adapted keyboards, or a voice recognition system
- Submit written work via email or on disc
- Receive supervisor's comments and amended scripts by email or on disc and use correction options of word processing systems such as Microsoft Word
- Use email to make research contacts rather than having to post letters or use the telephone

- Use computer technology for presentations (p. 96).

Moreover, the use of online professional development allows teachers in rural areas to get a chance to benefit from the excellent training previously received only by teachers who live in more urban districts (Zabala & Collins, 2003). So, a result of that, stockholders, especially in a developing country, might find online professional development, one of the best methods to raise the number of teachers working in rural areas.

Brunvand and Fishman (2005) added that providing online learning is one way to provide just-in-time learning to a huge number of teachers. Improving teachers' content knowledge and pedagogical skills as well as reducing the cost of mentoring are other advantages of using online professional development because such training can be provided without paying for a building, equipment, or even utilities (Brown & Green, 2003)

Hiltz and Murray (2002) contended that using the Internet to deliver instruction is one of the best ways to improve candidate independence and intelligence. According to Seok (2006), online instruction facilitates "self-directed learning, problem-solving skills, and higher thinking skills for the workforce at the socio-cultural community level" (p. 49)

Because of the enormous advantages of using the Internet and advanced technology to facilitate teacher training at low cost and with little effort, there is clear evidence that there are increasing demands for using this technology in many developed and developing countries (Hinostroza, 2008).

3.3.5 **Strategies for Effective Online Professional Development**

Effective use of the Internet to provide online professional development has won praise from many researchers. For example, Zygouris-Coe, Swan et al (2007) used different types of online surveys to examine the opinions of participants and their students on the impact of a Florida online reading program. The study found clear evidence that teachers who participated in this program thought it had a positive impact on their classroom instruction and developed their knowledge of reading. A few months later, teachers who participated were asked to answer another survey regarding their perceptions relating to the impact of this program on their classroom instruction and their students' achievement. The results showed that 96% of teachers felt that there was a positive impact on their classroom instruction and 93% of them agreed that the instructional strategies they learned positively affected their students' learning.

In order to be as successful, it is important that online professional development programmes have certain characteristics. Dede (2006) alleged that online professional development is surviving because there have been few studies to determine the effective features and the best methods for designing and implementing such programmes. He also claimed that the evidence only comes from surveys completed by the participants at the end of the programmes rather than assessments of the long-range effects on teachers' knowledge and practices. However, others avow that the general principles of effective professional development have been presented in many publications. For example, Dynes, Cooper, Trudel, & Guglietti (1998) stated that interactions are an important characteristics of any effective and successful online programme. Rasmussen and Northrup (2002) suggested three levels of instructional interaction: (1) with the content, (2) with the instruction, and (3) with peers.

Accessibility is another characteristic of effective online programmes, meaning that students can easily retrieve any required information, email, forums, and databases (Hiltz & Turoff, 2002). The following table shows the different levels of flexibility

and interactions on online professional development programmes based on the tools used to deliver the instruction.

Table 3.3: Models of Distance Education: A Conceptual Framework

Models of Distance Education and Associated Delivery Technologies	Characteristics of Delivery Technologies				
	Flexibility			Highly Refined Materials	Advanced Interactive Delivery
	Time	Place	Pace		
First Generation: The Correspondence Model					
Print	Yes	Yes	Yes	Yes	No
Second Generation: The Multi-media Model					
Print	Yes	Yes	Yes	Yes	No
Videotape	Yes	Yes	Yes	Yes	No
Audiotape	Yes	Yes	Yes	Yes	No
Computer-based learning	Yes	Yes	Yes	Yes	Yes
Interactive video (disc and tape)	Yes	Yes	Yes	Yes	Yes
Third Generation: The Telelearning Model					
Videoconferencing	No	No	No	No	Yes
Audioteleconferencing	No	No	No	No	Yes
Audiographic communication	No	No	No	Yes	Yes
Broadcast TV/Radio + Audio teleconferencing	No	No	No	Yes	Yes
Fourth Generation: The Flexible Learning Model					
Interactive multimedia (IMM)	Yes	Yes	Yes	Yes	Yes
Internet-based access to WWW resources	Yes	Yes	Yes	Yes	Yes
Computer mediated communication	Yes	Yes	Yes	No	Yes

Source: (McLendon & Albion, 2000)

Fallows and Bhano (2005) list other significant features of online programmes that can enhance their effectiveness:

- Both parts of the user interface, student and staff, must be easy to use.

- Meaningful feedback to students must be possible.

- Staff must be able to update their online materials directly without having to ask an administrator to do it for them.

- Student progress, both in terms of their assessment results and their use of the content, must be available to staff.

- Students should be able to do self-assessments separately from the main assessment.

- Group of students should be able to collaborate online.

- Online discussion group should be supported.

- Online assessment should be available through the system.

- The system should flag changes that have been made since the last time the student visited the site.

- Students should be able to record their own notes.

- Staff must be able to place links to external URLs from within their pages. Links to other pages within module material must also be possible.

- It should be possible to have a Frequently Asked Questions section.

- Good online help should be accessible to both staff and students.

- They system must be assessable both on and off campus. It should not require users to have any unusual or expensive software or hardware.

- It should be viewable using industry standard browsers. Staff should be able to prepare content using industry standard editor.

- Students should be able to print out course content for off-line study.

- A very high level of security is required; only students who are registered on the modules should be able to view the online material.

- It should support multimedia features such as audio and video (pp.15-16).

Additionally, Jolly and Saldivar (2007) conducted an 18-month quasi-experimental study between January and June, which revealed that mathematics teachers are willing to participate in online professional development if teachers are able to:

- "Earn credits that will bring salary increases or apply to advanced degrees

- Interact online on an almost-daily basis with instructors

- Collaborate with other students, especially colleagues teaching the same grade level/subject
- Participate in and complete the online professional development "anytime/anywhere" (p. 15).

The participants said they would also require online professional development that provides:

- "Opportunities for face-to-face interaction with instructors and other students
- A support structure that helps students keep track of their weekly progress in the course so they can complete the course in a timely manner
- Self-paced courses with facilitators to respond to student needs and questions in a timely manner
- Activities that make good use of technology (flash activities, video and audio clips, other Web resources, etc.
- Quality content and instruction (carefully selected reading assignments with activities for reinforcement)" (pp. 15-16).

They said the content of the online professional development should focus on:

- "Effective teaching strategies for mathematics that include the integration of technology
- Immediate classroom application of the content covered in the online professional development with time for reflection and dialogue with other colleagues online." (p.16).

Zibit (2003) added some factors to make the online discussions between teachers healthy ;

- Individual teacher motivation, e.g., desire to be connected to other teachers or interest in growing professionally
- The relevance of the tasks and discussions to meet his/her needs
- Easy access to technology
- Release time, compensation, or support within the school for participation

- The degree of isolation of a teacher's situation
- Having common interests
- Maintaining a critical mass of exchanges.

Graham (2004) added other essential features of effective online professional development programmes. He stated that the successful online professional programme must begin with a pre-course training in the use of the computer and the Internet prior to participation.

Kleiman et al. (2000) reviewed many studies and chose factors that they considered important if an online professional development course were to be successful:

- Focus on improving classroom practices as a means of increasing student achievement.
- Provide a balance of academic content, the study of curriculum and instructional strategies, and the process of school improvement.
- Engage teachers actively in their own development, rather than "transmitting" knowledge and skills to them.
- Relate professional development activities to participants' work, using classroom experiments and action research as integral parts of training workshops.
- Provide sufficient time for inquiry, reflection, and mentoring on an ongoing basis.
- Support the development of collaborative teams and collegial communities of learners to help educators be more effective in their roles.
- Foster a deepening of subject-matter knowledge, a greater understanding of the learning process, and a greater appreciation of students' needs (p. 7).

To sum up, it is important to know that online professional development cannot be implemented just because there are demands for integrating technology in education, lack of qualified trainers, or growing numbers of teachers. It is necessary to ensure that there is a real need for such programmes, and that the programmes have the essential characteristics to make them effective and able to assist participants to achieve meaningful results.

3.3.6 Methods of Online Professional Development Programmes

Using different methods of online professional development is appreciated in many educational populations to meet different needs. Based on the type of participation required, online professional development programmes can be classified into two categories.

Firstly, there is a programme that requires the receivers, whether they are students or trainees, to meet the trainer online at a certain time. In other words, senders and receivers must be online at the same time. This type of involvement is called synchronous participation. Cole (2000) defined synchronous participation in the following way. "Both or all participants are directly involved in the interaction simultaneously" (p. 59). This type is widely used with e-learning applications (Andrews & Haythornthwaite, 2007). Teleconferences, online video conferences, live broadcasts and chat sessions are just a few examples of activities in this type of programme. One of the significant advantages of using this type of online professional development to deliver instruction to teachers is that it is easy to ask/answer questions and receive feedback. On the other hand, there are some disadvantages to applying synchronous participation. McLendon and Albion (2000) claimed that although participants and presenters can interact with each other in real time, the presenter, who could be seen easily by participants, is not able to see the participants. In addition, this type of participation does not allow for having eye contact or seeing body language. However, recently many universities and conference organisers have overcome this problem by using a new tool called TelePresence that enables both presenter and receivers to see each other as though they were in the same room.

Edmondson (2006) mentioned that TelePresence has been defined as "the use of technology to establish a sense of shared presence or shared space among geographically separated members of a group" (p. 5). He found evidence that teachers who had been trained using TelePresence scored significantly higher on a test of relevant mathematics content than teachers who attended a normal professional development course.

In addition, Edmondson (2006) suggested that a TelePresence-enabled model of teacher professional development has the potential to be a highly effective method of professional development.

Figure 3.1: Synchronous Participation Using TelePresence

Source: http://upload.wikimedia.org/wikipedia/commons/c/c9/Teliris_VL_Modular.JPG

A second category of participation enables the receiver or student to be involved at any time and from any place. This is called asynchronous participation and is usually used in online programmes or Internet-based courses (Clay, 2008). One of the differences between asynchronous and synchronous participation is that with asynchronous participation there is some degree of delay in reception and response as well in the interaction (Cole, 2000). According to Clay (2008), these programmes first emerged in the last decade. Examples of this type of online participation, according to Alaugab (2007), include using e-mail, online discussion groups forums that do not require participants to engage at a specific time, recorded broadcasts, and recently, Andrews and Haythornthwait (2007) added blogs and wikis to that list. WebCT and Blackboard systems offer asynchronous communication methods as well (Graham, 2004).

Asynchronous communication, like any other technology, has both advantages and disadvantages. In contrast to synchronous communication, students or trainees can take more time to think and understand any new information they received from the instructor. They can also revise and refine their contributions before sending them (Andrews & Haythornthwaite, 2007).

Some researchers consider as asynchronous programmes to be the most important components of online learning because participants are not required to meet the presenter at a particular time (Andrews & Haythornthwaite, 2007; Cole, 2000) More recent researchers, Kim & Bateman (2010), have argued that the use of asynchronous discussion could promote the development of participants conceptual understanding and evaluation skills.

On the other hand, asynchronous communication may cause frustration due to the delay in response, which takes up more of participants' time (Andrews & Haythornthwaite, 2007).

Online professional development can also be categorized based on the type of model that is provided into five main approaches:

- Broadcast approach
- Independent study
- College lecture course model
- Tutorial model
- Learning community model

Kleiman et al. (2000) provided an example of each approach and they are shown in the following table.

Table 3.4: Approaches to Online CPDs and Their Characteristics

Model	Description	Main Features
Broadcast Approach	The primary interactions are one-way, from a "presenter" or "teacher" to the members of an "audience" or "class".	• Lecture format • Synchronous courses include real time presentations with minimal interaction between instructor and students. • Asynchronous formats have students view recorded lectures. • Assessed through tests, projects
Independent Study	A learner interacts with content provided by the instructor, without any interactions with other students and with little, if any, interaction with the instructor.	• Learner interacts independently with course content. • Learner takes responsibility to determine pacing of content as long as assignments are completed on a timely basis. • Assessed through tests, projects
College Lecture Course Model	This model often combines the first two types of interactions.	• Content is presented in lecture format • Learning is supported by a discussion board and a chat component between the learner and instructor and learners with other learners. • Assessed through tests, projects and participation in discussion boards
Tutorial Model	There are active and ongoing interactions between student and instructor.	• Student receives continuous individual feedback from the instructor. • Student's interaction with content is usually scaffolded by the instructor. • Assessed through projects
Learning Community Model	Emphasis is placed on interactions among all participants and the instructors or "facilitators".	• Instructors facilitate each individual's learning and supported learning by facilitating activity on discussion boards between participants. • Assessed through projects and participation in discussion boards

Adapted from (Kleiman, et al., 2000; Polly & Griffin, 2004).

3.3.7 Compression of Traditional and Online Professional Development Programmes

Both traditional and online professional development programmes aim to build a strong community and help teachers to improve their knowledge and skills in teaching practice. With face-to-face methods, teachers are likely to deepen their relationships and enjoy sharing ideas, discussions, and brainstorming during the sessions (Zibit, 2003) whereas the majority of online courses do not offer that opportunity (Clay, 2008).

Far too little attention has been paid to ascertaining the differences, if any, between the effectiveness of online professional development and traditional face-to-face programmes. Graham (2004) conducted a qualitative study to discover the differences between the two and found that the mean scores of the participants on the pre-treatment survey and post-treatment survey were not significantly different. This result means that professional development can be offered either as an online or traditional course without lowering its effectiveness.

In another study, Jolly and Saldivar (2007) wanted to discover whether there were differences in the viewpoints and preferences of the middle school mathematics teachers who had participated in online professional development and those who had not. The results indicated differences between the two groups on items related to mathematics and pedagogical content for those who had participate in online professional development.

Some writers have indicated different preferences related to the two types of programmes. For example, Smith and Meyen (2003) argued that an online course is different from a traditional one because the instructor can develop or modify the content during the course. In an online course, all content and elements of the program must be developed in advance before placing the course online (S. Smith & Meyen, 2003).

In addition, Chin (2004) argued that there are many benefits of using online learning it might be exist with traditional face-to-face methods but with less degree, such as:

- Saving time and money
- Wider access to limited resources
- Better access for students
- Faster delivery of assessment
- Improved communication links.

After reviewing many studies conducted to explore teachers' opinions about the best method to receive training, the researcher found there is no agreement about the most effective methods of delivering professional development to teachers. Zibit (2003) claimed that even though 86% of teachers said that online communication is useful, they still prefer face-to-face programmes. However, there is agreement in the literature that online learning has the potential to support and provide quality online professional development courses (Norris, 2008).

3.3.8 Factors influencing the implementation of online professional development programmes

As this study aims to investigate the factors that might affect teachers' participation in online CPD, it is necessary to have another look at the results of the previous studies that examined whether or not some factors, such as attitudes, gender and any potential barriers, play a key role in teachers' decisions to participate in online learning. Identifying these factors prior to implementing any online program is a vital step that will help planners and designers to produce an appropriate and effective online course that will provide educators with valuable information during recruitment and assist participants so they can achieve meaningful and effective learning or training. Many researchers have explored the relationship between demographic characteristics of participants and their use of technology (Al-Wehaibi, et al., 2008; K. Campbell, 2000; Davidson-Shivers, Ellis, & Amarasing, 2005; Wozney, Venkatesh, & Abrami, 2006; Yung, 2005; Zhou & Xu, 2007). Gender, years of teaching, experience in using technology, and ownership and

access to a computer were among these factors. The researcher believes that a better understanding of factors influencing teacher use of technology, such as gender differences and barriers and incentives, will contribute to the efforts to promote technology integration in schools and educational systems. In the following subsections, reviews of previous studies conducted in this field regarding teachers' abilities to use ICT are presented.

As mentioned earlier, online CPD programmes cannot be implemented just because there are demands for this kind of training, there is a need to reduce the cost of traditional training, and there is competition with other educational societies. Many things must be assessed and understood in depth before such training is put into practice.

Although, it has been a requirement, since 1997, that all initial teacher education students in Northern Ireland be able to use ICT for personal transactions, teaching, training, and administrative purposes, the work of Cowan (2006) illustrates that there was not enough support for teachers in order to equip them with skills necessary to implement and use ICT in schools. Dakich et al. (2008) stated that many studies have shown that one of the most important barriers to the successful integration of technology in education has been teachers' lack of confidence, experience, and skill in using the latest technology.

Zhou and Xu (2007) surveyed 341 members of 16 faculties in Canada, and the following are some of the reasons that people gave them for not using technology. Faculty members lack time to develop instruction that uses computers. There is no time in the curriculum for computer-mediated instruction. There are problems scheduling enough computer time for different faculty members' classes. Hardware or software is unstable and always breaks down. There is limited research in the literature that shows significant improvements in learning as a result of computer integration and there is no recognition from the university or department administration for using computers in teaching. Males and females responded similarly to the next two barriers: "There are not many training opportunities for faculty members to acquire necessary knowledge and skill," and "Current available

computer tools do not fit the course that I teach". Inan et al. (2004) surveyed 40 pre-service teachers at the Middle East Technical University in Turkey to find out whether there is a correlation between teachers' attitudes and their competency in using computers. They found evidence that, in general, students who had a high competency in using computers also had a positive attitude towards using them in their classes.

3.3.9 **Gender and technology**

Many researchers have examined the effect of gender on educational research and practices, in particular Zhou and Xu (2007). Reviewing the literature to find out about the relationship between gender and use of or attitude towards ICT, The researcher found varying results. Seven studies in this field came up with different results. Some studies revealed that male teachers are more experienced or have a more positive attitude towards ICT while others found the opposite. In other words, there was no significant correlation between teachers' gender and use of the online learning environment. None of them revealed that female teachers are more skilled than males in using computers. In a study by Cowan (2006) that was undertaken to investigate the factors influencing pre-service attitudes towards using a Moodle environment for teaching and learning, 205 people with a post-graduate certificate in education (PGCE) enrolled in an online course designed like a Moodle system, and all the courses were offered as a series of 10 units with up to four activities per unit. This course format was adopted because it offered the student teachers an opportunity to experience an online course and be e-learners before assuming the role of an 'e-tutor' as they progressed through the stages of their course creation. Questionnaires and focus group interviews were conducted to collect the required data. The results of this study showed that, overall, male student teachers seemed to be more positively disposed to working in this type of virtual learning environment compared to females.

These results have been supported by other research. In their comparison of male and female teachers related to their ICT literacy, Dakich et al. (2008) found that there are significant statistical gender differences between teachers who

participated in the survey. The results of the study showed that male teachers were more skilled computer users than female teachers.

Interestingly, a quantitative study conducted by Al-Wehaibi, Al-Wabil et al. (2008) investigated the relationship between the level of a faculty member's Internet use and some independent variables. The researchers used email and online questionnaires to send out the instruments to the participants. Analysing the data revealed that there is no significant relationship between the faculty members' gender and their level of using the Internet. Similar results were found when Yung (2005) conducted his study in Taiwan to find out whether some factors including gender affected middle school teachers' use of distance learning for professional development. Yung confirmed that gender and age did not affect teachers' use of distance learning for professional development. Similarly, 74 teachers (male = 37, female = 37) from secondary schools in Turkey were surveyed by Uzunboylu (2007) to determine their attitudes towards online education. The researcher used an independent sample *t* test to compare male and female teachers' attitudes towards online education. Data analysis found no significant difference. Zhou and Xu (2007) wanted to find the answer to this question: "Does gender matter in the process of technology adoption?" They sent an online survey to all the staff of one of the big Canadian universities; 341 valid surveys were returned. This study found that the same things motivated females and males to use technology. Zhou and Xu confirmed that female staff members were most sensitive to barriers prohibiting the use of technology. Regarding how they use technology, the study indicated that females prefer to learn how to use technology from others while males were more likely to learn from their own experience. Zhou and Xu suggested different models of professional development for the two genders. They argued that females prefer training that involves more showcases and interaction whereas males prefer to be involved in training that provides more chances for hands-on activities. Gender did not make a difference in Sipilä's (2008) study. After analysing 69 online questionnaires received from teachers, the study results revealed that male teachers' attitudes towards developing teaching methods with ICT were more positive in a statistically significant ($p < 0.01$) way.

3.3.10 **Teacher Attitudes**

Planning for a successful online professional development course necessitates exploring teachers' attitudes towards using the Internet as a method of delivering professional development lessons before the course is established. It is generally accepted that teachers' attitudes towards professional development impact the completion and implementation of professional development tasks (Bradley, 1991). Generally, research shows that teachers are quite positive in their opinions about online learning. Teachers also expressed confidence in their ability to learn technology skills and use technology in their schools (Marra, 2004).

At the beginning of the 2004-2005 school year, Green and Cifuentes (2008) carried out a study to investigate the effect of online professional development provided to staff at 12 large schools in Texas following a face-to-face professional development workshop on their attitudes towards professional development programmes. This study revealed that using online activities as a follow-up to professional development programmes positively affects teacher attitudes towards professional development and increases the likelihood of their completion of professional development tasks after a face-to-face session.

The work of Cowan (2006) illustrated that all 205 post-graduate certificate in education (PGCE) students they surveyed reported a positive experience and attitude towards using an online course. Moreover, they revealed that online learning had enhanced their confidence as e-learners.

Recently, in a qualitative study, Annetta et al. (2008) reported that the general attitude of teachers who participated in her study was quite positive towards using technology, not just during the course but also a few months after taking the course.

Sipilä (2008) conducted a study to investigate whether there is a statistically significant difference in the attitudes of students who have a personal laptop computer and those who do not have one regarding ICT. An online questionnaire was emailed to 69 teachers. The results confirmed that teachers who were using a personal laptop in their work were usually more positive than teachers who were

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not. Moreover, data analysis revealed that teachers with less than 10 years of teaching experience were more positive towards ICT than other teachers.

Regarding Saudi Arabia's educational population, Alharbi (2002) conducted a study that aimed to explore the attitudes of the staff at Imam Mohammed University towards online courses. According to the findings of this study, both academic staff and administrators had positive attitudes. Participants mentioned some barriers such as increased workload, inadequate technical and administrative support, and insufficient incentives.

More recently, in her thesis, Aloyaid (2009) interviewed a total of 14 teachers, ICT coordinators, and head teachers from ten secondary schools in Riyadh City. This study revealed that teachers have positive attitudes towards ICT. The participants said that time constraints, lack of training, and financial issues were the major factors that influenced ICT use in schools.

3.3.11 Barriers to Internet Integration

Lack of computer experience, lack of good Internet service, and the need for more technical support were the most common factors that influenced decisions related to adopting the Internet in the educational environment worldwide.

In a study by Jolly and Saldivar (2007), more than 41% of participants had prior experience with online professional development and about 60% of those who had no prior experience said that a lack of face-to-face interaction would prevent them from participating in online professional development.

Green and Cifuentes (2008) asserted:

> "The greatest challenge to providing follow-up to professional development is simply finding time in a teacher's day. Time for teacher learning is an elusive commodity in American schools. Teachers' days are filled with countless tasks leaving little time to think about, much less plan for innovation. Moving teacher-learning to meetings at the end of already crowded day breeds resentment.

Providing release time through substitutes so that teachers can meet during the day is costly" (p. 285).

Moreover, Zibit (2003) argued that the most serious barriers to the implementation the Internet use in the educational environment are

- lack of time for experimenting, training, planning and implementing
- unstable technical infrastructure
- little local control over resources
- lack of administrator's understanding and support
- no sustained or long-term professional development program
- shifts in school system priorities and curriculum
- teacher workload
- lack of equipment access

In their paper on designing distance education courses, Keengwe et al. (2004) pointed out some barriers, such as cost, teacher experience, lack of support and services, and motivation.

Many studies have been conducted in Saudi Arabia and indicated that the same barriers mentioned in the international studies also exist in the Kingdom. For example, a recent study conducted by Al-Wehaibi et al. (2008) found that lack of speed, loss of privacy, and information accuracy are the most fundamental barriers that prevent some faculty members from using the Internet.

To examine the use of the Internet and the information technologies in Saudi intermediate and secondary schools, Al-Showaye (2002) surveyed 143 teachers and interviewed 10 teachers. The participants reported many barriers that affect their usage of the Internet and computer-based information technology such as lack of technical support, inadequate numbers of computers and labs in schools, the huge number of students in class, and the lack of experience using the computer.

With the same purpose, Al-Saif (2005) conducted a study to investigate the use of computers in girls' secondary and intermediate schools in Saudi Arabia. Al-Saif

found that female teachers complained about the lack of training in using a computer, expensive maintenance, and their unconcern about computer use.

The same barriers were confirmed by Al-Asmari (2005) in a study that examined the use of the Internet among EFL teachers working in Technology College in Saudi Arabia. Participants in this study indicated the need for more computers and complained about the insufficient number of computer technicians, the low speed of the Internet, and the cost of the Internet service.

3.4 The Islamic Education in Saudi Arabia
3.4.1 Introduction

This section provides information about the Islamic education in Saudi Arabia in order to give readers who do not have a background on the subject, a chance to know more about it as this is an essential step to understanding the aim of this study.

One of the goals of this study, as mentioned in the first chapter, is to explore whether Islamic education teachers in the Asir region are ready to benefit from the Internet as a new medium of delivering CPD. Hence, it is necessary to review their preparation programmes or, in other words, pre-service training programmes and, at the same time understand their roles and duties in schools.

Having stated this, this section was divided into two sub-sections; the first sub-sections discuss in details the pre service training programs and how Islamic education teacher became a teacher in Saudi Arabia. The second sub-section talks about in service training programmes in Saudi Arabia

3.4.2 Pre service training programmes

As mentioned in the second chapter, Saudi Arabia has a special educational system that follows Islamic instructions. Segregation of males and females is applied in all educational organizations at all levels except preschool. Consequently, both male and female teachers study in their own colleges. The following sections provide

information about the teachers' preparation programmes in Saudi Arabia with emphasis on Islamic education teachers.

This sub section includes:

(a) Preparation of elementary school teachers

(b) Preparation of middle and secondary school teachers

3.4.3   Preparation of elementary school teachers

Believing in the importance of elementary schools, The Ministry of Education in Saudi Arabia has paid more attention to preparing, training and qualifying the best teachers for students in the elementary stage, which is a foundation for all other educational stages (Alsunbul, Alkhateeb, Metwalli, & Nooraldeen, 2008).

Historically, in the first years of the Ministry of Education, Saudi Arabia had a shortage of qualified teachers at all levels. Consequently, it opened the following institutes to prepare teachers for elementary schools.

Elementary teachers' institutes (1953-1968) In the early years of the Ministry of Education, opening elementary teachers' institutes was the best solution to the problem of not having enough elementary school teachers in the opinion of the Saudi stakeholders. Candidates in these institutes used to study three years, and then had to pass an interview and the institute's intensive courses before they became qualified to teach in elementary schools. These institutes were abolished in 1968 (Alhamid, et al., 2007; Alsunbul, et al., 2008).

Teachers' preparation institutes for the elementary schools (1965-1990) The Ministry of Education replaced elementary teachers' institutes with teachers' preparation institutes for the elementary schools, which require a middle school certificate and passing an educational test. The period of study was 3 years. The first teachers' preparation institute for the elementary schools was established in 1965. The Ministry of Education started with 7 institutes in Riyadh, Taif, Makkah, Jeddah, Madenah, Buraidah and Dammam and continued opening them until there

were 63 institutes in 1985. Last teachers' preparation institute for the elementary schools was closed in 1990 (Alhamid, et al., 2007; Alsunbul, et al., 2008).

Junior Colleges for teachers' preparation (1976 – 1992) Junior colleges for teacher preparation were opened to raise the educational level of the elementary school teachers. The first two junior colleges were opened in Riyadh and Makkah in 1976. In 1977, five junior colleges were opened in Dammam, Madenah, Abha, Arras and Taif. These colleges used to accept two kinds of students, those who finished their secondary school level or teachers who had three years of teaching experience as well as a certificate from the teachers' preparation institute for the elementary schools. The period of study in these junior colleges was two years after secondary school (Alhamid, et al., 2007; Alsunbul, et al., 2008).

According to Alsaloom (1995), junior colleges for teacher preparation aimed to:

- Graduate national teachers, qualified professionally and academically to teach at the elementary stage
- Provide in-service training for teachers
- Work with the educational directorates to sort out any educational problems at the elementary stage
- Cooperate with the Ministry of Education to development curricula and textbooks for the elementary stage
- Work with educational institutes outside the Kingdom, to develop elementary education through participation in educational research.

Students in junior college were required to choose one of the following disciplines:

- Islamic Studies   -   - Arabia language   - Mathematics

- Social Students   - Physical Education   -Art Education

However, student who intended to be Islamic education teachers had to successfully complete 75 hours during a two-year period. The first year was a foundation year for all students in all subjects and required completing 39 hours. After that, students were required to study:

16 hours in Islamic education

12 hours in a second major

2 hours in practical teaching

2 hours in teaching methods

In 1992, as a result of the Ministry of Education's plan to extend the period of study in the junior colleges to 4 years and upgrade them to colleges for teachers awarding a BA in education, the last junior college was closed in 2003 (Alsunbul, et al., 2008).

3.4.4 **Preparation of middle and secondary school teachers**

For many years, colleges of education were the only educational organizations responsible for preparing middle and secondary schools in Saudi Arabia. However, recently, colleges of teachers have developed their study plans and have started to share with the college of education the responsibility of training and preparing teachers for the middle and secondary stages as will be discussed in the following paragraphs.

Colleges of teachers Colleges of teachers were initially opened in response to demands for improving the quality of elementary teacher preparation at the junior colleges.

Six goals were established to be met by colleges of teachers in Saudi Arabia:

- Preparing educationally and academically primary school teachers who are applying and adhering to Islamic teachings
- Improving educational and academic rehabilitation of in-service teachers and refreshing their knowledge and educational concepts
- Participating with the concerned administration in the Ministry to carry out educational, theoretical, and practical research aimed at developing curricula and primary school textbooks
- Preparing, developing, and executing training programs designed for

teachers from different school stages and based on the needs of educational development

- Cooperating with educational institutions, inside and outside the Kingdom, to further develop education, to participate in pedagogical and educational research, and to attend conferences and seminars in order to exchange experience and knowledge

- Organizing rehabilitation programs for post-secondary school students to prepare school lab attendants and secretaries of educational resources, in addition to other programs that prepare them to work in different specialization needed for growth (King Saud University, 2009a).

The preparation program for Islamic education teachers in these colleges requires them to take 149 credit hours, divided in this way:

- General preparation - 70 credit hours.
- Islamic education - 14 credit hours.
- Educational preparation - 31 credit hours
- Internship - 8 credit hours (Alhamid, et al., 2007).

Until 1999, colleges of teachers were the only educational organizations responsible for training elementary school teachers in Saudi Arabia. However, after this date, colleges of teachers upgraded their programs and students who graduated from them earned a bachelor's degree in teaching, and they shared the responsibility with the Saudi universities to prepare and train middle and secondary schools teachers (Almaghidi, 2004).

College of Education In 1966, the first college of education was established in Riyadh to work in cooperation with the Ministry of Education to improve the academic standing of educators through ongoing programs, as well as conferences and seminars (Ministry of Education, 1999). The school prepared students to become quality educators for elementary, intermediate and secondary schools.

Like other colleges in the world, every college of education in Saudi Arabia has its own programmes different from those at other institutions. Nevertheless, in general, teachers' preparation programmes in all these college consist of four essential segments (Alsunbul, et al., 2008):

(a)　General preparation courses that aim to develop student knowledge in the field in which he is going to teach. Some colleges of education require the student to complete these courses successfully before enrolling in any educational course, such as King Saudi University and Um Alqura University while others, such as King Khalid University and Imam Mohamed University, allow students to study educational courses at the same time they are studying the general preparation courses.

(b)　General educational preparation courses, such as education, curriculum, assessment and evaluation

(c)　Specialized educational preparation course that focuses on the subject that students are going to teach. For example, Islamic education students study Islamic education teaching methods, the future of Islamic education teachers, etc.

(d)　Internship when student does practice teaching for one semester, about three months, at one of the public schools.

3.4.5　In-service training programmes:

Educational training has become one of the significant pillars of any educational system and organization. During the last few years, the issue of preparation of those who train teachers has been one of the main concerns of educational development in some Arab nations, including Saudi Arabia. A huge amount of financial support has been dedicated to support training programs, and an increasing number of the trainees are enrolled in educational institutes (Alhamid, et al., 2007). Saudi educators believe that in addition to the importance of technology and equipment in any educational system, human resources have the highest priority in any such organisation (Alhamid, et al., 2007). Teachers are capable of implementing and making use of all other factors that collaboratively contribute to productivity.

Believing in the importance of in-service teacher training programmes, the Ministry of Education opened 42 educational training centres in the 42 general educational moderates in Saudi Arabia in order to:

- Promote mutual integrity and communication between the college and other training centres
- Provide a better understanding and analysis of the training needs and work on satisfying them through the systematic planning, implementing, following up, and assessing of training programs and courses hosted by the college
- Establish close relationships and ties between the centres and community through offering training programs and courses that contribute to raising the competency of individuals in a way that keeps pace with the targets of development plans
- Offer training courses, sessions, and seminars that aim to raise cultural and professional awareness
- Offer services for all individuals regardless of the age or the academic level of the trainees (King Saud University, 2009b).

These centres perform many tasks related to teacher training in Saudi Arabia, such as:

- Offer training courses and programs that satisfy the needs of the local community in accordance with college objectives, plans and facilities
- Design training portfolios necessary for training programs
- Follow up and supervise the implementation of training programs and courses carried out by the Centre
- Promote cooperation with private firms and financial institutions in the field of training and making use of their potentialities and experiences in training
- Prepare annual and monthly budgets, financial accountings, and achievement reports of the Centre (King Saud University, 2009b).

Educational centres, nationwide, seek to fulfil their goals through providing several types of teachers' training programmes, such as:

- Primary, intermediate and secondary school managers' course
- Short refresher courses
- Community school courses
- Rehabilitation programs
- Supportive programs
- Diploma programs.

3.5   **Summary**

This chapter prepares the ground for this research by reviewing and presenting some of the relevant information from the literature, which allowed the researcher to find out what studies had been conducted and what needs to be researched; in order to find out more about this new phenomenon, online CPD. The chapter includes information about three subjects: CPD, online CPD, and Islamic education in Saudi Arabia. It also reviews the studies related to the scope of this study.

It is important to mention that as this study is the first attempt to explore the reality of teachers' aptitudes and attitudes towards online CPD in Saudi Arabia, and because there is a shortage of studies in this area, both nationally and internationally, reviewing the studies related to the closest topics to online CPD, which are online learning or using ICT, has assisted the researcher in building the grounds of the present study.

Many researchers have asserted that pre-service teachers and faculty members have limited experience in using modern technology. There is no agreement on the influence of gender on teachers' literacy with regard to using computers. Seven studies have compared males and females in their capabilities in using ICT. Different results were found and none of the studies revealed that females were more skilled than males.

In addition, reviewing the literature has shown that teachers have positive attitudes towards using ICT and online learning. Teachers' attitudes, specifically with regard to online CPD, needs to be researched because teachers' attitudes towards using ICT, or even towards online education, may be different when they are in the role

of instructor compared to their attitude toward online CPD when they log in as a receiver of training.

Moreover, some researchers have investigated the barriers that influence the adoption of technology in schools and teaching. They indicated that there was a lack of computers in schools, a huge number of students in a class and a lack of training in using computers. A question that needs to be asked, however, is whether or not there are different barriers that influence teachers' participation in online CPD.

It is apparent that there is a need to fill a clear gap in the literature regarding using computers and the internet as a medium for delivering professional development to teachers, to make the following contributions to our body of knowledge:

1- The literature revealed that no research has been conducted aimed at investigating the aptitudes of teachers in using computers and the internet for professional development purposes. Therefore, the primary contribution of this study is that it will be the first attempt to assess to what extent Islamic education teachers are competent in using computers and the internet for professional development purposes.

2- The literature revealed that many studies have examined the barriers to teachers' use of technology, but none of them have investigated the barriers that influence their participation in online CPD. However, the present study also goes beyond just stating the barriers by trying to find out the potential ways to overcome theses barriers and encouraging teachers to engage in such training.

3- Many studies have been conducted to examine teachers' attitudes towards using online learning or using ICT. It is clear that investigating overall teachers' attitudes towards online CPD, when teachers act as a receiver of training, may give different results from investigations of their attitudes towards using computers or ICT to deliver teaching to their students.

4- Reviewing the previous studies revealed that most if not all prior studies, especially those that were conducted in Saudi Arabia, provided significant

information about using ICT in higher education (e.g. colleges, universities etc.). Therefore, conducting this study in general education schools will fill a gap in the literature regarding teachers' aptitudes and attitudes towards online CPD.

5- Although a number of studies have examined the potential influence of some factors such as gender, experience in teaching, experience in using computers, and previous online participation, on teachers' aptitudes and attitudes toward using ICT for online learning, more investigation of their influence on teachers' attitudes towards online CPD, and their competency in using computers for professional development, is still needed. The findings of this study seek to make this contribution.

4. Research Methodology

4.1   Introduction

This chapter describes the methodology and procedures used in this study. The aims of this study, as previously stated, were to investigate to what extent Islamic education teachers in the Asir region, of the south western region in Saudi Arabia are able to gain from online CPD. In other words, it aims to measure teachers' current attitudes towards online CPD, evaluate their aptitude to use a computer for professional development purposes, and at the same time, identify the most important barriers and innovations that might affect their participation in such a programme.

This chapter is divided into nine sections; it begins with a description of this study in detail including the research approach, the second section discusses the research aims and questions, the third section is about limitations while the fourth one presents the target population and sampling, the fifth and sixth sections talk about instrumentation and data collection procedures. Ethical considerations and the statistical data analysis are presented in the seventh and eighth sections.

The final section summarises the information in this chapter.

4.2   Research Design

This study uses descriptive statistics to describe Islamic education teachers' attitudes and their aptitude to gain from technologies for professional development purposes, and identifies the factors that might affect their participation in online CPD in the future. According to Wisker (2007) and Gilbert (2008), survey research allows researchers to gather data about attitudes, facts, activities, values, personal experiences, behaviour and responses to events. In other words, it aims to describe the characteristics, opinions or attitudes of a population through the use of a representative sample (May, 2001). Survey research is very common in social studies to measure and describe what exists without asking about its reasons (Ary,

Jacobs, & Razavieh, 1985). The need for this kind of research emerges, in particular, when the researcher aims to gather data from a large population. Using survey research, the researcher can gather information about the population through various methods such as face-to-face interviews, telephone interviews, postal or hand-delivered questionnaires and online surveys (Gilbert, 2008).

To best answer the research questions, the data from this study was collected using two types of instruments. The survey questionnaire was the main instrument of this study, followed by an interview of a sample of participants among the original research sample. Consequently, this study contains both quantitative and qualitative methods. The reason behind this was to gather more information and understand the problem in depth. Berg (2007) confirmed that some researchers use both qualitative and quantitative methods to get a clear picture about the phenomenon that they are studying. In addition, Frankfort-Nachmias and Nachmias (2000) stressed that "researchers can improve their understanding of the phenomenon they research by using two or more data gathering strategies and this is the fact of triangulation" (Frankfort-Nachmias & Leon-Guerrero).

Using more than one tool to gather data is a type of triangulation. The varieties of data, investigators, theories and methods are other types of triangulation (Berg, 2007). By using more than one data collection method, researchers will increase the confidence in the reliability and validity of their study results.

4.3 Research Aims and Questions

For three years, when the researcher was working as a teacher of Islamic Education in a secondary school, he felt that there was a lack of CPD programmes provided by the Ministry of Education and, at the same time, supervisors faced difficulties in meeting the various training needs of teachers. This view was not only the researcher's view, many researchers had also indicated in their studies the increasing need for more CPD programmes in Saudi Arabia, to match with teachers' needs. Alqahtani (2006) confirmed that the existing programmes were not enough and didn't cover all the aspects that teachers were looking for. Many other

studies have also shown that the provided programmes did not match with teachers' interests (Al-Thobaiti, 2001).

Recently, after the researcher moved to one of the Saudi Universities to work as a lecturer and head of the pre-service training programmes committee, he found the same results. Regardless of all the Ministry of Education's efforts in this field, there were demands to give teachers more opportunities to be involved in such programmes (Alqahtani, 2006). As a response to these demands, the Ministry of Education has tried using the Internet as a medium for delivering professional development opportunities to the growing number of teachers looking for any opportunity to better equip themselves. In May 2008, the Ministry of Education invited 1200 teachers to participate in the first online CPD programme that allowed teachers to improve their skills and knowledge anytime and anywhere through the Internet. Surprisingly, just fewer than 200 teachers participated in this programme. This suggested that there was a problem worth researching. In addition, the researcher supported the concept that before implementation of any new training programme, it is important to address the barriers and incentives, such as participants' attitudes towards that programme. This research has tried to investigate the important steps to be fulfilled before any online CPD programme could be implemented in Saudi Arabia. Accordingly, the aims of this research, as indicated in Chapter One, are:

- To measure the current Islamic education teachers' levels of competency in using the computer and Internet for professional development purposes
- To explore the attitudes of Islamic education teachers towards online professional development programmes
- To examine the major barriers that prevent teachers from participating in online CPD
- To gain an in-depth understanding of Islamic education teachers' perceptions of online CPD programmes and how to overcome any barriers that might hinder teachers' participation in such training and make these programmes more effective and inspiring

- To provide a holistic theoretical framework for teachers' professional development in Saudi Arabia and to fill the gap in the national literature about this area.

Hence, it is necessary to recall the research questions that are being utilized to guide the study. These research questions are as follows:

The first main question is:

Do Islamic education teachers have the competency to use computers for professional development purposes?

This question is followed by some secondary questions:

- Do Islamic education teachers have the competency to use computers for professional development purposes?
- Do male Islamic education teachers have the competency to use computers for professional development purposes?
- Do female Islamic education teachers have the competency to use computers for professional development purposes?
- Are there any significant differences between male and female teachers' competency to use computers?
- Are there any significant differences in the competency to use computers related to other variables?

The second main question is:

What are the Islamic education teachers' attitudes towards online CPD?

This question is followed by some secondary questions:

- What are the Islamic education teachers' attitudes towards online CPD?
- What are the attitudes of male Islamic education teachers towards online CPD?
- What are the attitudes of female Islamic education teachers towards online CPD?

- Are there any significant differences between male and female teacher' attitudes towards online CPD in relation to gender?
- Are there any significant differences in the attitudes towards online CPD related to other variables?

The third main question is:

What are the major barriers that affect participation of teachers on online CPD?
This question is followed by some secondary questions:

- What are the major barriers that affect participation of teachers on online CPD in the view of Islamic education teachers?
- What are the major barriers that affect participation of teachers on online CPD in the view of male Islamic education teachers?
- What are the major barriers that affect participation of teachers in online CPD, in the view of female teachers?
- Are there any significant differences between male and female teachers regarding the barriers that affect participation of teachers in online CPD?
- Are there any significant differences between male and female teachers regarding the barriers that affect participation of teachers in online CPD related to other variables?

The fourth main question is:

What are the major incentives that would encourage teachers to participate in online CPD?

4.4   **Limitations**

This study was limited to a population of Saudi teachers who were working during the second term of 2009, so it may not be valid to generalize the findings from this study to another population.

The subject of the teachers who participated in this study was limited to Islamic Education teachers because this is the subject taught by the researcher himself and

he has a good background in this subject. It is worth noticing that the Islamic Education teachers are the largest group of teachers in Saudi Arabia.

4.5 The target population and sampling
4.5.1 Population

Population in any study is defined as "every possible case that could be included in the study" (David & Sutton, 2004). The target population of this study, from which the sample was drawn, consisted of all teachers who were teaching Islamic education as full-time employees at Saudi state schools in the Asir educational region during the period when this study was conducted. The reasons for choosing teachers in the Asir educational region as the population of this study are as follows.
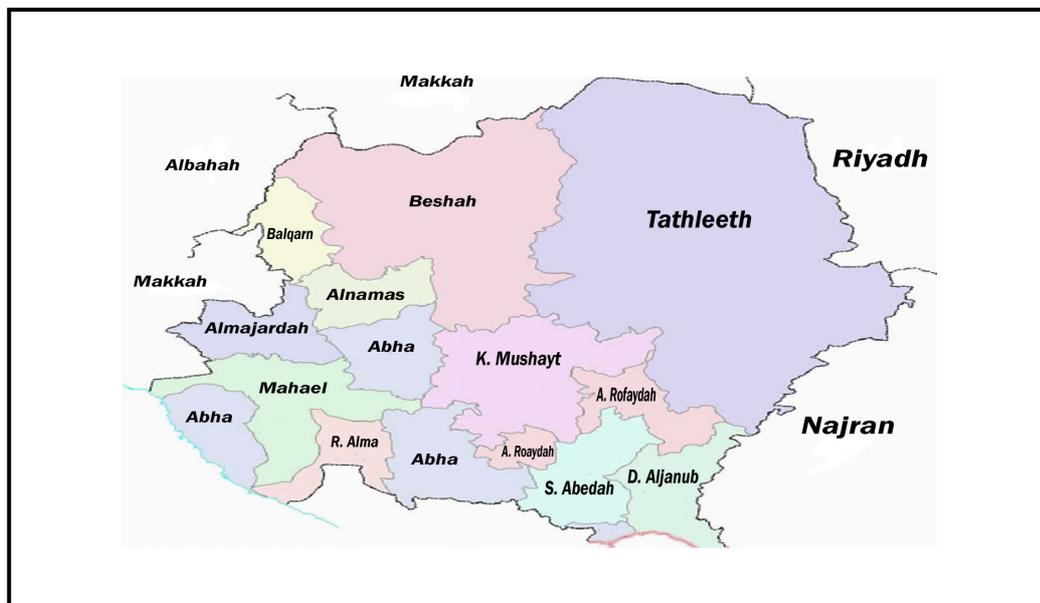
Figure 4.1: The Asir Educational Region

- The Kingdom of Saudi Arabia is one of the biggest countries in the Middle East, covering approximately 2,150,000 square kilometres (830,000 square miles). That means that Saudi Arabia is 27 times bigger than Scotland, and due to time and financial limitations of this research, it would have been very difficult to apply this study to the whole country.

Consequently, the researcher chose the Asir educational region as the target population of this study.

- The Asir educational region is the biggest region in Saudi Arabia, if we exclude Makkah, Madenah, Riyadh, and the eastern regions because of the special properties, religious, political and economical, that they have. Therefore, the results of this study could be generated to the rest of Saudi Arabia's regions.

- The Asir educational region is the home of the researcher and also his place of work. Having intimate knowledge of the region would help to obtain the required data with consideration to the properties of the population, which is importance for any researcher when facilitating his or her task.

Like all educational regions in Saudi Arabia, the Asir educational region advocates and implements gender-based segregation in all schools, and as a result of that, there are two general directorates of education in the Asir region, one for boys and the other for girls, and both of them are under the direction of the Ministry of Education. The general directorate of education (boys) consists of six educational directorates: Abha, Mehail, Regal Almaa, Sarat Abeedah, Alnamas and Bishah, and the general directorate of education (girls) consists of four educational directorates: Abah, Alnamas, Mahail and Bishah, even though it covers the same area as the general directorate of education (boys), because it considers Abha, Sarat Abedah and Regal Almaa to be one educational directorate.

According to the latest official statistics (2009), together, general directorates employ 4,404 male Islamic education teachers working in 1,650 schools, and 5,492 female Islamic education teachers working in 1,880 schools. Table 4.1 shows the number of Islamic education teachers in each educational directorate in the Asir region.

Table 4.1: The Islamic Education Teachers' Population in the Asir region

The educational directorates	Male			Female		
	Islamic Education Teachers	Schools	Students	Islamic Education Teachers	Schools	Students
Abha	1368	478	83332			
Sarat Abedah	482	236	18333			
Regal Almaa	283	122	7768	3092	935	103153
Alnamas	486	111	6856	284	118	6356
Bishah	903	390	37532	1132	502	34547
Mahail	882	313	37856	984	325	32371
Total	4404	1650	191677	5492	1880	176427

There are two reasons for choosing these teachers as subjects for the study. Firstly, as the researcher had been working as an Islamic education teacher for several years, this could help him to address the issues facing the target population. In addition, from his experience as a supervisor of pre-service training students at the College of Education in King Khalid University, the researcher has a good, extensive experience in this subject that will enhance his ability to conduct this study using a rich source of available information. Secondly, the group of Islamic education teachers, as mentioned earlier, is the biggest group of teachers in Saudi Arabia. Table 4.2 shows the percentages of Islamic education teachers, in relation to teachers of other subjects, in the Asir region.

Table 4.2: The percentages of Islamic education teachers, in relation to teachers of other subjects, in the Asir region

The educational directorates	Male			Female		
	Islamic Education Teachers	Other Subject Teachers	Percentage	Islamic Education Teachers	Other Subject Teachers	Percentage
Abha	1368	7295	18.75%			
Sarat Abedah	482	2179	22.12%			
Regal Almaa	283	1175	24.09%	3092	11597	26.67%
Alnamas	486	1403	34.64%	284	1192	
Bishah	903	3911	23.09%	1132	4694	
Mahail	882	3315	26.61%	984	3381	23.83%
Total	4404	19278	22.85%	5492	20864	26.32%

Finally, as Saudi Arabia is the researcher's home, choosing this country helped the researcher to conduct the research with a clear image of the population.

4.5.2 The study sample

Sampling is one of the important steps in any research because the sample must accurately represent the study population. A representative sample is one that has the same properties as the original population (Alduhayan & Ezat, 2002). Accordingly, in this study, a probability sample had to be chosen as the type of sample for this study because it is the "surest way of obtaining samples that are representative of the population" (De Vaus, 2002, p. 70).

The process of selecting the sample was undertaken in four stages as outlined below.

The first stage: determining the sample size

Using large samples might waste time, money and effort. In turn, small samples might not be reliable enough. Hence, a researcher must do the best to choose the appropriate sample. Alduhayan and Ezat (2002) discussed the debate among researchers about the size of the sample which should be taken to be a representative sample. They claimed that samples in the majority of studies are between 1% and 10% of a population and there is a clear difference among researchers on this point. However, the present researcher found Krejcie and Morgan's formula determining the size of samples, which they supported in their article 'Determining Sample Size for Research Activities' in 1970 (and, thereafter, many researchers have followed them) is one of the best ways to ensure that the sampling is done in the best manner. So, the formula used in this research to determine the required size of sample is:

$$N = \frac{X^2 \times N \times P(1-P)}{(ME^2 \times (N-1)) - (X^2 \times P \times (1-P))}$$

N = sample size

X2= Chi- square for the specified confidence level at 1 degree of freedom

N = Population Size

P = Population proportion

ME= desired Margin of Error

Based on this formula, the target sample of this study was:

Table 4.3: The sample size

Teachers	Population	Sample
Male	4404	353
Female	5492	359
Total	9869	712

The second stage: selecting the target sample (the participating teachers)

In this stage, the researcher followed three steps to select the sample in the right way:

First, the population was divided into small groups, with such a large population, it is suggested that the population should be divided into small groups and a sample chosen from each group. Thus, the researcher divided the population of the present study into six districts for male teachers; Abah, Sarat Abedah, Regal Almaa, Mahail, Beshah and Alnamas and four districts for female teachers; Abha, Alnamas, Bishah and Mahail. This division was based on the official division which was authorized by both the general directors of education (male and female) in the Asir educational region.

Secondly, using the ratio of each area's teachers, the target sample was calculated.

Table 4.4: The division of the population and the ratio of each division

The educational directorates	Male			Female		
	Islamic Education Teachers	Percentage of total	Target sample	Islamic Education Teachers	Percentage of total	Target sample
Abha	1368	31.06%	110			
Sarat Abedah	482	10.94%	39			
Regal Almaa	283	6.42%	23	3092	56.30%	202
Alnamas	486	11.03%	39	284	5.18%	19
Bishah	903	20.50%	72	1132	20.61%	74
Mahail	882	20.03%	71	984	17.92%	64
Total	4404	100%	354	5492	100%	359

Finally, randomly, by using the random numbers table and the numbers of schools, schools were chosen from each area until the required number of teachers was attained. According to Berg (2007), a simple random sample is widely employed by researchers and to choose a simple random sample, "each element in the full population must have an equal and independent chance of inclusion in the eventual sample to be studied" (p. 42).

4.6 Research Instruments
4.6.1 Introduction

Researchers must be aware that there are several methods of collecting data, and choosing the instrument to use depends on several factors, Time, cost and size of population are some example of those factors (Rea & Parker, 2005). Moreover, the research aims, the questions to be answered, and the type of data that a researcher is trying to collect play a key role in the decision process to select one or more research instruments. Fraenkel and Wallen (2008) addressed some questions that need to be answered before choosing any type of instrument. These questions are:

- Where will the data be collected?
- When will it be collected?
- How often will the data be collected?

- Who is to collect the data?

Usually, researchers follow two methods of obtaining and utilizing an instrument: find and administer a previously existing instrument of some sort or administer an instrument that the researcher has developed or had developed by someone else (Fraenkel & Wallen, 2008).

The instruments used in this study were chosen and utilized after a review of the literature, taking into account the study's aims and questions and how best to investigate the targeted population in order to obtain the required data. Two types of instruments were used to gather the required information in this study: These instruments included; (a) a questionnaire and (b) a semi-structured interview. These instruments have been utilized by previous researchers. Thus, the present researcher has developed the instruments to meet the aims of this study. Moreover, the researcher has ensured that all instruments have a good level of validity and reliability.

4.6.2   Questionnaire
4.6.2.1   Introduction

Questionnaires have been known and used since 1935 when George Gallup conducted a weekly survey for business purposes, (Rea & Parker, 2005). The questionnaire has become increasingly popular as a research instrument, especially in social research (Rea & Parker, 2005). In most cases, it is used to investigate attitudes, perceptions, beliefs and opinions (Black, 1999). Like any other types of instrument, the questionnaire has both advantages and disadvantages. Fraenkel and Wallen (2008) pointed out the advantage of being able to send the questionnaire simultaneously to a large sample, which helps researchers in the generation of data. Studying problems in a realistic setting is another advantage of using a questionnaire to obtain data in social research (Wimmer & Dominick, 2000). Moreover, the enormous amount and variety of information obtained through a questionnaire is more than can be obtained by other instruments such as an interview or observation (Wimmer & Dominick, 2000). For example, demographic information, attitudes, motives, intentions, and so on. Rea and Parker (2005) stated

that a questionnaire is widely used, especially to obtain data such as attitudes, preferences, beliefs, feelings and opinions.

Bryman (2008) indicated that the most common advantages of questionnaires are:

- Cheaper administration costs unless the sample is large geographically
- Quicker to administer
- Researcher has no effect on the respondents
- The answers that people give will not be affected by the interviewer's variability
- It will be more convenient for the respondents.

Even though the questionnaire has many advantages, it also has many disadvantages, and the researcher must be aware of these disadvantages before applying his study's questionnaire. For instance, the cost of using such instruments, especially with a sample that is geographically widely dispersed, could be more expensive than using other instruments (Wimmer & Dominick, 2000). Yet, in turn, this cost is still reasonable if it is compared to the large amount of data obtained through this type of instrument. The time taken in distribution and gathering of the questionnaire is one of its disadvantages, in particular with a large population. In addition, Sarantakos (1998) pointed to several disadvantages of questionnaires. For example, explaining questions is not possible and the participants will not be able to ask the researcher to clarify the questions. What's more, there is no way to ensure that the person who answered the questionnaire is the right person.

Bryman (2008) added several other disadvantages:

- There is no way to help respondents if they have difficulty answering the questions
- The researcher cannot ask further questions to gain an in-depth understanding
- There is no way to insure that the questions were answered in order
- One cannot obtain any additional information
- There is a possibility of missing data because there is no prompting
- There is a lower response rate than with other types of instrument.

Regardless of the questionnaire's disadvantages, the researcher thought that it was the preferable method to survey the large targeted population like the present study's population, and that it was the most appropriate way to the present questions, and this is what encouraged him to use it as the main instrument to gather this study's data.

It is worth noting at this point that the researcher tried to reduce, if not avoid completely, the questionnaires' disadvantages as follows;

1. Conducting an online survey to reduce the time consumed in sending the survey and collecting replies.
2. Conducting a follow-up interview in an attempt to understand the problem in depth by gathering more information through other ways.

4.6.2.2 **Questionnaire design**

Reviewing the literature related to research instrument design, it is clear that the researcher must ensure that his study's questionnaire fulfils the conditions or features of up to standard questionnaire design. In other words, a questionnaire must be designed in the light of particular specifications to avoid spending more time and effort and to ensure that the data obtained by means of this questionnaire is reliable (Oppenheim, 1992).

Wimmer and Dominick (2000) asserted that the researcher must be aware of the attributes of the questionnaire design, and they suggested some ways to improve questionnaire design. For instance, a good and interactive introduction is considered an important factor affecting the rate of response. The following factors are also important: adding some instructions whenever necessary, avoiding including too many questions, piloting a questionnaire before it reaches its official destination, and designing a questionnaire in an attractive layout is also important.

Short, logically worded, non-threatening, serious, neutral and enjoyable are some of the attributes of a good introduction, according to Blackstrom (1981). In addition, while many studies have indicated that an introduction must include some information about the questionnaire and the study, others advise otherwise. For

example, Balnaves and Caputi (2001) indicated that a general introduction must include; the aims and the objectives of the study, assurance of confidentiality and the way that should be used to return the questionnaire to the researcher. However, Wimmer and Dominick (2000) claimed that there is no need for any information about the purposes or the value of the study to people who will answer the questionnaire. Nevertheless, the researcher is inclined to the view that including some information about the study, especially its aims, might help to encourage people to participate in the study and know how valuable the study is.

When providing some instructions, in many cases it is necessary to write clearly and in an uncluttered way to respondents. Bryman (2008) asserted that a researcher must be clear and include any instructions that might help people to follow the right way to answer a questionnaire. For that reason, some instructions such as "choose only one answer" or "you can choose more than one answer" are very important to reduce the risk of missing data.

A questionnaire's length is no less important than other factors. It is not surprising that a short questionnaire increases the response rate and, in turn, a long questionnaire will cause a low rate of completion and participation (Wimmer & Dominick, 2000). No one can prescribe an exact length for a questionnaire (Bryman, 2008). Even so, many researchers have indicated that the acceptable questionnaire length is about 12 pages or 125 items (Balnaves & Caputi, 2001) while others rely on the rate of completion. Wimmer and Dominick (2000), for example, said that a questionnaire that did not achieve a 100% respondents completion rate is too long. On the other hand, the character of participants and the nature of the study play a key role in the rate of completion and participation (Bryman, 2008). Hence, Wimmer and Dominick (2000) pointed to several factors that help a researcher to control his or her questionnaire length: the research's budget, aims, objectives, nature of research and sample, type and character of questions used in the questionnaire, location of the research, and time of conducting the study.

In the initial stages of the questionnaire design, it is important to pre-test the questionnaire before sending it to the targeted respondents. Rea and Parker (2005) defined the pre-test as "a small-scale implementation of the draft questionnaire that assesses …such critical factors"(p. 31). The main aim of conducting a pilot study before administering the final version of the questionnaire is to ensure that the questionnaires' questions are working well (Bryman, 2008). In other words, conducting a pilot study before administration the questionnaire is done to assess:

- Questionnaire clarity: assesses how well the questions have been answered. Did respondents face any difficulties in understanding the questions?

- Questionnaire comprehensiveness: did the questionnaires' questions succeed in gathering the required data? Are there any unneeded or inappropriate questions?

- Questionnaire acceptability: by assessment of the questionnaire length or exploring whether there are any refused questions. Did the respondents not answer any question on account of ethical or religious issues? (Rea & Parker, 2005).

In his discussion of the steps one should take to improve a questionnaire's response rate, Bryman (2008) noted that an attractive and pleasant layout play a key role in improving a questionnaire response rate. This is also covered by Rea and Parker (2005) who addressed the issue of the importance of making the layout of the questionnaire as clear and adequate as possible, as well as answering any questions that might emerge throughout answering the questions. Balnaves and Caputi (2001) summarized the fundamental elements that must be included in the layout:

- General introduction, which includes the aims of the questionnaire, a guarantee of confidentiality, and the methods for returning the questionnaire to the researcher.

- Question instructions that include any information that might be needed to help respondents to answer the questions.

- Question order; which means that the researcher must make sure the early questions are simple and easy to answer.

- Use numerical codes or another system to record responses.

In addition, Wimmer and Dominick (2000) suggested some ideas to make the questionnaire layout attractive. For example, the response format must be harmonious throughout the questionnaire and one must leave enough space for answers, especially for open ended questions.

To answer the questions targeted by the present study, a questionnaire was developed by the researcher, after intensive reading and reviewing of the related literature, to achieve the aims of the present study.

4.6.2.3   **The questionnaire's objectives**

A questionnaire was employed to elicit the perceptions of the study sample towards online CPD programmes in Saudi Arabia. In particular, the current questionnaire was created to accomplish the following objectives:

- To collect general background details of all participants about their gender, the highest degree that they have obtained, the number of years they have taught full time, their number of years of experience in using a computer, the place where they usually use a computer, the place where they usually access the Internet, and their prior online training
- To identify the sample's aptitude to use a computer for training purposes
- To identify the general attitudes of Islamic education teachers in Saudi Arabia about participating in online CPD programmes
- To determine the major barriers that affect, or might affect, the participation of teachers in online CPD programmes.
- To gather information about the current study sample's opinions about methods for making the online CPD programmes in Saudi Arabia effective and motivational.

4.6.2.4   **Questionnaire content**

A questionnaire was distributed to two groups; namely: male and female teachers. The questionnaires consisted of five parts.

The first part aimed to gather some demographic information about the study participants, It contained eight questions that sought information about respondents' backgrounds, gender, the highest degree that they had obtained, the number of years of full-time teaching experience, the number of years of experience in using a computer and the Internet, the place where they usually used a computer, the place where they usually accessed the Internet, and their prior online training experience.

The second section was a measurement scale to assess teachers' experience in using a computer and the Internet. This part consisted of 10 questions about teachers' abilities and knowledge of some common uses and applications of a computer and the Internet, which are usually used for training purposes. Four responses were possible in this section: I have no experience, beginner, intermediate, and expert. Each response was explained to the participants. Each participant was asked to rate his experience with each application in light of the given measurement table, which illustrated the definition of each response that was used in the scale.

Table 4.5: Technology experience scale

Level	Value	Definition
I have no experience	1	You do not have any experience in using a computer
Beginner	2	You know the basic skills only
Intermediate	3	You can do a lot of tasks by computer but you still need some help
Expert	4	You can do everything that you need to do by computer without any help

The third section of the questionnaire was an attitude scale. Since one of the present study's aims was to discover the Islamic education teachers' attitudes towards online professional development, to reach this aim, an attitude scale was developed and used to discover the respondent's general attitude towards the subject of the recent study. Using attitude scales is very common in social education to explore

attitudes by asking the sample individually to respond individually to some statements (Fraenkel & Wallen, 2008). The attitude scale which was used in the present study included 25 statements. Items were selected from many previous studies and modified and developed by the present researcher to fulfil the aims of this study. The attitude scale was distributed to both male and female teachers. The Likert scale, as one of the common scales used in social research, was utilized to identify whether the study participants have a positive or negative attitude towards online professional development.

Table 4.6: The Likert scale used in the attitude section

Strongly Disagree (SD)	Disagree (D)	Normal (N)	Agree (A)	Strongly Agree (SA)
1	2	3	4	5

The five levels of attitude consisted of strongly disagree, disagree, normal, agree and strongly agree (Fraenkel & Wallen, 2008). The attitudes were translated as the following scores 1, 2, 3, 4, and 5, respectively. The scores were totalled to find the total score for each item. A higher score indicated a higher positive attitude and vice versa.

The fourth section aimed to identify any obstacles that might prevent teachers from participating in online training. A list of barriers was assembled after an intensive reading of related literature reviews, and some of them were added by the researcher relying on his experience in this field. Barriers including were four groups of barriers: those related to teachers, those related to the educational system, barriers related to services and equipment, and barriers related to other factors. Each item listed was followed by a number of statements designed to investigate whether teachers considered it to be a barrier or not. A Likert scale consisting of five points was used in this section to measure participants' opinions about the given barriers. In addition, the participants were asked to add any other barriers not mentioned in the instrument.

The last section of the questionnaire was an open-ended question. The participants were asked to add any suggestions concerning methods that could be used to improve training efficiency and overcome any barriers as well as encourage teachers to participate in online.

4.6.2.5   **Questionnaire pilot study**

It is important for researchers to pilot any instruments they aim to use to gather the required data before employing them. Balnaves and Caputi (2001) defined a pilot study by saying a pilot study is a preliminary test of a research instruments that helps to discover problems and benefits associated with the implementation. Shipman (1988) considered piloting to be an essential stage that aims to ensure that the responses yield the required information. By piloting instruments, researchers test many things, such as the acceptable level of items in the sample questionnaire, accuracy of meaning, any difficulties that might be associated with answering the questions, and the level of respondents' interest (Converse & Presser, 1986). Moreover, piloting an instrument helps the researcher reach an in-depth understanding of the questions' wording and reduce bias and possible errors (Balnaves & Caputi, 2001). Bryman (2008) confirmed that piloting not only ensures that questions are adequate but also ensures that the study instruments as a whole operate well.

Evans (1984) and Bryman (2008) summarised the advantages of piloting:

- Helping the researcher to try administering the instrument, and thus make him more confident
- Exploring any questions that might not be clear enough and might lead to unwanted answers
- Addressing any weak points in the administrative and statistical operations
- Identifying any questions that might make respondents uncomfortable
- Allowing the researcher to determine the adequacy of the instructions in the instrument
- Helping the researcher to check the reliability and validity of the instruments.

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In this study, the first version of the questionnaire developed for use in the study was sent to a sample of 15 teachers and 3 supervisors in different cities in Saudi Arabia. This sample was not among the final sample who participated in the present study since Bryman (2008) stated that the "pilot study should not be carried out on people who might have been members of the sample that would be employed in the full study" (p. 248).

The participants in the pilot study were asked to respond to all items, evaluate all items, and assess the questionnaire's suitability for reaching the aims of this study. As a result of some of the comments, the questionnaire was modified and adjusted, and a few items were deleted.

4.6.2.6   Validity and reliability of the questionnaire

Validity and reliability of instruments is considered the most important issue related to research design and procedures. Alduhayan and Ezat (2002) have asserted that one of the most important stages in social research is to test the validity and reliability of instruments. In the following sections, the process that the researcher used to test the validity and reliability of the present research questionnaire will be presented.

The validity of the questionnaire

Validity is defined as "the appropriateness, meaningfulness and usefulness of the specific inferences researchers make based on the data they collect" (Fraenkel & Wallen, 2008, p. 153). In other words, validity is ensuring that the instrument measures what was designed to gauge (Alduhayan & Ezat, 2002). Similarly, Balnaves and Caputi (2001) defined validity as the extent to which the instrument does, successfully, measure the phenomenon that it applies to (Balnaves & Caputi, 2001). Moreover, Bryman agreed with all the previous definitions of validity, saying, "The issue of measurement validity has to do with whether a measure of a concept really measures that concept" (p. 151).

Reviewing all these definitions, it is clear that all authors in research design agree on two points:

- The high importance of the instrument's validity and
- The term validity means confirming that the instruments that are used to collect the data do lead to the data related to the desired concept.

To ensure that the present study questionnaire was valid, the researcher followed two methods:

First, the researcher sent the first draft of the questionnaire to five professors, two of whom are specialists in Islamic Curriculum and Instruction, and three Islamic education supervisors in different schools of education in Saudi Arabia, asking them to evaluate its validity to measure the phenomenon that the study wanted it to and to identify to what extent it would enable answering the study's questions. A specialist had translated the draft of the questionnaire to Arabic and each of the experts received both Arabic and English copies of the questionnaire.

Secondly, the researcher used the Statistical Package for the Social Sciences (SPSS) program to test the reliability of each part of the questionnaire. A Pearson product-moment correlation coefficient was employed to evaluate the concurrent validity of the questionnaire by calculating the correlation between each individual item of each scale's score and the total scores of the scale.

Table 4.7: Pearson product-moment correlation coefficient results with aptitude scales

	Item No.	Results	Item No.	Results
Pearson Correlation Sig. (2-tailed)	1	$.758^{**}$ .000	6	$.791^{**}$ .000
Pearson Correlation Sig. (2-tailed)	2	$.786^{**}$ .000	7	$.671^{**}$ .000
Pearson Correlation Sig. (2-tailed)	3	$.865^{**}$ .000	8	$.652^{**}$ .000
Pearson Correlation Sig. (2-tailed)	4	$.853^{**}$ .000	9	$.841^{**}$ .000
Pearson Correlation Sig. (2-tailed)	5	$.807^{**}$ .000	10	$.853^{**}$ .000

** Correlation is significant at the $p<0.01$ level (2-tailed).

Table 4.7 illustrates the relationship between the individual score of each item in the first part of this study's questionnaire, the aptitude scale, and the total score of the scale. The results of the Pearson product-moment correlation coefficient show that the scores of the items fluctuated between .652 and .865. This result revealed that all the correlations are significant at p< 0.01 level, which is interpreted to be a high level of concurrent validity in this scale.

Table 4.8: Pearson product-moment correlation coefficient results with attitudes scales (items 1-15)

	Item No.	Results	Item No.	Results	Item No.	Results
Pearson Correlation	1	.623**	6	.635**	11	.538**
Sig. (2-tailed)		.000		.000		.000
Pearson Correlation	2	.718**	7	.496**	12	.642**
Sig. (2-tailed)		.000		.000		.000
Pearson Correlation	3	.669**	8	.753**	13	.796**
Sig. (2-tailed)		.000		.000		.000
Pearson Correlation	4	.669**	9	.716**	14	.791**
Sig. (2-tailed)		.000		.000		.000
Pearson Correlation	5	.777**	10	.775**	15	.758**
Sig. (2-tailed)		.000		.000		.000

** Correlation is significant at p<0.01 level (2-tailed).

Table 4.9: Pearson product-moment correlation coefficient results with attitudes scales (items 16-25)

	Item No.	Results	Item No.	Results
Pearson Correlation	16	.755**	21	.711**
Sig. (2-tailed)		.000		.000
Pearson Correlation	17	.702**	22	.688**
Sig. (2-tailed)		.000		.000
Pearson Correlation	18	.781**	23	.695**
Sig. (2-tailed)		.000		.000
Pearson Correlation	19	.780**	24	.623**
Sig. (2-tailed)		.000		.000
Pearson Correlation	20	.695**	25	.648**
Sig. (2-tailed)		.000		.000

** Correlation is significant at p< 0.01 level (2-tailed).

Tables 4.8 and 4.9 show the relationship between the individual score of each item in the second part, which aimed to measure teachers' attitudes towards online CPD, and the total score of the scale. The Pearson product-moment correlation coefficient showed that the scores of the items fluctuate between .496 and .791. This result revealed that all the scale's items have a high level of validity as the correlations are significant at p< 0.01 level.

Table 4.10: Pearson product-moment correlation coefficient results with barriers' scales

	Item No.	Results	Item No.	Results	Item No.	Results
Pearson Correlation Sig. (2-tailed)	1	.704** .000	6	.709** .000	11	.633** .000
Pearson Correlation Sig. (2-tailed)	2	.643** .000	7	.710** .000	12	.534** .000
Pearson Correlation Sig. (2-tailed)	3	.639** .000	8	.621** .000	13	.611** .000
Pearson Correlation Sig. (2-tailed)	4	.744** .000	9	.644** .000	14	.638** .000
Pearson Correlation Sig. (2-tailed)	5	.688** .000	10	.468** .000	15	.744** .000

** Correlation is significant at p< 0.01 level (2-tailed).

Table 4.10 shows the relationship between the individual score of each item in the third part of this questionnaire, which aimed to explore teachers' assessment of existing obstacles to implementation of online CPD in Saudi Arabia, and the total score of the scale. The Pearson product-moment correlation coefficient showed that the scores of the items fluctuated between .468 and .744. This result revealed that all the scale's items have a high level of validity as the correlations are significant at p< 0.01 level.

The reliability of the questionnaire

The second feature of acceptable instruments is their reliability. Reliability refers to the consistency of a measure of a concept (Bryman, 2008; Fraenkel & Wallen, 2008). A reliable instrument yields similar results when it is reapplied to the same sample (Alduhayan & Ezat, 2002; L. Cohen, Manion, & Morrison, 2000).

Cronbach's Alpha Correlation Coefficient was employed, and the results were good.

Table 4.11: Results of the reliability test

Parts	Cronbach's Alpha	N of Items
The aptitude to use the computer	.933	10
Teacher attitudes towards online CPD	.961	25
Barriers of implementation of CPD in Saudi Arabia	.890	15

Table 4.11 shows the level of reliability of each part of the questionnaire. For the first part, 10 items dealing with teachers' competencies in using a computer, the result was .933, which is considered to be highly reliable.

The second part of the questionnaire consisted of 25 items dealing with teachers' attitudes towards online CPD. The results for this part showed that this has high reliability because the result of Cronbach's Alpha test was .961.

The final part of the questionnaire consisted of 15 items representing the major obstacles that might prevent implementation of online CPD in Saudi Arabia. The results illustrated that this part is less reliable than other parts of this questionnaire, but it is still considered to have a high reliability.

The panel of experts assessed these results, namely the Pearson product-moment correlation coefficient and Cronbach's Alpha Correlation Coefficient, and judged the questionnaire to be valid and reliable.

4.6.2.7   **Questionnaire administration**

The researcher had to obtain support letters from the principal supervisor of this study before travelling to Saudi Arabia to collect the data. As soon as he arrived in Saudi Arabia on the 25th of January 2009, a letter from the dean of the College of

Education at King Khalid University was sent to the General Director of Education in the Asir region to support the researcher in conducting this study in schools. The General Director of Education in Asir wrote seven letters, one to each director of education in Asir (five directors), one to the General Director of Education (Girls) and one to the head teachers of schools in Asir, to facilitate the researcher in implementation of his research.

Through the Teacher Affairs Division, General Director of Education in the Asir region, the researcher obtained the serial number of each school and the number of the Islamic education teacher in each school. Using a random number table, the sample for this study was selected, and the questionnaire as well as the letter from the General Director of Education was sent to teachers.

To ensure a greater response, the following steps were taken:

Attaching a cover letter

The cover letter was sent with each questionnaire. This letter contained the name of the researcher, his email address, research objectives and an assurance of confidentiality.

Using different methods of questionnaire distribution

The researcher used three methods to distribute the questionnaires:

Firstly, questionnaires were handed out in person to teachers, and the researcher waited for them to be completed and collected them on the same day. Although this method consumed more time and effort, there were some advantages to it such as the ability to answer teachers' questions about the study, clarify any questions that were unclear and minimize the time needed to answer and return the questionnaire to the researcher.

Secondly, questionnaires were handed out in person to teachers, and arrangements were made to collect them later. This method took more time but generated a higher response rate.

Thirdly, some teachers preferred to answer the questionnaire online. So a copy of the questionnaire was made available online for them. This way was the easiest to distribute, collect and analyse the questionnaires. The current researcher uploaded a copy of the questionnaire to the website http://www.surveymonkey.com/ . Teachers could visit the following link and answer the questionnaire online:

http://www.surveymonkey.com/s.aspx?sm=ZrLuqUS1xqinCWuQo6d%2fBg%3d%3d

Figure 4.2: Print screen of the online questionnaire

Berg (2007) argued that survey research has benefited from the emergence of the Internet, allowing them to take advantage of the geographical reach offered by Web-based research and the data that can be gathered.

Fourthly, the questionnaire was sent officially through the Division of Development, General Director of Education in Asir. This way consumed more time than any other method, and some questionnaires were not returned to the Development Division for two months after they were sent.

It is worth noting that the researcher used all four methods with the sample sent to boys' schools but just the last two ways with the sample sent to girls' schools

because in Saudi Arabia it is part of Saudi culture that males are not allowed to visit female schools.

4.6.2.8 **Follow up**

The follow up was done in two stages.

The first follow up occurred 10 days after sending the questionnaires. The researcher called the head of schools in which returning the completed questionnaires was delayed and gently reminded them to complete and return them if they had not yet sent them.

The second follow up occurred six weeks after sending the questionnaire. At that date, the researcher noticed that the questionnaires had stopped arriving.

4.6.2.9 **Questionnaire distribution**

The two stages of follow up were completed by the end of March 2009 and no questionnaires were being returned. One week later, completed questionnaires were gathered and incomplete questionnaires were discarded. Return rates for both the male and female samples were considered reasonable. Table 4.12 and 4.13 below show the number of questionnaires distributed to and returned from both male and female participants and the response rate compared to the original population.

Table 4.12: Male teachers' sample

No.	Area	No. of Teachers	Target sample	No. of Questionnaires Distributed	Returned	Valid	Discarded	percentage of Population
1	Abha	1368	110	300	137	126	11	9.22
2	Sarat Abedah	482	39	100	58	51	7	10.58
3	Regal Almaa	283	23	60	39	33	6	11.66
4	Alnamas	486	39	70	43	43	0	8.85
5	Bishah	903	72	100	83	77	6	8.53
6	Mahail	882	71	100	76	71	5	8.05
Total		4404	354	730	436	401	35	9.11

Table 4.13: Female Teachers' sample

No.	Area	No. of Teachers	Target sample	No. of Questionnaires Distributed	Returned	Valid	Discarded	percentage of Population
1	Abha	3092	202	300	213	207	6	6.69
2	Alnamas	284	19	35	23	19	4	6.69
3	Bishah	1132	74	100	83	76	7	6.71
4	Mahail	984	64	100	73	65	8	6.6
Total		5492	359	535	392	367	25	6.68

4.6.3 Interview
4.6.3.1 Introduction

Interviewing people is not a new phenomenon. Kvale asserted that the term interview came into use in the seventeenth century (Flick, 2007). In addition, the first journalistic interview with Mormon leader Brigham Young was published in 1859 in the *New York Herald Tribune* (Flick, 2007). Nevertheless, many studies have indicated the existence of interviews at earlier dates (Keats, 2000).

On the other hand, when a researcher wants to collect his study's data from a large population through a questionnaire, there is a probability that he will not receive the exact information that he wants (Balnaves & Caputi, 2001). Thus, it might be a good solution to conduct follow-up interviews to clarify or understand in-depth, any point in the questionnaire. Interviews are considered to be an important method for gathering data in many fields such as media, business, law and social science (Mulhim, 2002). Recently, interviews have been the most widely used instruments in social research (Bryman, 2008; Flick, 2007; Keats, 2000). Cannell and Kahn (1968), as cited in (L. Cohen, et al., 2000), defined research interviews as "a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information" (p. 527). Similarly, Kvale (2007) defined interviews as an "interchange of views between two persons conversing about a theme of common interest" (p. 5). Keats (2000) said that an interview is "a controlled situation in which one person, the interviewer, asks a series of questions of another person, the respondent; it is possible for more than one person to be

asking the questions, as in the case where there is a panel of interviewers, or for more than one person to be the respondent" (p. 1). It is clear that interviews are no more than conversations to gather information (Berg, 2007).

4.6.3.2 **Interview design**

Designing an interview is just as important as creating the questionnaire, as both of them play a key role in study results, and any weakness in either one of them might cost a researcher more time, cost and effort. Therefore, the researcher reviewed the literature related to this point to make this study's interview as good as possible. Bryman (2008) asserted that the interview is very common in social life. He stated that there were many different forms of interviews such as job interviews, media interviews, police interviews and so on. In educational research, the interview is a suitable kind of instrument for eliciting a great deal of information from the interviewee, provided that the possibility of errors in the interview procedure is minimised. This is why some writers consider the interview to be the most common research tool in qualitative research. Bryman (2008) suggested the following ways to reduce any errors in the interview procedure:

- An interviewer must be very cognizant of the schedule well before doing an interview. The reason behind this is that interviewing can cause some stress for the interviewer and as a result of that they may miss some important questions or ask the wrong question.
- An interviewer must be self-assured during the interview. That can help to elicit more information from the interviewee.
- The identity of the interviewer must be clear to the respondents.
- The importance of the research must be indicated at the beginning of the interview.
- It must be explained to every interviewee why he has been selected and by whom.
- The interviewer must ensure that all the information that will be gathered in the interview will be confidential and that the interviewee will not be identifiable in any way.

- The interviewer must provide the interviewee with the chance to ask any questions.

- Thanking the interviewee after the interview is very important.

The interview, like any other research instrument, has several advantages and disadvantages. Mulhim (2002) and Coombes (2001) have indicated that the most common advantages are:

- It is preferable to test and explore the personality's characteristics.

- It has great benefits in diagnosing and solving human problems, especially emotional problems.

- It assists researchers in understanding a problem in depth and gives them a chance to clarify the questions for participants.

- When combined with the questionnaire, the rate of responses is higher once a researcher uses the interview to gather further information.

- It creates a good chance for researchers to observe and analyse more than what participants say in the interviews, for example their emotions, body language, reactions and so on.

- It can be used in some cases when the questionnaire cannot be employed, such as with children or illiterates.

Mulhim (2002) and Combess (2001) have indicated a few disadvantages of using interviews such as:

- It is difficult to use it with a large sample.

- When combined with the questionnaire, it is more difficult to analyse the results because of the huge amount of information that is obtained from each interviewee.

Oppenheim (1992) added that using interviews in the social sciences is much more expensive than using questionnaires.

4.6.3.3 **Types of interviews**

Depending on the purposes and the nature of the interview, there are many types of interviews, and they can be classified based on many factors. Mulhim (2002) has indicated that an interview can be divided into two main types based on the number of interviewees:

- **Individual interview**: This refers to the interview that is conducted between two persons, an interviewer and a participant (interviewee). This type is very common in educational research.
- **Group interview**: This refers to the interview that is conducted with more than one person. Some authors call this kind of interview a focus group. This kind of interview aims to obtain more information in a short time.

On the other hand, most commonly, authors mention three types of interviews as the major structures of interviews are based on the type of questions used by the interviewer:

- **Structured interview**: Some sources call this a formal or standardized interview (Berg, 2007; Bryman, 2008). The interviewer is supposed to ask questions with the exact same wording of all participants (Berg, 2007; Bryman, 2008). The aim of this kind of interview is to minimize the differences between interviewees (Bryman, 2008). Structured interviews are usually used with large samples (Coombes, 2001).
- **Unstructured interview**: Other names for this are informal, nondirective, in depth, narrative or unstandardized interview (Berg, 2007; Blaxter, Hughes, & Tight, 2006). The interviewer in this kind of interview does not have specific questions, just a list of points related to the topic of his/her research, and the phrasings of questions are different from interviewee to interviewee (Mulhim, 2002). The interviewer generates and develops his or her questions during the interview itself (Berg, 2007). This type of interview requires control of the interview so it does not become a general conversation (Coombes, 2001).
- **Semi-structured interview**: Some sources call this a guided interview or focused interview (Berg, 2007). Once a researcher has decided to use this

kind of interview, he draws up a list of questions, but these questions are not necessarily used by the researcher in exactly the same way they are written during the interview. A researcher might add some questions based on the answers of the interviewees (Berg, 2007; Bryman, 2008).

The major differences between these types of interviews are shown in Table 4.14:

Table 4.14: The major differences between the three types of interviews

Structured interview	Semi-structured interview	Unstructured interview
Most formally structured	More or less structured	Completely unstructured
No deviation from the question order	Questions may be reordered during the interview	No set order to any questions
The words of each question are asked exactly as written.	The wording of questions is flexible	No set wording to any questions
No adjusting the level of language	The level of language may be adjusted	The language level may be adjusted
No clarification or answering of questions about the interview	The interviewer may answer questions and make clarifications	The interviewer may answer questions and make clarifications
No additional questions may be added	The interviewer may add or delete questions to the interview with subsequent subjects	The interviewer may add or delete questions between interviews
Similar in format to a pencil and paper survey		

Source: Berg (2007)

Other researchers have classified interviews into just two categories:

• **Exploratory interviews** also called in-depth interviews or freestyle interviews, including group interviews

• **Standardized interviews** are employed in public opinion polls, business research and national surveys (Oppenheim, 1992).

Patton (2002) discussed four different types of interviews In his book 'Qualitative Research and Evaluation Methods' and summarized them in the following table:

Table 4.15: A comparison of four types of interviews

Type of interview	Characteristics	Strengths	Weaknesses
Informal conversational interview	Questions emerge from the immediate context and are asked in the natural course of things; there is no predetermination of question topics or wording.	Increases the salience and relevance of questions. Interviews are built on and emerge from observations. The interview can be matched to individuals and circumstances.	Different information is collected from different people with different questions. Less systematic and comprehensive if certain questions don't arise 'naturally'. Data organization and analysis can be quite difficult.
Interview guide approach	Topics and issues to be covered are specified in advance, in outline form; the interviewer decides the sequence and wording of questions in the course of the interview.	The outline increases the comprehensiveness of the data and makes data collection somewhat systematic for each respondent. Logical gaps in data can be anticipated and closed. Interviews remain fairly conversational and situational.	Important and salient topics may be inadvertently omitted. Interviewer flexibility in sequencing and wording questions can result in substantially different responses, thus reducing the comparability of responses.
Standardized open-ended interviews	The exact wording and sequence of questions are determined in advance. All interviewees are asked the same basic questions in the same order.	Respondents answer the same questions, thus increasing comparability of responses; data are complete for each person on the topics addressed in the interview. Reduces interviewer effects and bias when several interviewers are used. Permits decision makers to see and review the instrumentation used in the evaluation. Facilitates organization and analysis of the data.	Little flexibility in relating the interview to particular individuals and circumstances; standardized wording of questions may constrain and limit naturalness and relevance of questions and answers.

| Closed quantitative interviews | Questions and response categories are determined in advance. Responses are fixed; the respondent chooses from among these fixed responses. | Data analysis is simple; responses can be directly compared and easily aggregated; many short questions can be asked in a short time. | Respondents must fit their experiences and feelings into the researcher's categories; may be perceived as impersonal, irrelevant, and mechanistic. Can distort what respondents really mean or experienced by so completely limiting their response choices. |

Source: (Patton, 2002)

In some cases, a researcher might face difficulties in contacting interviewees for some reason, for example if there are geographical barriers, time or money limitations, or even religious and cultural barriers. Bryman (2008) suggested two possibilities for conducting interviews in such cases. One is using telephone interviewing and the other is using online interviewing. Using telephone interviews helps researchers to conduct the interview with no geographical limitations and might be less expensive than face-to-face interviews (Berg, 2007). Online interviews have the same advantages as telephone interviews, and in addition, there is no need to later transcribe the data after interviewing the sample because it is immediately saved on the computer (Berg, 2007). Coombes (2001) stated:

> It is worth giving serious consideration to using email to support part of your research, especially if you wish to use questionnaires in the research process…. You will at least have all the replies immediately electronically stored on computer, which will be of enormous benefit to you when you begin to analyse the data"
> (p.121).

Considering the aims of this study and the cost and time limitations, the researcher used some semi-structured interviews in this study. He also used online interviews with female teachers because he could not conduct face-to-face interviews due to the Islamic law in Saudi Arabia.

4.6.3.4   **Interview pilot study**

Piloting the instruments might be expensive, but it helps researchers to save time and money in the long run (Oppenheim, 1992).

Having produced the draft of the interview questions which were identified based on the primary results obtained by the mean instrument of the present study, it become necessary to pilot the interview to ensure that it worked as the researcher needed it to. A number of steps were followed to achieve this.

First, five copies of the interview questions were sent to five colleagues studying for a PhD in education, to get their opinions and comments on the questions. A few questions were modified and rephrased to be clearer.

Second, eight teachers were interviewed by the researcher as a final stage of the pilot. Four male teachers and two female teachers were interviewed face to face, while two female teachers were interviewed online. At this stage, the researcher tried to conduct some interviews that were in context to the current study, and some changes were made based on the comments and suggestions made by the interviewees.

4.6.3.5   **Interview administration**

Having piloted the last version of the interview, with consideration given to gender and locations, 12 female and 11 male teachers among those interested in the research topic and willing to participate in the follow-up interviews, were chosen to participate in the interviews.

 The following table shows the number of teachers who participated in the interviews.

Table 4.16: Interviewee groups

Area	Male	Female
Abha	2	
Sarat Abedah	2	6
Regal Almaa	2	
Alnamas	2	2
Bishah	2	2
Mahail	1	2
Total	11	12

It is worth noting that a simple strategy was used to conduct interviews with targeted male interviewees. The researcher conducted the interviews by visiting them in their schools. However, the interviews with female teachers were conducted online, following the Islamic law in Saudi Arabia which considers the interviewing of females by males to be illegal. To conduct online interviews, the researcher sent all the questions to a few interviewees first. When the researcher received their answers, he noted that there was a need to ask some follow-up questions to gather more information about some points mentioned by some interviewees. However, the response rates were not satisfactory in the follow-up questions. Thereafter the researcher sent questions one by one to the target interviewees.

The data obtained from the interviewees was recorded using a digital recorder and downloaded immediately to a computer to avoid missing any information. Blaxter Hughes et al. (2006) suggested using a digital recorder to give a researcher the opportunity to concentrate on the interview process. When the researcher finished conducting and saving interviews, he started encoding, transcribing and analysing data using the NVivo programme. As mentioned earlier, interview data was used to support questionnaire results.

4.7   Ethical Considerations

To better protect the rights of the research participants and give consideration to the ethical issues during this study, many issues were taken into account.

First of all, in Saudi Arabia, like other countries, one must get permission to conduct any study at schools before gathering any information. Bell (1991) asserted:

> Permission to carry out an investigation must always be sought at an early stage. As soon as you have an agreed project outline and have read enough to convince yourself that the topic is feasible, it is advisable to make a formal, written approach to the individual and organisations concerned, outlining your plan. (p. 37).

Before the present researcher started distributing questionnaires, as mentioned in the questionnaire administration section, he obtained formal written permission to carry out this study in all Asir region schools from the General Directorate of Education in the Asir region.

The second ethical issue was the principle of voluntary participation. This means that participants should not be required to respond or participate (De Vaus, 2002). The researcher confirmed that teachers were not coerced into participating in the research. To make this point clear to all teachers, it was written in the cover letter and the first page of the questionnaire.

Even though participants in this study were adults and they were not subjected to any danger or risk of harm, neither physical nor psychological, an informed consent was required to participate in the follow-up interviews. Berg (2007) defined the informed consent as "the assurance that subjects are voluntarily involved and informed of all potential risks (p. 58). De Vaus (2002) indicated a range of matters that subjects should be informed about. For example:

- The aims of the study
- An outline of any risks, embarrassments or discomforts
- The identity of the researcher
- An offer to answer any enquires related to the study
- A statement that participation is voluntary.

The researcher mentioned the above information in the first page of the questionnaire and attached the consent form at the end of the questionnaire.

To ensure that there was no harm done to participants and that they were comfortable all the time during the course of the interviews, the researcher informed them at the beginning of each interview about their right to stop the interview at any time without any need for justification. Internet participants could simply click on the "Exit" button that appeared on each page of the online questionnaire at any time. Bryman (2008) identified the advantages of such a form by giving the sample a chance to be informed of the nature of the research and their rights during the study.

Anonymity and confidentiality were taken into consideration during and after the conduct of this study. Berg (2007) outlined some differences between anonymity and confidentiality. He argued that anonymity refers to covering participants' names while confidentiality means elimination of any element that might indicate the identity of any participant. De Vaus (2002) mentioned three reasons that confidentially is important:

- "To improve the quality and honesty of responses, especially on sensitive issues
- To encourage participation in the study and thus to improve the representativeness of the sample
- To protect a person's privacy" (p. 62).

In this study, personal information, such as names, emails and addresses, were kept confidential, and the researcher informed participants that no one would see their information except the researcher or his supervisors, and any information obtained by the study's instruments would not be used for anything other than research purposes. Online participation provided a high level of personal anonymity.

It is worth noting that the researcher sent the study instruments to his department and then to the university ethics committee in December 2008 and ethical approval was granted.

4.8   The Statistical Data Analysis

The quantitative data were coded and analysed using the Statistical Package for the Social Sciences program (SPSS), version 17, for quantitative analysis and the QRS Nvivo, version 8, for qualitative analysis. Because a variety of questions were asked, this yielded a variety of data. The following statistical techniques and tests were used to analyse the data obtained:

- Simple descriptive techniques including frequencies, percentages, standard deviation and means, were calculated to describe the sample demographic information. They were also used to determine the sample attitudes towards online CPD and to explore the degree of importance of each barrier in the opinion of the sample.

- A one-way analysis of variance (ANOVA) was used to determine whether there was a significant difference among the study sample due to variables such as the highest degree that they had obtained, the number of full time years of teaching experience, the number of years experience in using a computer, the place where they usually used the computer and the place where they usually accessed the Internet.

- Pearson Correlation Coefficients and Cronbach's Alpha Correlation Coefficient were used to test the validity and reliability of the study instruments.

- A one sample *t* test was used to explore the overall abilities and attitudes of teachers towards online CPD.

- The independent sample *t* test was applied to determine whether there was a significant difference between male and female teachers in their abilities to use the computer and attitudes towards online CPD.

- The independent sample *t* test was applied to determine whether there was a significant difference among groups in the study sample in their abilities to use the computer and attitudes towards online CPD due to their prior online training experience.

- The qualitative data were coded and analysed using the QRS Nvivo. The data were used to support the questionnaire results.

4.9   **Summary**

This chapter has presented the primary methodologies used to carry out the present study. The study instrument, a questionnaire survey, was the main instrument, and it was used with a semi-structured interview to gather the required data to answer the study questions. Questionnaires were distributed to more than 1200 teachers, and 828 were returned to the researcher; 768 were valid to be analysed. The chapter included information about how the questionnaire was designed, piloted and administered. This chapter has also focused on the procedures used to choose the sample and determine its size. The chapter has also discussed the procedures for conducting interviews with 23 teachers. Statistical methods employed in this study to obtain the results were described as along with problems and challenges experienced during the conduct of the present study. Ethical issues related to this research were indicated.

The following chapter presents the questionnaire and interview data analysis

5. Data Analysis (1)

5.1 Introduction

The methodology used in this research was discussed, in detail, in the fourth chapter. As indicated in Chapter 4, a questionnaire and semi-structured interview were designed and distributed to gather the required data. The questionnaire data was analysed using SPSS and the statistical results were supported by comments and views made by the interviewees. This chapter presents and analyses the results of data collected from the questionnaires.

The chapter is divided into seven sections. Section 2 presents demographic and background analysis of the questionnaire's sample. Section 3 examines the questionnaire results in terms of the aptitude of the interviewees to use computers for training purposes, and consists of five sub-sections: the general aptitude of the teachers to use computers for professional development purposes; the aptitude of male teachers to use computers for professional development purposes, the aptitude of female teachers to use computers for professional development purposes, and a comparison between the aptitude of male and female teachers to use computers for professional development purposes. The variables affecting aptitude will also be examined.

Section 4 deals with teachers' attitudes toward using online CPD, and consists of five sub-sections: the general attitude of teachers towards using online CPD, male teachers' attitudes towards using online CPD, female teachers' attitudes towards using toward CPD, a gender-based comparison of attitudes towards using online CPD, as well as examination of other variables affecting teachers' attitudes.

Section 5 deals with barriers towards using online CPD as an alternative to traditional professional development courses, and consists of five sub-sections: viewpoints of teachers about barriers in using online CPD, viewpoints of male teachers about barriers in using online CPD, viewpoints of female teachers about

barriers in using online CPD, a comparison between the viewpoints of male and female views regarding the barriers of using online CPD, a study of the affect of other variables on the viewpoints.

Section 6 seeks to investigate teachers' opinions and suggestions on how to encourage their peers to participate in online CPD programmes. The final section summarises the chapter as a whole.

5.2   Demographic and Background Analyses

The first part of the survey gathered data on the participants' demographic characteristics, The information including each participant's gender, the highest level of education obtained, length of time as a full-time teacher, number of years of experience using a computer and accessing the Internet, place where computers are usually used, place where they usually access the Internet, and prior online professional development experience.

1.   Sample Gender

The first independent variable in this study was gender. Teachers were asked to identify their gender in the first question.

Table 5.1: Distribution of Sample by Gender

Column1	Frequency	Percent	Valid Percent	Cumulative Percent
Male	401	52.2	52.2	52.2
Female	367	47.8	47.8	100
Total	768	100	100	

The data analysis revealed that of the 768 teachers, who participated in the survey, 401 of them were male and 376 were female. This means that 52.2% of the total number of participants were male - just over half.

2. Sample Qualifications

The highest level of education obtained by the participants was the second independent variable in this study.

Table 5.2: Distribution of Sample by Qualification

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
PhD	3	0.4	0.4	0.4
MA	15	2	2	2.3
High Dip	52	6.8	6.8	9.1
BA	559	72.8	72.9	82
Others	138	18	18	100
Total	767	99.9	100	
Missing System	1	0.1		
Total	768	100		

Participants were requested to state the highest level of education obtained. The data analysis shows that the majority of teachers - about 559 or 72.8% - had a BA degree. The second most common grouping (18%) was made up of individuals who had a diploma or certificate from teaching colleges. The remaining 9.1% indicated that they had more education than a bachelor's degree (e.g., high diploma, MA or PhD).

3. Teaching Experience

The total number of years in teaching was the third independent variable in this study.

Table 5.3: Distribution of Sample by Teaching Experience

Teaching Experience	Frequency	Percent	Valid Percent	Cumulative Percent
less than 5 years	132	17.2	17.2	17.2
05-10 years	181	23.6	23.6	40.9
11 or more	453	59	59.1	100
Total	766	99.7	100	
Missing System	2	0.3		
Total	768	100		

Table 5.3 shows the distribution of teachers based on the number of years of teaching experience: 181 teachers (23.6%) had experience ranging from 5 to 10 years. The smallest group of participants (17.2%, a total of 132) had teaching experience of less than 5 years while the largest group, 453 teachers (59%), had more than 10 years of teaching experience.

4. Experience Using a Computer

The fourth independent variable in this study was the number of years a participant had been using a computer.

Table 5.4: Distribution of sample of years of experience using computers

Experience Using a Computer	Frequency	Percent	Valid Percent	Cumulative Percent
No experience	53	6.9	6.9	6.9
less than 5 years	378	49.2	49.3	56.2
05-10 years	219	28.5	28.6	84.7
11 or more	117	15.2	15.3	100
Total	767	99.9	100	
Missing System	1	0.1		
Total	768	100		

In response to the question concerning experience with using computers, teachers were asked to choose one of four answers: no experience, less than 5 years, from 5 to 10 years, and more than 10 years (see Table 5.4). About 50% of the participants

had less than 5 years of experience using computers; 219 teachers (28.5%) had between 5 to 10 years experience using computers, and 117 (15.2%) had more than 10 years of experience using computers. Of the 768 teachers participating in this study, 53 had no experience, which means that only 6.9% of the participants could not use computers for training purposes.

5. Experience Accessing the Internet

Participants were requested to identify their experience accessing the Internet as one of the independent variables in this study.

Table 5.5: Distribution of Sample by Experience of Accessing the Internet

Experience Accessing the Internet	Frequency	Percent	Valid Percent	Cumulative Percent
No experience	79	10.3	10.3	10.3
less than 5 years	424	55.2	55.3	65.6
05-10 years	211	27.5	27.5	93.1
11 or more	53	6.9	6.9	100
Total	767	99.9	100	
Missing System	1	0.1		
Total	768	100		

Data analysis showed that more than half of the teachers (424) had less than 5 years experience using the Internet, 27.5% (211) teachers had from 5 to 10 years of experience using the Internet, and 6.9% of teachers indicated that they had used the Internet for more than 10 years. However, 10.3% of teachers claimed that they did not use the Internet and had no experience in dealing with its applications.

6. Availability of Computers

The sixth independent variable was the place where participants normally use computers.

Table 5.6: Distribution of sample by place where computers are normally used

Availability of Computers	Frequency	Percent	Valid Percent	Cumulative Percent
Home only	401	52.2	52.9	52.9
School only	29	3.8	3.8	56.7
Both	266	34.6	35.1	91.8
Never	62	8.1	8.2	100
Total	758	98.7	100	
Missing System	10	1.3		
Total	768	100		

Table 5.6 shows that the largest group of teachers participating in this study, 52.2% (401 teachers), used computers at home only, 34.6% (266 teachers) used them both at home and school, and only 3.8% (29 teachers) used computers only at school. A small group of teachers, 9.4%, either indicated that they did not use a computer at school or at home, or they did not answer the question.

7. Availability of the Internet

The seventh independent variable was availability of the Internet. Teachers were requested to identify the place where they usually have access to the Internet, if any.

Table 5.7: Distribution of Sample by Place Internet Is Accessed

Availability of the Internet	Frequency	Percent	Valid Percent	Cumulative Percent
Home only	521	67.8	69.4	69.4
School only	20	2.6	2.7	72
Both	116	15.1	15.4	87.5
Never	94	12.2	12.5	100
Total	751	97.8	100	
Missing System	17	2.2		
Total	768	100		

As Table 5.7 indicates, the largest group of teachers, about 68%, have Internet access only at home only ; 116 teachers, about 15%, could access the Internet both at home and at school. Just 20 teachers, 2.6%, have access to the Internet at school. Ninety-four teachers, 12.2%, do not have access to the Internet either at home or school, and 17 teachers did not answer this question.

8. **Previous Participation**

The last independent variable was previous experience participating in an online CPD. Teachers were requested to state whether they had participated in online CPD programmes or not.

Table 5.8: Distribution of Sample based on their previous participation

Previous Participation	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	123	16	16	16
No	645	84	84	100
Total	768	100	100	

Table 5.8 shows the distribution of participants in terms of their prior participation in online CPD. Most of the teachers who participated in this study (84%) had not participated in online CPD programmes, whereas 16% (123) indicated that they had participated in such a program previously.

5.3 Aptitude to Use Computers for Professional Development Purposes

Research question 1 was stated as:

Do Islamic education teachers have the competency to use computers for professional development purposes?

This question was designed to identify the aptitude of teachers to use computers and the Internet for professional development purposes. Teachers were asked to assess their abilities in ten areas: general usage of computers, Microsoft Office, e-

mail, computer accessories, Internet browsers; Web search engines and digital libraries; web design, learning management systems, on-line communication programmes; video and audio programmes.

To interpret the results, the researcher calculated the maximum and minimum anticipated score of each item and then identified the range. Then, scores were divided into four equal categories: no experience, beginner, intermediate and expert, as shown below.

Maximum anticipated item score = 4

Minimum anticipated item score = 1

Range = 4 – 1 = 3

L= 3 /4 = 0.75   So;

Table 5.9: Mean scale used to interpret the results of the second part of the survey

Mean	Interpretation
1.00- 1.75	No experience
1.76 – 2.50	Beginner
2.51 – 3.25	Intermediate
3.26 – 4.00	Expert

To answer this question in the most accurate way possible, several interrelated secondary questions followed -

- **Do Islamic education teachers have the competency to use computers for professional development purposes?**

To identify the aptitude of teachers in each item, frequency, percent, mean, and Std. Deviations were calculated, as shown in Table 5.10.

Table 5.10: Frequency, percent, mean, and Std. deviation for each item related to teachers' aptitude scales -

Computer Skills	Frequency and Percent				N	Mean	Std. Deviation
	No Experience	Beginner	Intermediate	Expert			
General Computer Usage	71	183	303	211	768	2.8516	0.9284
	9.20%	23.8%	39.50%	27.50%			
Microsoft Office	208	148	233	179	768	2.4987	1.1223
	27.10%	19.30%	30.30%	23.30%			
E-mail	284	152	165	165	766	2.2755	1.1721
	37%	19.80%	21.50%	21.50%			
Computer Accessories	339	145	159	125	768	2.0911	1.1370
	44.10%	18.90%	20.70%	16.30%			
Internet Browsers	285	153	157	169	765	2.2863	1.2196
	37.10%	19.90%	20.40%	22%			
Web Search Engines and Digital Libraries	195	152	201	218	766	2.577	1.1507
	25.40%	19.80%	26.20%	28.4%			
Web design	520	141	81	26	768	1.4961	0.8154
	67.70%	18.40%	10.50%	3.40%			
Learning Management Systems	530	125	77	34	766	1.4974	0.8476
	69%	16.3%	10%	4.40%			
On-Line Communication Programmes	361	155	124	127	767	2.0222	1.1384
	47%	20.20%	16.10%	16.50%			
Video and Audio Programmes	347	133	119	128	767	1.9844	1.1527
	50.40%	17.40%	15.50%	16.70%			

As shown in Table 5.10, web design and learning management systems, such as Blackboard, WebCT, etc., received the lowest means (1.4961, 1.4974) with Std. Deviations of .8154, .8476, respectively. This means that abilities with these items were at the "No Experience" level. Moreover, general computer usage, Web search engines and digital libraries, and Microsoft Office applications received the highest means (2.8516, 2.5770, and 2.4987) respectively with Std. Deviations of .9284, 1.1507, and 1.1223, respectively. These mean scores represent the "Intermediate" level of competency. Table 5.10 illustrates that the mean aptitude in the rest of the items fluctuated between 2.0911 and 2.2863, which indicated that teachers are beginners at using computer accessories, Internet browsers and email.

To interpret the overall results of this section, the researcher calculated the maximum and minimum anticipated scale score. Then, the scores were divided into four categories: no experience, beginner, intermediate, and expert, as shown below.

Maximum anticipated score = $10 \times 4 = 40$

Minimum anticipated score = $10 \times 1 = 10$

Range = $40 - 10 = 30$

L= $30 / 4 = 7.5$ So

Table 5.11: Mean Scale used to interpret the results of the second part of the survey

Mean	Interpretation
10.00 – 17.50	No experience
17.51 – 25.00	Beginner
25.01 – 32.50	Intermediate
32.51 – 4.00	Expert

To assess the overall aptitude of teachers in using computers for professional development purposes, the researcher used one sample *t* test, as shown in Table 5.12.

Table 5.12: Results of t test regarding the overall aptitude of teachers to use computers for professional development purposes

Part	N	Mean	Std. Deviation	Std. Error Mean	
Aptitude	768	21.5495	8.49803	.30665	

	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
Aptitude	-11.252	767	.000**	-3.45052	-4.0525	-2.8486

** The mean difference is significant at p< 0.01 level.
* The mean difference is significant at p< 0.05 level.

Table 5.12 illustrates that the mean of the overall score of teachers' aptitude to use computers was 21.5495. Accordingly, the overall score of teachers' aptitude revealed that teachers were beginners at using computers and the Internet.

- **Do male Islamic education teachers have the competency to use computers for professional development purposes?**

Regarding the aptitude of male teachers on each item of the aptitude scale, the researcher calculated frequency, percent, mean, and Std. Deviation, as shown in Table 5.13.

Table 5.13: Frequency, percent, mean, and Std. Deviation for each item on male teachers' aptitude scale

Computer Skills	Frequency and Percent				N	Mean	Std. Deviation
	No Experience	Beginner	Intermediate	Expert			
General Computer Usage	27	75	182	117	401	2.9701	.8655
	6.7%	18.7%	45.4%	29.2%			
Microsoft Office	77	83	148	93	401	2.6409	1.0396
	19.2%	20.7%	36.9%	23.2%			
E-mail	110	86	96	108	400	2.5050	1.1590
	27.4%	21.4%	23.9%	26.9%			
Computer Accessories	132	92	94	83	401	2.3192	1.1370
	32.9%	22.9%	23.4%	20.7%			
Internet Browsers	114	91	101	95	401	2.4414	1.1367
	28.4%	22.7%	25.2%	23.7%			
Web Search Engines and Digital Libraries	75	76	128	122	401	2.7406	1.0852
	18.7%	19%	31.9%	30.4%			
Web design	255	84	44	18	401	1.5636	.8582
	63.6%	20.9%	11%	4.5%			
Learning Management Systems	249	88	42	22	401	1.5935	.8842
	62.1%	21.9%	10.5%	5.5%			
On-Line Communication Programmes	153	98	73	76	400	2.1800	1.1384
	38.2%	24.4%	18.2%	19%			
Video and Audio Programmes	169	70	73	89	401	2.2045	1.2054
	42.1%	17.5%	18.2%	22.2%			

As shown in Table 5.13, web design and learning management systems received the lowest means (1.5636, 1.5935) with a Std. Deviation of .8582, .8842, respectively. This means that most participating teachers had no experience with these items. What is more, general computer usage, Microsoft Office applications, email, and

Web search engines and digital libraries received the highest means (2.9701, 2.6409, 2.5050, and 2.7406) respectively with Std. Deviations of .8655, 1.0396, 1.1590, and 1.0852, respectively. These mean scores represent the "Intermediate" level of competency. In addition, Table 5.13 illustrates that the mean aptitude in the rest of the items fluctuated between (2.1800 and 2.4414), which indicated that teachers are able to use computer accessories, Internet browsers online communication programmes and video and audio programmes at the beginner level.

One sample *t* test was used to insure that the overall male teachers' ability agrees with the results obtained by identifying the competency in each item individually. One sample *t* test results revealed the results shown in Table 5.14.

Table 5.14: Results of t test regarding male teachers' aptitude to use computers for professional development purposes

Part	N	Mean	Std. Deviation	Std. Error Mean		
Aptitude	401	23.1471	8.39201	.41908		

	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
Aptitude	-4.421	400	.000**	-1.85287	-2.6767	-1.0290

** The mean difference is significant at p< 0.01 level.
* The mean difference is significant at p< 0.05 level.

One sample *t* test results confirmed that male teachers' aptitude to use computers for professional development is at the beginner level because their overall mean was 23.1471.

• **Do female Islamic education teachers have the competency to use computers for professional development purposes?**

Regarding the aptitude of female teachers on each item of the aptitude scale, the researcher calculated frequency, percent, mean, and Std. Deviation, as shown in Table 5.15.

Table 5.15: Frequency, percent, mean, and Std. Deviation for each item of female teachers' aptitude scale

Computer Skills	Frequency and Percent				N	Mean	Std. Deviation
	No Experience	Beginner	Intermediate	Expert			
General Computer Usage	44	108	121	94	367	2.7221	.9774
	12%	29.4%	33%	25.6%			
Microsoft Office	131	65	85	86	367	2.3433	1.1882
	35.7%	17.7%	23.2%	23.4%			
E-mail	174	66	69	57	366	2.0246	1.1357
	47.4%	18%	18.8%	15.5%			
Computer Accessories	207	53	65	42	367	1.8420	1.0850
	56.4%	14.4%	17.7%	11.4%			
Internet Browsers	171	62	56	74	363	2.1154	1.2847
	46.6%	16.9%	15.3%	20.2%			
Web Search Engines and Digital Libraries	120	76	73	96	365	2.3973	1.1945
	32.7%	20.7%	19.9%	26.2%			
Web design	265	57	37	8	367	1.4223	.7602
	72.2%	15.5%	10.1%	2.2%			
Learning Management Systems	281	37	35	12	365	1.3918	.7931
	76.6%	10.1%	9.5%	3.3%			
On-Line Communication Programmes	208	57	51	51	367	1.8501	1.1147
	56.7%	15.5%	13.9%	13.9%			
Video and Audio Programmes	218	63	46	39	366	1.7432	1.0414
	59.4%	17.2%	12.5%	10.6%			

As shown in Table 5.15, female teachers' aptitude to use computers for professional development was at the intermediate level only for general computer usage because the mean of this item was 2.7221 with a Std. Deviation of .9774. Female teachers were at the "beginner" level with Microsoft Office, e-mail, computer accessories, Internet browsers; Web search engines and digital libraries, and on-line communication programmes as the mean fluctuated between 1.8420 and 2.3973. However, they indicated that they had "no experience" on three items - video and audio programmes, web design and learning management systems - and the means of these items did not exceed (1.7432, 1.4223, and 1.3918) respectively with Std. Deviations of 1.0414,7602 and .7931.

Female teachers' overall aptitude to use computers for professional development was calculated by one sample *t* test as shown in Table 5.16.

Table 5.16: Results of t test regarding female teachers' aptitude to use computers for professional development purposes.

Part	N	Mean	Std. Deviation	Std. Error Mean	
Aptitude	367	19.7899	8.31393	.44002	

	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
Aptitude	-23.204-	366	.000**	-10.21008-	-11.0754-	-9.3447-

** The mean difference is significant at $p < 0.01$ level.
* The mean difference is significant at $p < 0.05$ level.

The results of one sample *t* test show that female teachers' overall aptitude to use computers for professional development was at the "beginner" level, as the overall mean was 19.7899.

- **Are there any significant differences between male and female teachers' aptitude to use computers?**

An Independent Samples *t* Test was used to determine whether there was a significant difference between male and females in their aptitude to use computers for professional development.

Table 5.17: Results of an independent t test regarding the difference between male and female aptitude to use computers for professional development purposes

Gender	N	Mean	Std. Deviation	Std. Error Mean	
Male	401	23.1471	8.39201	.41908	
Female	367	19.7899	8.31393	.44002	

					95% Confidence Interval of the Difference	
				Mean		
	T	df	Sig. (2-tailed)	Difference	Lower	Upper
Equal variances assumed	5.522	756	.000**	3.35722	2.16368	4.55075
Equal variances not assumed	5.525	747.425	.000**	3.35722	2.16431	4.55013

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

The Independent *t* Samples Test revealed that the mean of the male teachers' aptitude to use computers was 23.1471, while the mean of female teachers' aptitude was 19.7899. This test also shows that there were significant differences between male and female teachers in their aptitude to use computers, at a 0.01 level of significance.

- **Are there any significant differences in the aptitude to use computers related to other variables?**

To answer this question, I used a variety of statistical tests, such as a one way ANOVA, a Scheffe post hoc test, and the Independent *t* Samples Test, to determine whether there were significant differences among some demographic variables, such as the highest level of education obtained, the number of years of full-time teaching experience, the number of years of experience using a computer and the Internat, the place where computers are normally used, the place where the Internet is usually accessed and prior online training experience.

Qualifications

To answer this question, the researcher used a one way ANOVA test to determine whether there were significant differences between teachers' abilities based on their qualifications.

The one way ANOVA test revealed that there was a significant difference amongst teachers' abilities in terms of their highest level of education obtained. This test indicated that the significant difference was at 99% of confidence.

Table 5.18: One way ANOVA results regarding difference amongst teachers' abilities in terms of their highest level of education obtained

Qualification	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
PhD	3	16.6667	11.547	6.667	-12.02	45.35
MA	15	27.3333	5.038	1.301	24.54	30.12
High Dip	52	22.1923	9.487	1.316	19.55	24.83
BA	559	22.0912	8.271	.350	21.40	22.78
Other	138	18.5942	8.564	.729	17.15	20.04
Total	767	21.5502	8.504	.307	20.95	22.15

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1964.118	4	491.030	7.003	.000**
Within Groups	53425.699	762	70.112		
Total	55389.817	766			

** The mean difference is significant at $p < 0.01$ level.
*   The mean difference is significant at $p < 0.05$ level.

As shown in Table 5.18, there was a significant difference between teachers' aptitude to use computers for professional development purposes in relation to their highest level of education obtained. In order to pinpoint the differences identified by the ANOVA test, the researcher used a Scheffe post hoc test, as shown in Table 5.19.

Table 5.19: Scheffe post hoc test results regarding difference among teachers in their aptitude to use computers for professional development purposes in relation to their highest level of education obtained

Qualification		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PhD	MA	-10.66667	5.29575	.399	-27.0189	5.6855
	High Dip	-5.52564	4.97183	.872	-20.8776	9.8264
	BA	-5.42457	4.84729	.869	-20.3920	9.5429
	Others	-1.92754	4.88660	.997	-17.0164	13.1613
MA	PhD	10.66667	5.29575	.399	-5.6855	27.0189
	High Dip	5.14103	2.45407	.357	-2.4367	12.7187
	BA	5.24210	2.19080	.222	-1.5226	12.0068
	Others	8.73913*	2.27645	.006	1.7099	15.7683
High Dip	PhD	5.52564	4.97183	.872	-9.8264	20.8776
	MA	-5.14103	2.45407	.357	-12.7187	2.4367
	BA	.10107	1.21398	1.000	-3.6474	3.8496
	Other	3.59810*	1.36249	.008	-.6090	7.8052
BA	PhD	5.42457	4.84729	.869	-9.5429	20.3920
	MA	-5.24210	2.19080	.222	-12.0068	1.5226
	High Dip	-.10107	1.21398	1.000	-3.8496	3.6474
	Other	3.49703*	.79592	.001	1.0394	5.9547
Other	PhD	1.92754	4.88660	.997	-13.1613	17.0164
	MA	-8.73913*	2.27645	.006	-15.7683	-1.7099
	High Dip	-3.59810*	1.36249	.008	-7.8052	.6090
	BA	-3.49703*	.79592	.001	-5.9547	-1.0394

    ** The mean difference is significant at p< 0.01 level.
    * The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test indicated the following results:

•   There was no significant difference between those who had a PhD degree and those who had lower qualifications such as an MA, BA, High Diploma or other.

•   There was a significant difference in level p<0.05 among those participants who had an MA degree and those had a qualification in the "other" category. This test indicated that the mean of those who had an MA degree was 27.3333 and the mean of those with qualifications in the "other" category was 18.5942. Accordingly, the mean of teachers who had an MA degree is higher than the mean of teachers who had an "other" qualification.

•   There were significant differences in level p<0.01 between those who had a BA or a High Dip. degree and those who had an "other" qualification. The post hoc

test demonstrated that the means of those who had a BA or a High Dip. degree ware 22.0912 and 22.1923 respectively, and the mean of those who had an "other" degree was 18.5942. Accordingly, the means of teachers who had a BA or a High Dip. degree are higher than the mean of teachers who had an "other" degree.

Experience in Teaching

To answer this question, a one way ANOVA test was used to determine whether there were significant differences among participants' answers based on their experience in teaching.

Table 5.20: One way ANOVA results regarding differences among teachers' abilities in terms of their experience in teaching.

Experience in Teaching	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Less than 5 years	132	24.6364	8.281	.721	23.21	26.06
5 - 10	181	22.5801	8.539	.635	21.33	23.83
More than 10 years	453	20.2737	8.276	.389	19.51	21.04
Total	766	21.5705	8.499	.308	20.97	22.17
Test	Sum of Squares		Df	Mean Square	F	Sig.
Between Groups	2187.002		2	1093.501	15.724	.000**
Within Groups	53060.691		763	69.542		
Total	55247.693		765			

** The mean difference is significant at p< 0.01 level.
* The mean difference is significant at p< 0.05 level.

Table 5.20 shows that there was a significant difference in teachers' aptitude to use computers in relation to their experience in teaching. As a result, a Scheffe post hoc test was used to locate the differences identified by the ANOVA. Table 5.21 presents the results of this test.

Table 5.21: Scheffe post hoc test results regarding difference in teachers' abilities in terms of their experience in teaching.

Experience in Teaching		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Less than 5 years	5 - 10	2.05625	.95449	.099	-.2847	4.3972
	More than 10 years	4.36263	.82483	.000**	2.3397	6.3856
5 - 10	Less than 5 years	-2.05625	.95449	.099	-4.3972	.2847
	More than 10 years	2.30638	.73330	.007*	.5079	4.1048
More than 10 years	Less than 5 years	-4.36263	.82483	.000**	-6.3856	-2.3397
	5 - 10	-2.30638	.73330	.007*	-4.1048	-.5079

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test points out the following results:

•   There were no significant differences between those who had less than 5 years of experience in teaching and those who had from 5 to 10 years of teaching experience. The means of their results were 24.6364 and 22.5801, respectively.

•   There were significant differences in level p<0.01 between those who had less than 5 years of teaching experience and those who had more than 10 years of teaching experience. Teachers who had less than 5 years of teaching experience were more likely to have a stronger aptitude to use computers for professional development purposes than those who had more than 10 years of teaching experience. The results of this test indicated that the mean of those who had less than 5 years of teaching experience was 24.6364, and the mean of those who had more than 10 years of teaching experience was 20.2737.

•   The comparison between the mean of teachers who had between 5 and 10 years of teaching experience and those who had more than 10 years illustrated that there was a significant difference at the 0.05 level between them. The mean of teachers who had from 5 to 10 years experience was 22.5801, and the mean of teachers who had more than 10 years of teaching experience was 20.2737. The results indicated that teachers who had more than 10 years of teaching experience

were more likely to be less adept at using computers for professional development purposes than teachers with 5 to 10 years of teaching experience.

Experience in Using Computers

To answer this question, the researcher used a one way ANOVA test to assess whether there were significant differences between teachers in their aptitude to use computers for professional development purposes in terms of their computer experience.

The one way ANOVA revealed that there was a significant difference of aptitude among teachers in relation to their experience using computers as shown in Table 5.22. This test indicated that the significant difference was at 99% of confidence.

Table 5.22: One way ANOVA results regarding difference amongst teachers' abilities in terms of their experience in using computers.

Experience in Using Computers	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No experience	53	10.2642	.55991	.077	10.11	10.41
Less than 5 years	378	19.0952	7.04826	.363	18.39	19.81
5 – 10 years	219	25.3014	7.40385	.500	24.32	26.29
More than 10 years	117	27.6154	8.43315	.780	26.08	29.16
Total	767	21.5567	8.50121	.307	20.95	22.16

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	16414.608	3	5471.536	107.198	.000**
Within Groups	38944.675	763	51.042		
Total	55359.283	766			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.22 shows that there was a significant difference of aptitude among teachers in relation to their experience using computers. The researcher used a Scheffe post hoc test to identify the differences identified by the ANOVA test. Table 5.23 presents the results of that test.

Table 5.23: Scheffe post hoc test results regarding difference among teachers' abilities in terms of their experience using computers.

Experience in Using Computers		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No experience	Less than 5 years	-8.83109	1.04789	.000**	-11.7670	-5.8952
	5 – 10	-15.03722	1.09367	.000**	-18.1014	-11.9730
	More than 10 years	-17.35123	1.18292	.000**	-20.6655	-14.0370
Less than 5 years	No experience	8.83109	1.04789	.000**	5.8952	11.7670
	5 – 10	-6.20613	.60671	.000**	-7.9060	-4.5063
	More than 10 years	-8.52015	.75583	.000**	-10.6378	-6.4025
5 - 10	No experience	15.03722	1.09367	.000**	11.9730	18.1014
	Less than 5 years	6.20613**	.60671	.000	4.5063	7.9060
	More than 10 years	-2.31401	.81812	.047*	-4.6062	-.0219
More than 10 years	No experience	17.35123	1.18292	.000**	14.0370	20.6655
	Less than 5 years	8.52015	.75583	.000**	6.4025	10.6378
	5 - 10	2.31401	.81812	.047*	.0219	4.6062

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test revealed the following results:

• There were significant differences in level p<0.01 among responses in relation to experience using computers between those who had no experience and those who had some level of experience. Teachers who had no experience were more likely to be less proficient at using computers for professional development purposes. The results of this test indicated that the mean of those who had no experience using computers was 10.2642, while the mean of those who had less than 5 years, from 5 to 10 years, or more than 10 years experience was 19.0952, 25.3014, and 27.6154, respectively.

• There were significant differences in level p<0.01 between those who had less than 5 years of computer experience, those who had from 5 to 10 years, and those who had more than 10 years of experience. Teachers who had less than 5 years of experience were more likely to have less aptitude in using computers for

professional development purposes than those who had from 5 to 10 years or more than 10 years experience. The results of this test indicated that the mean of those who had less than 5 years of experience was 19.0952 and the mean of those with 5 to 10 years or more than 10 years experience were 25.3014 and 27.6154, respectively.

• The comparison between the mean of teachers who had between 5 to 10 years of computer experience and those who had more than 10 years illustrated that there was a significant difference at 0.01 level between them. The mean of teachers who had from 5 to 10 years was 25.3014 whereas the mean of teachers who had more than 10 years experience was 27.6154. These results indicated that teachers who have more than 10 years of computer experience are more likely to be more proficient with computers than teachers who have between 5 to 10 years of using computers for professional development purposes.

• The overall results of this test confirmed that experience in using computers significantly affects teachers' aptitude to use computers for professional development.

Experience of Using the Internet

To answer this question, the researcher used a one way ANOVA to determine whether there were significant differences between teachers based on their experience using the Internet.

The one way ANOVA revealed that there was a significant difference among teachers in relation to their experience using the Internet, as shown in Table 5.24.

Table 5.24: One way ANOVA results regarding differences among teachers' abilities in relation to their experience using the Internet

Experience in Accessing the Internet	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No experience	79	11.2025	2.35546	.265	10.6749	11.73
Less than 5 years	424	19.8632	7.09877	.345	19.1856	20.54
5 - 10	211	26.9100	7.40054	.509	25.9056	27.91
More than 10 years	53	29.0377	8.11210	1.11	26.8018	31.27
Total	767	21.5437	8.50206	.307	20.9410	22.15

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	18698.248	3	6232.749	129.679	.000**
Within Groups	36672.039	763	48.063		
Total	55359.283	766			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.24 shows that there was a significant difference among teachers in their aptitude to use computers for professional development purposes in relation to their experience using the Internet. As a result, the researcher used a Scheffe post hoc test to pinpoint the differences identified by the ANOVA. Table 5.25 presents the results of this test.

Table 5.25: Scheffe post hoc results regarding difference among teachers' abilities in relation to their experience of using the Internet

Experience in Accessing The Internet		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No experience	Less than 5 years	-8.66068	.84956	.000**	-11.0409	-6.2804
	5 - 10	-15.70742	.91443	.000**	-18.2694	-13.1454
	More than 10 years	-17.83520	1.2301	.000**	-21.2840	-14.3864
Less than 5 years	No experience	8.66068	.84956	.000**	6.2804	11.0409
	5 - 10	-7.04675	.58407	.000**	-8.6832	-5.4103
	More than 10 years	-9.17453	1.0101	.000**	-12.0044	-6.3446
5 - 10	No experience	15.70742	.91443	.000**	13.1454	18.2694
	Less than 5 years	7.04675	.58407	.000**	5.4103	8.6832
	More than 10 years	-2.12778	1.0652	.263	-5.1122	.8566
More than 10 years	No experience	17.83520	1.2310	.000**	14.3864	21.2840
	Less than 5 years	9.17453	1.0101	.000**	6.3446	12.0044
	5 - 10	2.12778	1.0652	.263	-.8566	5.1122

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test points out the following results:

• There were significant differences in level p<0.01 among teachers' answers in relation to their experience using the Internet between those who had no experience using the Internet, and those who had any level of experience. Teachers who had no experience were more likely to have less aptitude using computers for professional development purposes than those who had some level of experience. The results of this test indicate that the mean of those who had no experience using the Internet was 11.2025 while the mean of those who had less than 5 years, from 5 to 10, or more than 10 years of experience accessing the Internet was 19.8632, 26.9100, and 29.0377, respectively.

• There were significant differences in level p<0.01 among responses in relation to teachers' experience using the Internet between those who had less than 5 years experience accessing the Internet and those who had from 5 to 10 years or

more than 10 years experience accessing the Internet. Teachers who had less than 5 years experience accessing the Internet were more likely to have less aptitude in using computers for professional development purposes than those who had from 5 to 10 years or more than 10 years experience accessing the Internet. The results of this test indicated that the mean of those with less than 5 years experience accessing the Internet was 19.8632, and the means of those had from 5 to 10 years or more than 10 years experience were 26.9100 and 29.0377, respectively.

• The comparison between the mean of teachers who had between 5 to 10 years of experience accessing the Internet and those who had more than 10 years illustrated that there was no significant difference between them. The mean of teachers who had from 5 to 10 years was 26.9100 whereas the mean of teachers who had more than 10 years experience was 29.0377. The results indicated that teachers who have more than 10 years of experience are no different from teachers with 5 to 10 years of experience using the Internet.

Place of Computer Use

To answer this question, the researcher used a one way ANOVA test to determine whether there were significant differences between teachers based on place of computer use.

A one way ANOVA test revealed that there was a significant difference among teachers in relation to place of computer use, as shown in Table 5.26. This test indicated that the significant differences were at 99% of confidence.

Table 5.26: One way ANOVA results regarding difference among teachers' abilities in relation to their experience in the place of computer use

Place of Computer Use	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Home Only	401	20.3042	7.35746	.36741	19.5819	21.0265
School Only	29	19.7241	9.01941	1.6749	16.2933	23.1549
Both	266	26.4023	7.79258	.47779	25.4615	27.3430
Never	62	11.1935	3.39159	.43073	10.3322	12.0549
Total	758	21.6768	8.47280	.30775	21.0726	22.2809

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	18698.248	3	6232.749	129.679	.000**
Within Groups	36672.039	763	48.063		
Total	55359.283	766			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.26 shows that there was a significant difference among teachers in their aptitude to use computers for professional development in relation to the place where they use computers. As a result of this, the researcher used a Scheffe post hoc test to pinpoint the differences identified by the ANOVA. Table 5.27 presents the results of this test.

Table 5.27: Scheffe post hoc results regarding difference among teachers' abilities in relation to the place of computer use

Place of Computer Use		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Home	School	.58010	1.41320	.982	-3.3794	4.5396
	Both	-6.09802	.58115	.000**	-7.7263	-4.4697
	Never	9.11069	1.00291	.000**	6.3007	11.9207
School	Home	-.58010	1.41320	.982	-4.5396	3.3794
	Both	-6.67812	1.43718	.000**	-10.7048	-2.6514
	Never	8.53059	1.65336	.000**	3.8982	13.1630
Both	Home	6.09802	.58115	.000**	4.4697	7.7263
	School	6.67812	1.43718	.000**	2.6514	10.7048
	Never	15.20871	1.03643	.000**	12.3048	18.1126
Never	Home	-9.11069	1.00291	.000**	-11.9207	-6.3007
	School	-8.53059	1.65336	.000**	-13.1630	-3.8982
	Both	-15.20871	1.03643	.000**	-18.1126	-12.3048

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

• There were significant differences in level $p < 0.01$ among teachers' answers, based on the place of computer use, in their aptitude to use computers. The significant difference is between those who do not use computers at school or home and those who use a computer at home, school, or both. Teachers who do not use computers at all are more likely to have less aptitude in using computers for professional development purposes. The results of this test indicated that the mean of those who do not use computers either at home or at school was 11.1935 while the means of those who use a computer at home, school, or both were 20.3042, 19.7241, and 26.4023, respectively.

• There were significant differences in level $p < 0.01$ among responses in relation to their experience using computers between those who used a computer at home and those who used a computer at both home and school. Teachers who used a computer at both home and school are more likely to have more aptitude to use computers for professional development purposes. The results of this test indicated that the mean of those who used computers at both home and school was 26.4023 and the mean of those who used a computer just at home was 20.3042.

• There were significant differences in level $p < 0.01$ among responses in relation to their experience in using computers between those who used a computer at school only and those who used a computer at both home and school. Teachers who used a computer at both home and school are more likely to have more aptitude to use computers for professional development purposes. The results of this test indicated that the mean of those who used computer at both home and school was 26.4023, and the mean of those who used a computer just at school was 19.7241.

• The comparison between the mean of teachers who used a computer at school only and those who used a computer only at home illustrated that there was no significant difference between them.

The overall results of this test show that using computers at both school and home significantly and positively affects the aptitude to use computers for professional development. On the other hand, not using a computer at home or at school

significantly and negatively affected teachers' aptitude to use computers for professional development.

Availability of the Internet

To answer this question, the researcher used a one way ANOVA test to determine whether there were significant differences between teachers based on the place where they access the Internet.

A one way ANOVA test revealed that there was a significant difference among teachers in relation to the place where they accessed the Internet as shown in Table 5.28. This test indicated that the significant differences were at 99% of confidence.

Table 5.28: One way ANOVA results regarding difference among teachers' abilities in relation to the place they access the Internet

Place of Accessing The Internet	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Home Only	521	21.9750	7.61485	.33361	21.3197	22.6304
School Only	20	21.5000	8.15959	1.8245	17.6812	25.3188
Both	116	28.6379	7.61166	.70672	27.2380	30.0378
Never	94	12.1277	3.89991	.40225	11.3289	12.9264
Total	751	21.7590	8.46399	.30886	21.1527	22.3653

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7362.327	3	2454.109	8.793	.000**
Within Groups	207096.317	742	279.106		
Total	214458.643	745			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.28 shows that there was a significant difference in teachers' aptitude to use computers for professional development in relation to the place where they access the Internet. As a result, the researcher used a Scheffe post hoc test to identify the differences identified by the ANOVA. Table 5.29 presents the results of this test.

Table 5.29: Scheffe post hoc results regarding difference among teachers' abilities in relation to the place they access the Internet

Place of Accessing The Internet		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Home	School	.47505	1.65682	.994	-4.1671	5.1172
	Both	-6.66288	.74650	.000**	-8.7545	-4.5713
	Never	9.84739	.81483	.000**	7.5644	12.1304
School	Home	-.47505	1.65682	.994	-5.1172	4.1671
	Both	-7.13793	1.76050	.001**	-12.0706	-2.2052
	Never	9.37234	1.79054	.000**	4.3555	14.3892
Both	Home	6.66288	.74650	.000**	4.5713	8.7545
	School	7.13793	1.76050	.001**	2.2052	12.0706
	Never	16.51027	1.00908	.000**	13.6830	19.3376
Never	Home	-9.84739	.81483	.000**	-12.1304	-7.5644
	School	-9.37234	1.79054	.000**	-14.3892	-4.3555
	Both	-16.51027	1.00908	.000**	-19.3376	-13.6830

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test revealed the following results:

• There were significant differences in level p<0.01 among teachers' answers based on the place they access the Internet and their aptitude to use computers. There is a significant difference between those who do not access the Internet at school or home and those who access it at both home and school. Teachers who do not have access to the Internet at all are more likely to have less aptitude to use computers for professional development purposes than those who have Internet access. The results of this test indicated that the mean of those who do not access the Internet at all was 12.1277 while the mean of those who access it at home only and at school only at both were 21.9750, 21.5000, and 28.6379, respectively.

• There were significant differences in level p<0.01 among responses between those who access the Internet only at home and those who access the Internet at both home and school. Teachers who access the Internet at both home and school are more likely to have a greater aptitude to use computers for professional

development purposes. The results of this test indicated that the mean of those who access the Internet at both home and school was 28.6379, and the mean of those who access it at home only was 21.9750.

- There were significant differences in level $p<0.01$ among responses in relation to experience using computers between those who access the Internet at school only and those who access the Internet at both home and school. Teachers who access the Internet at both home and school were more likely to have greater aptitude to use computers for professional development purposes. The results of this test indicated that the mean of those who access the Internet at both home and school was 28.6379, and the mean of those who access the Internet at school only was 21.5000.

- The comparison between the mean of teachers who access the Internet at school only and those who access the Internet at home only illustrated that there was no significant difference between them.

- The overall results of this test show that accessing the Internet at both school and home significantly and positively affects the aptitude to use computers for professional development. On the other hand, not accessing the Internet either at home or at school significantly and negatively affects the aptitude to use computers for professional development.

Previous Participation

An Independent Samples *t* Test was used to determine whether there was a significant difference in teachers' aptitude to use computers for professional development based on their previous participation.

Table 5.30: Independent Samples Test results regarding difference among teachers' aptitude to use computers for professional development based on their previous participation

Answer	N	Mean	Std. Deviation	Std. Error Mean
Yes	123	30.0081	7.86828	.70946
No	645	19.9364	7.61642	.29990

	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Equal variances assumed	13.369	766	.000**	10.0717	8.5926	11.5506
Equal variances not assumed	13.076	168.475	.000**	10.0717	8.5511	11.5923

** The mean difference is significant at $p < 0.01$ level.
* The mean difference is significant at $p < 0.05$ level.

The Independent Samples t Test revealed that the mean of the teachers who had participated in prior online professional development programmes was 30.0081, while the mean of teachers who had not participated in prior online professional development programmes was 19.9364. This test shows that prior participation in online CPD significantly and positively affects teachers' aptitude to use computers for professional development.

5.4 Islamic Education Teachers' Attitudes towards Online CPD

Research question two is:

What are the Islamic education teachers' attitudes towards online CPD?

Several interrelated secondary questions followed that question.

This question aims to investigate Islamic education teachers' attitudes toward online CPD. Participants in this study were asked to respond to 25 items that identified their attitudes towards online CPD. The researcher used the scale below to interpret responses. The maximum and the minimum anticipated score of each

item were calculated, and then the range was identified. Finally, the scores were divided into five equal categories:

1) Strongly positive, 2) positive, 3) normal, 4) negative, 5) strongly negative, as follows:

Maximum anticipated item score = 5

Minimum anticipated item score = 1

Rang = 5 – 1 = 4

L= 4 /5 = 0.80   So

Table 5.31 Mean Scale used to interpret the results of the third part of the survey –

Mean	Interpretation
1.00- 1.80	Strongly Negative
1.81 – 2.60	Negative
2.61 – 3.40	Normal
3.41 – 4.20	Positive
4.21 – 5.00	Strongly Positive

The following is an analysis of responses to secondary questions.

- ***What are the Islamic education teachers' attitudes towards online CPD?***

To answer this secondary question, frequency, percent, mean, and Std. Deviation were calculated for each item of the attitude scales, as shown in Table 5.32.

Table 5.32: Frequency, percent, mean, and Std. Deviation for each item of teachers' responses about attitudes towards online CPD scales

	Items	Frequency and Percent					N	Mean	Std. Dev.
		SD	D	U	A	SA			
1	Online CPD is more flexible than the traditional way.	37	102	131	403	92	765	3.5373	1.023
		4.8%	13.3%	17.1%	52.5%	12%			
2	Online CPD programmes are an appropriate medium for transmitting educational training.	31	68	136	402	127	764	3.6885	.985
		4%	8.9%	17.7%	52.3%	16.5			
3	I'm interested in implementing online CPD.	37	109	217	322	80	765	3.3908	1.012
		4.8%	14.2%	28.3%	41.9%	10.4%			
4	I believe that using Online CPD will be more effective than the traditional way.	32	126	167	328	110	763	3.4692	1.059
		4.2%	16.4%	21.7%	42.7%	14.3%			
5	The use of online CPD will facilitate my training.	21	64	135	394	151	765	3.7712	.951
		2.7%	8.3%	17.6%	51.3%	19.7%			
6	I believe that Saudi policymakers will support online CPD.	28	91	184	374	87	764	3.5249	.968
		3.6%	11.8%	24%	48.7	11.3%			
7	I feel that my colleagues are very interested in participating in online CPD programmes.	37	149	234	286	58	764	3.2343	1.007
		4.8%	19.4%	30.5%	37.2%	7.6%			
8	I have a desire to participate in online CPD programmes.	19	52	155	357	181	764	3.8233	.952
		2.5%	6.8%	20.2%	46.5%	23.6%			
9	I'm willing to participate in training about how to use the Internet for CPD.	27	48	108	406	176	765	3.8575	.960
		3.5%	6.2%	14.1%	52.9%	22.9%			
10	I believe that using online CPD will improve the quality of teacher CPD programmes.	25	54	135	385	165	764	3.7997	.965
		3.3%	7%	17.6%	50.1%	21.5%			
11	The Saudi educational environment is appropriate for online CPD.	48	144	188	315	70	765	3.2810	1.067
		6.2%	18.8%	24.5%	41%	9.1%			
12	Online CPD will give teachers in remote areas more opportunities to development their skills.	42	121	132	359	110	764	3.4895	1.089
		5.5%	15.8%	17.2%	46.7%	14.3%			
13	Online CPD will help me in my duties.	20	66	136	416	127	765	3.7373	.925
		2.6%	8.6%	17.7%	54.2	16.5			
14	Online CPD increases teacher motivation for development.	26	61	126	426	124	763	3.7353	.941
		3.4%	7.9%	16.4%	55.5%	16.1%			
15	Online CPD enables trainers to identify the individual teacher's needs.	27	60	165	415	97	764	3.6479	.923
		3.5%	7.8%	21.5%	54%	12.6%			
16	Online CPD is more accessible and quickly answers questions.	20	57	97	440	149	763	3.8401	.913
		2.6%	7.4%	12.6%	57.3%	19.4%			
17	Online CPD is more suitable for teachers with disabilities.	21	51	122	395	174	763	3.8519	.939
		2.7%	6.6%	15.9%	51.4%	22.7%			
18	Online CPD will provide more training opportunities for teachers.	18	61	101	429	154	763	3.8388	.917
		2.3%	7.9%	13.2%	55.9%	20.1%			
19	Online CPD will encourage teachers to collaborate and share ideas.	14	39	82	427	203	765	4.0013	.862
		1.8%	5.1%	10.7%	55.6%	26.4%			
20	Online CPD will work well with my out of school responsibilities.	21	48	113	387	195	764	3.8992	.945
		207%	6.2%	14.7%	50.4%	25.4%			
21	Online CPD programmes will help	25	30	106	419	185	765	3.9268	.910

	to reduce the problem of overcrowding in training centres.	3.3%	3.9%	13.8%	54.6%	24.2%			
22	The use of audiovisual material in Online CPD will improve teachers' training.	24	61	103	345	232	765	3.9150	1.017
		3.1%	7.9%	13.4%	44.9%	30.2%			
23	Online CPD will address problems of the lack of qualified trainers.	23	53	109	409	170	764	3.8508	.945
		3.0%	6.9%	14.2%	53.5%	22.1%			
24	Online CPD is appropriate for Saudi female teachers.	41	65	128	362	167	763	3.7195	1.065
		5.3%	8.5%	16.7%	47.1%	21.7%			
25	Online CPD will give more opportunities to train more teachers at the same time.	29	38	71	385	242	765	4.0105	.975
		3.8%	4.9%	9.2%	50.1%	31.5%			

As shown in Table 5.32, responses show that teachers' attitudes were either positive or normal to all the scale's items. The items "Online CPD will give more opportunities to train more teachers at the same time", "Online CPD will encourage teachers to collaborate and share ideas" and "Online CPD programmes will help to reduce the problem of overcrowding in training centres" received the highest mean scores (.4.0105, 4.0013, 3.9268) with Std. Deviations of .97476, .86148, and .90945, respectively. In turn, the items "I feel that my colleagues are very interested in participating in online CPD programmes", "The Saudi educational environment is appropriate for online CPD " and "I'm interested in implementing online CPD" received the lowest mean (3.2343, 3.2810, 3.8904) with Std. Deviations of 1.00657, 1.067747 and 1.01180, respectively.

Accordingly, the sample's attitudes were positive towards all the scale's items except the lowest 3 items to which teachers had "normal" attitudes.

To identify the overall attitudes towards online CPD, the researcher calculated the test value; first by calculating the maximum and minimum anticipated scale score and secondly by dividing the scores into five categories: strongly positive, positive, Normal, negative, strongly negative, as follows:

Maximum anticipated score = 25 × 5 = 125

Minimum anticipated score = 25 × 1 = 25

Rang = 125 – 25 = 100

L = 100 / 5 = 20   So;

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Table 5.33: Mean Scale used to interpret the results of the second part of the survey

Mean	Interpretation
25.00 – 45.00	Strongly Negative
45.01 – 65.00	Negative
65.01 – 85.00	Normal
85.01 – 105.00	Positive
105.01 – 125.00	Strongly Positive

To identify the overall attitudes towards online CPD, the researcher used one sample t test as shown in Table 5.34.

Table 5.34: Results of t test regarding teachers' overall attitudes towards online CPD

Part	N	Mean	Std. Deviation	Std. Error Mean		
Attitudes	763	92.7641	16.88099	.61113		
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Attitude	110.883	762	.000**	67.76409	66.5644	68.9638

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

Table 5.34 illustrates that the mean of the overall attitudes towards online CPD was 92.7641. According to the scales shown in Table 5.33, this result indicates that teachers' overall attitudes were positive towards online CPD.

What are the attitudes of male Islamic education teachers towards online CPD?

Regarding male teachers' attitudes towards online CPD, for each item of their attitude scales, the researcher calculated frequency, percent, mean, and Std. Deviation as shown in Table 5.35.

Table 5.35: Frequency, percent, mean, and Std. Deviation for each item on the male teachers' attitude scale

	Items	Frequency and Percent					N	Mean	Std. Dev.
		SD	D	U	A	SA			
1	Online CPD is more flexible than the traditional way.	22	50	69	218	41	400	3.5150	1.019
		5.5%	12.5%	17.2%	54.4%	10.2%			
2	Online CPD programmes are an appropriate medium for transmitting educational training.	16	43	73	205	63	400	3.6400	1.001
		4%	10.7%	18.2%	51.1%	15.7%			
3	I'm interested in implementing online CPD.	18	63	108	172	39	400	3.3775	1.009
		4.5%	15.7%	26.9%	42.9%	9.7%			
4	I believe that using Online CPD will be more effective than the traditional way.	22	61	88	180	48	399	3.4286	1.06
		5.5%	15.2%	21.9%	44.9%	12%			
5	The use of online CPD will facilitate my training.	13	37	8.	204	66	400	3.6825	.964
		3.2%	9.2%	20%	50.9%	16.5%			
6	I believe that Saudi policymakers will support online CPD.	15	50	103	191	41	400	3.4825	.965
		3.7%	12.5%	25.7%	47.6%	10.2%			
7	I feel that my colleagues are very interested in participating in online CPD programmes.	13	87	127	147	26	400	3.2150	.965
		3.2%	21.7%	31.7%	36.7%	6.5%			
8	I have a desire to participate in online CPD programmes.	8	32	92	180	88	400	3.7700	.948
		2%	8%	22.9%	44.9%	21.9%			
9	I'm willing to participate in training about how to use the Internet for CPD.	11	30	66	198	95	400	3.8400	.963
		2.7%	7.5%	16.5%	49.4%	23.7%			
10	I believe that using online CPD will improve the quality of teacher CPD programmes.	10	38	87	194	71	400	3.6950	.9534
		2.5%	9.5%	21.7%	48.4%	17.7%			
11	The Saudi educational environment is appropriate for online CPD.	25	76	103	166	30	400	3.2500	1.047
		6.2%	19%	25.7%	41.4%	7.5%			
12	Online CPD will give teachers in remote areas more opportunities to development their skills.	26	70	78	181	45	400	3.3725	1.096
		6.5%	17.5%	19.5%	45.1%	11.2%			
13	Online CPD will help me in my duties.	13	36	81	219	51	400	3.6475	.928
		3.2%	9%	20.2%	54.6%	12.7%			
14	Online CPD increases teacher motivation for development.	16	33	78	225	47	399	3.6366	.936
		4%	8.2%	19.5%	56.1%	11.7%			
15	Online CPD enables trainers to identify the individual teacher's needs.	11	35	100	214	39	399	3.5890	.884
		2.7%	8.7%	24.9%	53.4%	9.7%			
16	Online CPD is more accessible and quickly answers questions.	11	38	61	217	72	399	3.7544	.951
		2.7%	9.5%	15.2%	54.1%	18%			
17	Online CPD is more suitable for teachers with disabilities.	14	26	73	198	88	399	3.8020	.972
		3.5%	6.5%	18.2%	49.4%	21.9%			
18	Online CPD will provide more training opportunities for teachers.	12	33	57	223	75	400	3.7900	.942
		3%	8.2%	14.2%	55.6%	18.7%			
19	Online CPD will encourage teachers to collaborate and share ideas.	9	24	53	217	97	400	3.9225	.902
		2.2%	6%	13.2%	54.1%	24.2%			
20	Online CPD will work well with my out of school responsibilities.	13	28	59	196	104	400	3.8750	.983
		3.2%	7%	196%	48.9%	25.9%			
21	Online CPD programmes will help to reduce the problem of overcrowding in training centres.	16	18	63	211	92	400	3.8625	.954
		4%	4.5%	15.7%	52.6%	22.9%			

22	The use of audiovisual material in Online CPD will improve teachers' training.	10	26	61	189	114	400	3.9275	.959
		2.5%	6.5%	15.2%	47.1%	28.4%			
23	Online CPD will address problems of the lack of qualified trainers.	14	30	73	198	85	400	3.7750	.981
		3.5%	7.5%	18.2%	49.4%	21.2%			
24	Online CPD is appropriate for Saudi female teachers.	19	35	81	175	89	399	3.7018	1.058
		4.7%	8.7%	20.2%	43.6%	22.2%			
25	Online CPD will give more opportunities to train more teachers at the same time.	10	25	46	194	125	400	3.9975	.951
		2.5%	6.2%	11.5%	48.4%	31.2%			

As shown in Table 5.35, responses show that teachers' attitudes were either positive or normal to all the scale's items. The items "Online CPD will give more opportunities to train more teachers at the same time", "The use of audiovisual material in online CPD will improve teachers' training" and "Online CPD will encourage teachers to collaborate and share ideas" received the highest means (3.9975, 3.9275, 3.9225) with Std. Deviations of .95119, .95893, .90196, respectively. On the other hand, the items "Online CPD will give teachers in remote areas more opportunities to develop their skills", "The Saudi educational environment is appropriate for Online CPD" and "I feel my colleagues are very interested in participating in online CPD programmes" received the lowest mean scores (3.3725, 3.2500, 3.2150) with Std. Deviations of 1.09624, 1.04654, and .96494, respectively.

Accordingly, the sample's attitudes were positive towards all the scale's items except the lowest 4 items, the lowest 3 items that were mentioned earlier, and the item "I'm interested in implementing online CPD" which teachers had "Normal" attitudes towards them.

The male teachers' overall attitudes towards online CPD were calculated by applying one sample *t* test, and the results are shown in Table 5.36.

Table 5.36: Results of t test regarding male teachers' attitudes towards online CPD

Part	N	Mean	Std. Deviation	Std. Error Mean		
Attitude	400	91.4950	16.78076	.83904		
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Attitude	79.251	399	.000**	66.49500	64.8455	68.1445

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

One sample *t* test results confirmed that male teachers' attitudes towards online CPD were positive as the mean of the results was 91.4950.

What are the attitudes of female Islamic education teachers towards online CPD?

Regarding female teachers' attitudes towards online CPD, for each item of the attitude scale, the researcher calculated frequency, percent, mean, and Std. Deviation as shown in Table 5.37.

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Table 5.37: Frequency, percent, mean, and Std. Deviation for each item on female teachers' attitude scale

	Items	Frequency and Percent					N	Mean	Std. Dev.
		SD	D	U	A	SA			
1	Online CPD is more flexible than the traditional way.	15	52	62	185	51	365	3.5616	1.030
		4.1%	14.2%	16.9%	50.4%	13.9%			
2	Online CPD programmes are an appropriate medium for transmitting educational training.	15	25	63	197	64	364	3.7418	.965
		4.1%	6.8%	17.2%	53.7%	17.4%			
3	I'm interested in implementing online CPD.	19	46	1.9	150	41	365	3.4055	1.016
		5.2%	12.5%	29.7%	40.9%	11.2%			
4	I believe that using Online CPD will be more effective than the traditional way.	10	65	79	148	62	364	3.5137	1.056
		2.7%	17.7%	21.5%	40.3%	16.9%			
5	The use of online CPD will facilitate my training.	8	27	55	190	85	365	3.8685	.928
		2.2%	7.4%	15%	51.8%	23.2%			
6	I believe that Saudi policymakers will support online CPD.	13	41	81	183	46	364	3.5714	.969
		3.5%	11.2%	22.1%	49.9%	12.5%			
7	I feel that my colleagues are very interested in participating in online CPD programmes.	24	62	107	139	32	364	3.2555	1.055
		6.5%	16.9%	29.2%	37.9%	8.7%			
8	I have a desire to participate in online CPD programmes.	11	20	63	177	93	364	3.8819	.953
		3%	5.4%	17.2%	48.2%	25.3%			
9	I'm willing to participate in training about how to use the Internet for CPD.	16	18	42	208	81	365	3.8767	.957
		4.4%	4.9%	11.4%	56.7%	22.1%			
10	I believe that using online CPD will improve the quality of teacher CPD programmes.	15	16	48	191	94	364	3.9148	.966
		4.1%	4.4%	13.1%	52%	25.6%			
11	The Saudi educational environment is appropriate for online CPD.	23	68	58	149	40	365	3.3151	1.090
		6.3%	18.5%	23.2%	40.6%	10.9%			
12	Online CPD will give teachers in remote areas more opportunities to development their skills.	16	51	54	178	65	364	3.6181	1.074
		4.4%	13.9%	14.7%	48.5%	17.7%			
13	Online CPD will help me in my duties.	7	30	55	197	76	365	3.8356	.914
		1.9%	8.2%	15%	53.7%	20.7%			
14	Online CPD increases teacher motivation for development.	10	28	48	201	77	364	3.8434	.936
		2.7%	7.6%	13.1%	54.8%	21%			
15	Online CPD enables trainers to identify the individual teacher's needs.	16	25	65	201	58	365	3.7123	.962
		4.4%	6.8%	17.7%	54.8%	15.8%			
16	Online CPD is more accessible and quickly answers questions.	9	19	36	223	77	364	3.9341	.860
		2.5%	5.2%	9.8%	60.8%	21%			
17	Online CPD is more suitable for teachers with disabilities.	7	25	49	197	86	364	3.9066	.901
		1.9%	6.8%	13.4%	53.7%	23.4%			
18	Online CPD will provide more training opportunities for teachers.	6	28	44	206	79	363	3.8926	.887
		1.6%	7.6%	12%	56.1%	21.5%			
19	Online CPD will encourage teachers to collaborate and share ideas.	5	15	29	210	106	365	4.0877	.807
		1.4%	4.1%	7.9%	57.2%	28.9%			
20	Online CPD will work well with my out of school responsibilities.	8	20	54	191	91	364	3.9258	.902
		2.2%	5.4%	14.7%	52%	24.8%			
21	Online CPD programmes will help to reduce the problem of overcrowding in training centres.	9	12	43	208	93	365	3.9973	.853
		2.5%	3.3%	11.7%	56.7%	25.3%			
22	The use of audiovisual material in Online CPD will improve teachers' training.	14	35	42	156	118	365	3.9014	1.077
		3.8%	9.5%	11.4%	42.5%	32.2%			

23	Online CPD will address problems of the lack of qualified trainers.	9	23	36	211	85	364	3.9341	.898
		2.5%	6.3%	9.8%	57.5%	23.2%			
24	Online CPD is appropriate for Saudi female teachers.	22	30	47	187	78	364	3.7390	1.073
		6%	8.2%	12.8%	51%	21.3%			
25	Online CPD will give more opportunities to train more teachers at the same time.	19	13	25	191	117	365	4.0247	1.001
		5.2%	3.5%	6.8%	52%	31.9%			

As shown in Table 5.37, female teachers' responses show that their attitudes are either positive or normal to online CPD. The items "Online CPD will encourage teachers to collaborate and share ideas", "Online CPD will give more opportunities to train more teachers at the same time" and "Online CPD programmes will help to reduce the problem of overcrowding in training centres" received the highest mean scores (4.0877, 4.0247, 3.9973) with Std. Deviations of .80724, 1.00107, and .85324, respectively. In turn, the items "I'm interested in implementing online CPD", "The Saudi educational environment is appropriate for Online CPD" and "I feel my colleagues are very interested in participation in online CPD programmes" received the lowest mean scores (3.4055, 3.3151, 3.2555) with Std. Deviations of 1.01634, 1.09038, and 1.05135, respectively.

Consequently, the sample's attitudes were positive towards all the scale's items except the lowest 2 items to which teachers had "normal" attitudes.

The female teachers' overall attitudes towards online CPD were calculated by applying one sample *t* test, and the results are shown in Table 5.38.

Table 5.38: Results of t test regarding female teachers' attitudes towards online CPD.

Part	N	Mean	Std. Deviation	Std. Error Mean		
attitude	363	94.1625	16.90364	.88721		

					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
attitude	77.955	362	.000**	69.16253	67.4178	70.9073

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

The one sample *t* test results confirmed that female teachers' attitudes towards online CPD were positive, as the mean of their results was 94.1625.

- **Are there any significant differences between male and female teacher' attitudes towards online CPD in relation to gender?**

An Independent Samples *t* Test was used to determine whether there was a significant difference between male and females in their attitudes towards online CPD.

Table 5.39: Independent t test results regarding the difference between male and female teachers' attitudes towards online CPD in relation to gender

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	400	91.4950	16.78076	.83904
Female	363	94.1625	16.90364	.88721

	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Equal variances assumed	-2.185	761	.029*	-2.66753	-5.06384	-.27122
Equal variances not assumed	-2.185	752.777	.029*	-2.66753	-5.06474	-.27033

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

The Independent Samples *t* Test revealed that the mean of the male teachers' attitudes towards online CPD was 91.4950, while the mean of female teachers' attitudes towards online CPD was 94.1625. The results show that there were significant gender differences in the attitudes towards online CPD at level 0.05 of significance for female teachers.

Are there any significant differences in the attitudes towards online CPD related to other variables?

To answer this question, the researcher used a variety of statistical tests, such as a one way ANOVA, a Scheffe post hoc test, and the Independent Samples *t* Test, in

order to determine whether there were significant differences among some demographic variables such as the highest level of education obtained, the number of years of full-time teaching experience, the number of years of experience using a computer and the Internet, the place where computers are usually used, the place where the Internet is usually accessed, and, finally, their prior online training experience.

Qualifications

To answer this question, the researcher used a one way ANOVA test to determine whether there were significant differences between teachers based on their qualifications.

A one way ANOVA test reveals that there was no significant difference among teachers in terms of their qualifications, as shown in Table 5.40.

Table 5.40: One way ANOVA results regarding difference among teachers' attitudes in terms of their highest level of education obtained

Qualification	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
PhD	3	98.6667	1.15470	.6667	95.7982	101.5351
MA	15	97.3333	14.26117	3.6820	89.4358	105.2309
High Dip	51	93.8039	13.10423	1.8350	90.1183	97.4895
BA	556	91.8004	17.35973	.7362	90.3542	93.2465
Other	137	95.6277	16.34284	1.3963	92.8665	98.3889
Total	762	92.7585	16.89138	.6119	91.5573	93.9598

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2112.676	4	528.169	1.860	.116
Within Groups	215014.894	757	284.036		
Total	217127.570	761			

** The mean difference is significant at $p < 0.01$ level.
* The mean difference is significant at $p < 0.05$ level.

The results shown in Table 5.40 reveal that there was no significant difference between teachers in their attitude towards online CPD in relation to their highest level of education obtained. The Scheffe post hoc test, as shown in the table below,

confirmed that there was no significant difference between teachers in relation to their qualifications.

Table 5.41:Scheffe post hoc test results regarding difference between teachers in their attitudes towards using computers for professional development purposes in relation to their highest level of education

Qualification		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PhD	MA	1.33333	10.65900	1.000	-31.5800	34.2467
	High Dip	4.86275	10.01238	.994	-26.0539	35.7794
	BA	6.86631	9.75650	.974	-23.2603	36.9929
	Others	3.03893	9.83625	.999	-27.3339	33.4117
MA	PhD	-1.33333	10.65900	1.000	-34.2467	31.5800
	High Dip	3.52941	4.95026	.973	-11.7562	18.8150
	BA	5.53297	4.40983	.813	-8.0839	19.1498
	Others	1.70560	4.58355	.998	-12.4477	15.8589
High Dip	PhD	-4.86275	10.01238	.994	-35.7794	26.0539
	MA	-3.52941	4.95026	.973	-18.8150	11.7562
	BA	2.00356	2.46580	.956	-5.6105	9.6176
	Other	-1.82382	2.76452	.979	-10.3602	6.7126
BA	PhD	-6.86631	9.75650	.974	-36.9929	23.2603
	MA	-5.53297	4.40983	.813	-19.1498	8.0839
	High Dip	-2.00356	2.46580	.956	-9.6176	5.6105
	Other	-3.82738	1.60752	.226	-8.7911	1.1364
Other	PhD	-3.03893	9.83625	.999	-33.4117	27.3339
	MA	-1.70560	4.58355	.998	-15.8589	12.4477
	High Dip	1.82382	2.76452	.979	-6.7126	10.3602
	BA	3.82738	1.60752	.226	-1.1364	8.7911

** The mean difference is significant at $p< 0.01$ level.
* The mean difference is significant at $p< 0.05$ level.

Experience in Teaching

A one way ANOVA test was used to determine whether there were significant differences among responses based on participants' years of experience in teaching.

The one way ANOVA test revealed that there was no significant difference amongst teachers in terms of their level of experience, as shown in Table 5.42.

Table 5.42: ANOVA test results regarding difference among teachers' attitudes in terms of their experience in teaching

Experience in Teaching	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Less than 5 years	130	95.4000	17.65325	1.5483	92.3367	98.4633
5 - 10	181	91.4309	17.61760	1.3095	88.8470	94.0149
More than 10 years	450	92.7000	16.14236	.7610	91.2045	94.1955
Total	761	92.8594	16.79160	.6087	91.6645	94.0543

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1219.869	2	609.934	2.170	.115
Within Groups	213068.087	758	281.092		
Total	214287.955	760			

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

Table 5.43 shows the results of the Scheffe post hoc test, which confirmed that there was no significant difference among teachers' attitudes towards using online CPD in relation to their experience in teaching.

Table 5.43:Scheffe post hoc test results regarding difference in teachers' attitudes in terms of their experience in teaching.

Experience in Teaching		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Less than 5 years	5 - 10	3.96906	1.9275	.121	-.7583	8.6964
	More than 10 years	2.70000	1.6694	.271	-1.3944	6.7944
5 - 10	Less than 5 years	-3.96906	1.9275	.121	-8.6964	.7583
	More than 10 years	-1.26906	1.4757	.691	-4.8883	2.3502
More than 10 years	Less than 5 years	-2.70000	1.6694	.271	-6.7944	1.3944
	5 - 10	1.26906	1.4757	.691	-2.3502	4.8883

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

Experience in Using Computers

To answer this question, the researcher used a one way ANOVA to discern whether there were significant differences among teachers in their attitudes towards online CPD in relation to their experience using computers.

A one way ANOVA revealed that there was a significant difference at 0.01 level among teachers in relation to their experience in using computers, as shown in Table 5.44.

Table 5.44: One way ANOVA results regarding difference amongst teachers' attitudes in terms of their experience in using computers

Experience in Using Computers	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No experience	51	84.2745	14.40427	2.017	80.2232	88.3258
Less than 5 years	376	93.5239	16.79379	.86607	91.8210	95.2269
5 – 10 years	218	93.0505	16.14086	1.093	90.8958	95.2051
More than 10 years	117	93.8889	18.15393	1.678	90.5647	97.2130
Total	762	92.8255	16.80669	.60884	91.6302	94.0207

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4055.844	3	1351.948	4.859	.002*
Within Groups	210899.942	758	278.232		
Total	214955.786	761			

** The mean difference is significant at $p < 0.01$ level.
* The mean difference is significant at $p < 0.05$ level.

Table 5.44 shows that there was a significant difference among teachers in their attitudes towards online CPD in relation to their experience using computers. Therefore, the researcher used a Scheffe post hoc test to identify the differences detected by the ANOVA test. Table 5.45 presents the results of this test.

Table 5.45: Scheffe post hoc test results regarding difference amongst teachers' attitudes in relation to their experience using computers

Experience in Using Computers		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No experience	Less than 5 years	-9.24943	2.48908	.003**	-16.2233	-2.2756
	5 - 10	-8.77595	2.59458	.010**	-16.0454	-1.5065
	More than 10 years	-9.61438	2.79885	.008**	-17.4561	-1.7726
Less than 5 years	No experience	9.24943	2.48908	.003**	2.2756	16.2233
	5 - 10	.47348	1.41996	.990	-3.5049	4.4519
	More than 10 years	-.36495	1.76579	.998	-5.3123	4.5824
5 - 10	No experience	8.77595	2.59458	.010**	1.5065	16.0454
	Less than 5 years	-.47348	1.41996	.990	-4.4519	3.5049
	More than 10 years	-.83843	1.91163	.979	-6.1944	4.5175
More than 10 years	No experience	9.61438	2.79885	.008**	1.7726	17.4561
	Less than 5 years	.36495	1.76579	.998	-4.5824	5.3123
	5 - 10	.83843	1.91163	.979	-4.5175	6.1944

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test points out to the following results:

• There were significant differences in level p<0.01 between those who had no experience in using computers and those who had less than 5 years of experience. Teachers who had no experience were more likely to have a less positive attitude towards online CPD than those with experience. The results of this test indicate that the mean of those had no experience in using computers was 84.2745, while the mean of those had less than 5 years was 93.5239.

• There were significant differences in level p<0.01 between those who had no experience in using computers and those who had between 5 to 10 years of experience. Teachers who had between 5 to 10 years of experience are more likely to have more positive attitudes towards online CPD than those with experience. The

results of this test indicate that the mean of those had no experience in using computers was 84.2745, while the mean of those had from 5 to 10 years was 93.0505

- There were significant differences in level p<0.01 between those who had no experience in using computers and those who had more than 10 years of experience. Teachers who had more than 10 years of experience were more likely to have more positive attitudes towards online CPD than those who had experience. The results of this test indicated that the mean of those had no experience in using computers was 84.2745, while the mean of those had more than 10 years was 93.8889

- There were no significant differences between those who had some level of experience in using computers.

- The overall results of this test confirmed that experience in using computers significantly affects attitudes towards online CPD.

Experience of Using the Internet

To answer this question, the researcher used a one way ANOVA test to determine whether there were significant differences between teachers, based on their experience of using the Internet.

A one way ANOVA test reveals that there was a significant difference among teachers in relation to their experience of using the Internet, as shown in Table 5.46.

Table 5.46: One way ANOVA results regarding difference amongst teachers' attitudes in relation to their experience in using the Internet

Experience in accessing the Internet	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No experience	77	85.0130	18.50995	2.109	80.8117	89.2142
Less than 5 years	421	93.1211	16.44086	.801	91.5461	94.6962
5 - 10	211	94.7678	15.38608	1.059	92.6797	96.8558
More than 10 years	53	93.1698	20.72042	2.846	87.4586	98.8811
Total	762	92.7612	16.89189	.612	91.5599	93.9624

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5535.629	3	1845.210	6.610	.000**
Within Groups	211604.901	758	279.162		
Total	217140.530	761			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.46 shows that there was a significant difference among teachers in their attitudes towards online CPD in relation to their experience using the Internet. As a result of this, the researcher used a Scheffe post hoc test to identify the differences identified by the ANOVA test. Table 5.47 presents the results of this test.

Table 5.47: Scheffe post hoc results regarding difference amongst teachers' attitudes in relation to their experience of using the Internet

Experience in accessing the Internet		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No experience	Less than 5 years	-8.10815	2.07089	.002**	-13.9103	-2.3060
	5 - 10	-9.75479	2.22453	.000**	-15.9874	-3.5222
	More than 10 years	-8.15682	2.98206	.050*	-16.5119	.1982
Less than 5 years	No experience	8.10815	2.07089	.002**	2.3060	13.9103
	5 - 10	-1.64663	1.40930	.714	-5.5952	2.3019
	More than 10 years	-.04867	2.43522	1.000	-6.8716	6.7743
5 - 10	No experience	9.75479	2.22453	.000**	3.5222	15.9874
	Less than 5 years	1.64663	1.40930	.714	-2.3019	5.5952
	More than 10 years	1.59796	2.56715	.943	-5.5946	8.7905
More than 10 years	No experience	8.15682	2.98206	.050*	-.1982	16.5119
	Less than 5 years	.04867	2.43522	1.000	-6.7743	6.8716
	5 - 10	-1.59796	2.56715	.943	-8.7905	5.5946

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test points out the following results:

• There were significant differences in level p<0.05 between those who had no experience in accessing the Internet and those who had less than 5 years of experience. Teachers who had no experience are more likely to have less positive attitudes towards online CPD than those with experience. The results of this test indicated that the mean of those who had no experience in accessing the Internet was 85.0130, while the mean of those who had less than 5 years was 93.1211.

• There were significant differences in level p<0.01 between those who had no experience in accessing the Internet and those who had between 5 and 10 years of experience. Teachers who had between 5 and 10 years of experience were more likely to have more positive attitudes towards online CPD than those who had less or no experience. The results of this test indicated that the mean of those had no

experience in using computers was 85.0130, while the mean of those had from 5 to 10 years was 94.7678.

- There were significant differences in level p<0.05 between those who had no experience in accessing the Internet and those who had more than 10 years of experience. The results of this test indicated that the mean of those had no experience in accessing the Internet was 85.0130, while the mean of those had more than 10 years was 93.1698.

- There were no significant differences between those participants who had some level of experience in accessing the Internet.

Place of Computer Use

To answer this question, the researcher used a one way ANOVA test to determine whether there were significant differences between teachers' attitudes based on place of use.

Table 5.48: One way ANOVA results regarding difference amongst teachers' attitudes in relation to their experience in the place of computer use

Place of Computer Use	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Home Only	398	93.2412	16.77206	.8407	91.5884	94.8940
School Only	29	90.5517	14.32676	2.6604	85.1021	96.0013
Both	266	94.1805	17.45694	1.0704	92.0730	96.2879
Never	60	86.5833	13.99793	1.8071	82.9673	90.1994
Total	753	92.9389	16.82107	.6130	91.7355	94.1423
Test	Sum of Squares		Df	Mean Square	F	Sig.
Between Groups	3035.252		3	1011.751	3.613	.013*
Within Groups	209741.938		749	280.029		
Total	212777.190		752			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.48 shows that there was a significant difference among teachers in their attitudes towards online CPD in relation to the place where they use computers. As a result of this, the researcher used a Scheffe post hoc test to locate the differences identified by the ANOVA test. Table 5.49 presents the results of this test.

Table 5.49: Scheffe post hoc results regarding difference among teachers' attitudes in relation to the place of computer use

Place of Computer Use		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Home	School	2.68948	3.21866	.874	-6.3287	11.7077
	Both	-.93925	1.32527	.918	-4.6524	2.7740
	Never	6.65787	2.31749	.042*	.1646	13.1511
School	Home	-2.68948	3.21866	.874	-11.7077	6.3287
	Both	-3.62873	3.27245	.746	-12.7976	5.5402
	Never	3.96839	3.78462	.777	-6.6356	14.5723
Both	Home	.93925	1.32527	.918	-2.7740	4.6524
	School	3.62873	3.27245	.746	-5.5402	12.7976
	Never	7.59712	2.39163	.018*	.8961	14.2981
Never	Home	-6.65787	2.31749	.042*	-13.1511	-.1646
	School	-3.96839	3.78462	.777	-14.5723	6.6356
	Both	-7.59712	2.39163	.018*	-14.2981	-.8961

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

The Scheffe post hoc test points out to the following results:

• There were significant differences in level p<0.05 between those who did not use computers at home or at school and teachers who used computers at home. Teachers who used computer at home were more likely to have more positive attitudes towards online CPD than those who did not use computers. The results of this test indicated that the mean of those who did not used computers at home or at school was 86.5833, while the mean of those who used computers at home was 93.2412.

• There were significant differences in level p<0.05 between those who did not used computers at home or at school and teachers who used computers at both home and school. Teachers who used computers at both home and school were more likely to have more positive attitudes towards online CPD than those who did

not use computers. The results of this test indicated that the mean of those did not used computers at home or at school was 86.5833, while the mean of those who used computers at both home and school was 94.1805

• There were no significant differences between those who used computer at home or at school and teachers who used computers at school only. The results of this test indicated that the mean of those did not used computers neither at home nor at school was 86.5833, while the mean of those used computers at school only was 90.5517

• There were no significant differences between those who used computers at home and teachers who used computers at both school and home.

Availability of the Internet

To answer this question, the researcher used a one way ANOVA to determine whether there were significant differences between teachers, based on their place of Internet usage.

The one way ANOVA reveals that there was a significant difference among teachers in relation to place of accessing the Internet, as shown in Table 5.50.

Table 5.50: One way ANOVA results regarding difference amongst teachers' attitudes in relation to their place of accessing the Internet

Place of Accessing The Internet	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Home Only	518	93.5483	16.12969	.7087	92.1560	94.9405
School Only	20	91.4000	19.27474	4.3100	82.3791	100.4209
Both	116	96.1207	16.95116	1.5739	93.0031	99.2382
Never	92	84.8913	18.89442	1.9699	80.9784	88.8042
Total	746	92.8231	16.96655	.6212	91.6036	94.0425

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	14234.440	3	4744.813	89.743	.000**
Within Groups	39494.937	747	52.871		
Total	53729.377	750			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.50 shows that there was a significant difference among teachers in their attitudes towards online CPD in relation to the place where they accessed the Internet. As a result of that, the researcher used a Scheffe post hoc test to pinpoint the differences identified by the ANOVA test. Table 5.51 presents the results of this test.

Table 5.51: Scheffe post hoc results regarding difference amongst teachers' attitudes in relation to the place of accessing the Internet

		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Home	School	2.14826	3.80711	.957	-8.5189	12.8155
	Both	-2.57243	1.71607	.523	-7.3807	2.2359
	Never	8.65696	1.89012	.000**	3.3610	13.9529
School	Home	-2.14826	3.80711	.957	-12.8155	8.5189
	Both	-4.72069	4.04492	.715	-16.0542	6.6128
	Never	6.50870	4.12178	.477	-5.0402	18.0576
Both	Home	2.57243	1.71607	.523	-2.2359	7.3807
	School	4.72069	4.04492	.715	-6.6128	16.0542
	Never	11.22939	2.33235	.000**	4.6944	17.7644
Never	Home	-8.65696	1.89012	.000**	-13.9529	-3.3610
	School	-6.50870	4.12178	.477	-18.0576	5.0402
	Both	-11.22939	2.33235	.000**	-17.7644	-4.6944

** The mean difference is significant at $p < 0.01$ level.
 * The mean difference is significant at $p < 0.05$ level.

The Scheffe post hoc test points out the following results -

• There were significant differences in level $p < 0.01$ between those who did not access the Internet at home or at school and teachers who access the Internet at home. Teachers who access the Internet at home were more likely to have more positive attitudes towards online CPD than those who did not access the Internet. The results of this test indicated that the mean of those who did not access the Internet at home or at school was 84.8913, while the mean of those who access the Internet at home only was 93.5483.

• There were significant differences in level $p < 0.01$ between those who did not access the Internet at home or at school and teachers who access the Internet at both

home and school. Teachers who access the Internet at both home and school are more likely to have more positive attitudes towards online CPD than those who did not. The results of this test indicated that the mean of those did not access the Internet at home nor at school was 84.8913, while the mean of those used computers at both home and school was 96.1207.

• There were no significant differences between those who did not use computers at home or at school and teachers who used computers at school only. The results of this test indicated that the mean of those did not used computers at home or at school was 84.8913, while the mean of those used computers at school only was 91.4000.

Previous participation

An Independent Samples *t* Test was used to determine whether there was a significant difference among teachers' attitudes towards online CPD based on their previous participation.

Table 5.52: Independent Samples t Test results regarding difference among teachers attitudes towards using computers for professional development based on their previous participation

Answer	N	Mean	Std. Deviation	Std. Error Mean		
Yes	123	98.9187	15.90679	1.43427		
No	640	91.5812	16.81724	.66476		
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Equal variances assumed	4.470	761	.000**	7.33745	4.11478	10.5601
Equal variances not assumed	4.642	178.473	.000**	7.33745	4.21792	10.4570

** The mean difference is significant at p< 0.01 level.
* The mean difference is significant at p< 0.05 level.

The Independent Samples *t* Test revealed that the mean of the teachers who had participated in prior online professional development programmes was 98.9187, while the mean of teachers who had not participated in prior online professional

development programmes was 91.5812. This test shows that prior participation in online CPD significantly and positively affects teachers' attitudes towards it. The mean difference is significant at p< 0.01 level.

5.5   The Major Barriers that Affect Participation of Teachers on Online CPD

Research question three was:

What are the major barriers that affect participation of teachers on online CPD?

This question's aim was to investigate major barriers that affect participation of teachers on online CPD. Teachers participating in this study were asked to state to what extent the problems listed in part 3, 15 – Problems, might affect teachers' participation in online CPD.   Moreover, they were requested to add any other problems not mentioned in the list. The researcher used the scale below to interpret the responses. The maximum and the minimum anticipated score of each item were calculated, and then the range was identified. After that, the scores were divided into five equal categories:

Strongly agree, agree, normal, disagree, strongly disagree, as follows:

Maximum anticipated item score = 5

Minimum anticipated item score = 1

Rang = 5 – 1 = 4

L= 4 /5 = 0.80   So;

Table 5.53 : Mean Scale used to interpret the results of the fourth part of the survey

Mean	Interpretation
1.00- 1.80	Strongly Disagree
1.81 – 2.60	Disagree
2.61 – 3.40	Normal
3.41 – 4.20	Agree
4.21 – 5.00	Strongly Agree

To understand the perceptions of Islamic education teachers towards the barriers associated with the implementation of online CPD, and also their participation in such programmes, several interrelated secondary questions were asked -

• *What are the major barriers that affect participation of teachers on online CPD in the view of Islamic education teachers?*

To answer this secondary question, frequency, percent, mean, and Std. Deviation were calculated for each item of part 3, as shown in table 5.54.

Table 5.54 : Frequency, percent, mean, and Std. Deviation for each items of part 4 (teachers' answers)

	Items	Frequency and Percent					N	Mean	Std. Devi.
		SD	D	U	A	SA			
1	Lack of the required equipment	46	50	89	392	189	766	3.8198	1.065
		6.0%	6.5%	11.6%	51.0%	24.6%			
2	Low teacher experience in accessing The Internet	29	59	73	427	178	766	3.8695	.980
		3.8%	7.7%	9.5%	55.6%	23.2%			
3	Lack of self-motivation among teachers	26	87	110	411	132	766	3.6997	.993
		3.4%	11.3%	14.3%	53.5%	17.2%			
4	Lack of good Internet services at schools	33	29	67	321	316	766	4.1201	1.013
		4.3%	3.8%	8.7%	41.8%	41.1%			
5	Cost of Internet usage is expensive	40	96	97	317	215	765	3.7464	1.148
		5.2%	12.5%	12.6%	41.3%	28.0%			
6	Lack of incentives to development	23	54	71	343	274	765	4.0340	1.002
		3.0%	7.0%	9.2%	44.7%	35.7%			
7	Not enough available hardware	48	71	87	317	243	766	3.8303	1.157
		6.2%	9.2%	11.3%	41.3%	31.6%			
8	Existence of some side effects of using the Internet	48	169	178	286	84	765	3.2471	1.107
		6.2%	22.0%	23.2%	37.2%	10.9%			
9	A need to reduce the academic load	39	70	127	339	190	765	3.7464	1.085
		5.1%	9.1%	16.5%	44.1%	24.7%			
10	Teachers need more confidence in using the Internet for professional development	71	180	165	282	68	766	3.1253	1.147
		9.2%	23.4%	21.5%	36.7%	8.9%			
11	More technical support is needed	24	42	85	366	244	761	4.0039	.969
		3.1%	5.5%	11.1%	47.7%	31.8%			
12	Negative social attitude towards	61	172	157	278	97	765	3.2327	1.167

	online professional development		7.9%	22.4%	20.4%	36.2%	12.6%			
13	Internet service is not good enough	26	88	124	344	184	766	3.7467	1.051
		3.4%	11.5%	16.1%	44.8%	24.0%			
14	There is no acceptable level of satisfaction among stakeholders towards online CPD	25	111	223	316	89	764	3.4359	.983
		3.3%	14.5%	29.0%	41.1%	11.6%			
15	Lack of awareness of the importance of online CPD	33	83	111	372	166	765	3.7255	1.054
		4.3%	10.8%	14.5%	48.4%	21.6%			

Table 5.54 responses show that teachers either chose "normal" or agreed that the barriers listed in part 4 all exist. Teachers chose neither agree nor disagree in response to the statement, "Teachers need more confidence in using the Internet for professional development" (Mean 3.1253, Std D. 1.147), negative social attitude towards online professional development (Mean 3.2327, Std D. 1.167) and existence of some side effects of using the Internet (Mean 3.2471 Std D. 1.107) whereas they agreed that all other barriers exist. Teachers believed that suitable Internet services are not available in schools (mean 4.1201, Std.D.1.01296), that there is a need for more incentives to encourage teachers to participate in such programmes (mean 4.0340, Std.D 1.00204), and there is a lack of technical support in schools (mean 4.0039, Std.D.96858). The responses show that those are the most significant barriers that affect teachers' participation in online CPD. However, teachers agreed that all the stated barriers exist, and the mean of these barriers fluctuated between 3.4359 and 3.8695.

Moreover, in the end of this section, teachers were requested to add any other barriers that were not included in the list. Some teachers added the following -

- Teacher's level of English language is not sufficient
- The high cost of computer equipment
- There is no obligation from the Ministry of Education to let teachers use computers
- Head teachers and supervisors have negative attitudes towards online training.

• ***What are the major barriers that affect participation of teachers on online CPD in the view of male Islamic education teachers?***

To answer this secondary question, frequency, percent, mean, and Std. Deviation were calculated for each barrier, as shown in Table 5.55.

Table 5.55 : Frequency, percent, mean, and Std. Deviation for each item of part 4 (male teachers' answers)

	Items	Frequency and Percent					N	Mean	Std. Devi.
		SD	D	U	A	SA			
1	Lack of the required equipment	25	23	41	197	113	399	3.8772	1.081
		6.2%	5.7%	10.2%	49.1%	28.2%			
2	Low teacher experience in accessing The Internet	17	30	40	229	84	400	3.8325	.983
		4.2%	7.5%	10.0%	57.1%	20.9%			
3	Lack of self-motivation among teachers	17	44	61	210	68	400	3.6700	1.019
		4.2%	11.0%	15.2%	52.4%	17.0%			
4	Lack of good Internet services at schools	14	22	34	165	165	400	4.1125	1.011
		3.5%	5.5%	8.5%	41.1%	41.1%			
5	Cost of Internet usage is expensive	16	50	45	165	124	400	3.8275	1.121
		4.0%	12.5%	11.2%	41.1%	30.9%			
6	Lack of incentives to development	9	20	37	167	167	400	4.1575	.943
		2.2%	5.0%	9.2%	41.6%	41.6%			
7	Not enough available hardware	19	49	49	165	118	400	3.7850	1.137
		4.7%	12.2%	12.2%	41.1%	29.4%			
8	Existence of some side effects of using the Internet	30	91	97	136	45	399	3.1880	1.135
		7.5%	22.7%	24.2%	33.9%	11.2%			
9	A need to reduce the academic load	18	39	72	179	92	400	3.7200	1.063
		4.5%	9.7%	18.0%	44.6%	22.9%			
10	Teachers need more confidence in using the Internet for professional development	38	86	85	159	32	400	3.1525	1.137
		9.5%	21.4%	21.2%	39.7%	8.0%			
11	More technical support is needed	14	20	40	197	128	399	4.0150	.969
		3.5%	5.0%	10.0%	49.1%	31.9%			
12	Negative social attitude towards online professional development	33	88	88	146	45	400	3.2050	1.152
		8.2%	21.9%	21.9%	36.4%	11.2%			
13	Internet service is not good enough	13	43	65	172	107	400	3.7925	1.055
		3.2%	10.7%	16.2%	42.9%	26.7%			
14	There is no acceptable level of satisfaction among stakeholders towards online CPD	12	58	113	162	54	399	3.4712	.997
		3.0%	14.5%	28.2%	40.4%	13.5%			
15	Lack of awareness of the importance of online CPD	17	39	69	188	86	399	3.7193	1.043
		4.2%	9.7%	17.2%	46.9%	21.4%			

As shown in Table 5.55, among 15 potential barriers, male teachers did not agree or disagree that teachers need more confidence to use the Internet for professional development (Mean 3.1525, Std D. 1.13687), there are some side effects of using the Internet (Mean 3.188, Std D. 1.13521) and there are negative social attitudes towards online professional development (Mean 3.205, Std D. 1.15165). They indicated that lack of incentives to participate in development (mean 4.1575, Std.D.94335) was one of the barriers that prevented teachers from participating in any online CPD. Lack of good Internet services in schools (mean 4.1125,

Std.D.1.01114) is the second barrier while the third significant barrier that affects teacher participation in online CPD, according to male teachers' answers, was "more technical support is needed" (Mean 4.015, Std D. .96926). However, teachers agreed that all the rest of the stated barriers exist. The mean of teachers' answers fluctuated between 3.4712 and 3.8772.

- *What are the major barriers that affect participation of teachers in online CPD, in the view of female teachers?*

To answer this secondary question, frequency, percent, mean, and Std. Deviation were calculated for each barrier, as shown in Table 5.56.

Table 5.56: Frequency, percent, mean, and Std. Deviation for each item of barriers of online CPD scales (female answers)

	Items	Frequency and Percent					N	Mean	Std. Devi.
		SD	D	U	A	SA			
1	Lack of the required equipment	21	27	48	195	76	367	3.7575	1.045
		5.7%	7.4%	13.1%	53.1%	20.7%			
2	Low teacher experience in accessing The Internet	12	29	33	198	94	366	3.9098	.976
		3.3%	7.9%	9.0%	54.0%	25.6%			
3	Lack of self-motivation among teachers	9	43	49	201	64	366	3.7322	.965
		2.5%	11.7%	13.4%	54.8%	17.4%			
4	Lack of good Internet services at schools	19	7	33	156	151	366	4.1284	1.016
		5.2%	1.9%	9.0%	42.5%	41.1%			
5	Cost of Internet usage is expensive	24	46	52	152	91	365	3.6575	1.172
		6.5%	12.5%	14.2%	41.4%	24.8%			
6	Lack of incentives to development	14	34	34	176	107	365	3.8986	1.047
		3.8%	9.3%	9.3%	48.0%	29.2%			
7	Not enough available hardware	29	22	38	152	125	366	3.8798	1.178
		7.9%	6.0%	10.4%	41.4%	34.1%			
8	Existence of some side effects of using the Internet	18	78	81	150	39	366	3.3115	1.073
		4.9%	21.3%	22.1%	40.9%	10.6%			
9	A need to reduce the academic load	21	31	55	160	98	365	3.7753	1.109
		5.7%	8.4%	15.0%	43.6%	26.7%			
10	Teachers need more confidence in using the Internet for professional development	33	94	80	123	36	366	3.0956	1.158
		9.0%	25.6%	21.8%	33.5%	9.8%			
11	More technical support is needed	10	22	45	169	116	362	3.9917	.969
		2.7%	6.0%	12.3%	46.0%	31.6%			
12	Negative social attitude towards online professional development	28	84	69	132	52	365	3.2630	1.185
		7.6%	22.9%	18.8%	36.0%	14.2%			
13	Internet service is not good enough	13	45	59	172	77	366	3.6967	1.046
		3.5%	12.3%	16.1%	46.9%	21.0%			
14	There is no acceptable level of satisfaction among stakeholders towards online CPD	13	53	110	154	35	365	3.3973	.969
		3.5%	14.4%	30.0%	42.0%	9.5%			
15	Lack of awareness of the importance of online CPD	16	44	42	184	80	366	3.7322	1.067
		4.4%	12.0%	11.4%	50.1%	21.8%			

As shown in Table 5.56, female teachers' answers show that they agreed that 10 of the 15 potential barriers exist. They ranked lack of good Internet services in schools (mean 4.1284, Std. D 1.016), more technical support (mean 3.9917, Std. D 0.969), and low teachers' experience in using computer (mean 3.9098, Std. D 0.976) as the most important barriers that influence teachers' participation in online CPD. On the other hand, teachers chose "normal" for 4 barriers: teachers need more confidence in using the Internet for professional development (mean 3.0956, Std. D 1.158); negative social attitudes towards online professional development (mean 3.263, Std. D 1.185); existence of some side-effects of using the Internet (mean 3.3115, Std. D 1.073); and there is no acceptable level of satisfaction among stakeholders towards online CPD (mean 3.3973, Std. D. 0.969). However, female teachers agree that all other barriers listed affected participation in online CPD. The mean of responses fluctuated between 3.6575 and 3.8986.

- *Are there any significant differences between male and female teachers regarding the barriers that affect participation of teachers in online CPD?*

An Independent Samples *t* Test was used to determine whether there was any significant difference between male and female teachers regarding the barriers that affect participation of teachers in online CPD.

Table 5.57 : Independent t test results regarding the difference between male and female teachers regarding the barriers that affect participation of teachers in online CPD in relation to gender.

Gender	N	Mean	Std. Deviation	Std. Error Mean	
Male	399	52.5739	9.10513	.45583	
Female	366	52.0574	10.01229	.52335	

	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Equal variances assumed	.747	763	.455	.51656	-.84031	1.87343
Equal variances not assumed	.744	738.877	.457	.51656	-.84594	1.87906

** The mean difference is significant at p< 0.01 level.
* The mean difference is significant at p< 0.05 level.

The Independent Samples *t* Test revealed that the mean of the male responses was 52.5739, while the mean of female responses was 52.0574. The results show that there were no significant differences between males and females in their perception about the barriers that affect teachers' participation in online CPD in relation to gender. On the other hand, Spearman test also revealed that there were no significant differences between males and females in their ordering the barriers based on their importance (see Table 5.58).

Table 5.58 : Spearman's results regarding significant differences between males and females in their ordering of the barriers based on their importance.

Spearman's rho		Gender	Barriers
Gender	Correlation Coefficient	1.000	-.011
	Sig. (2-tailed)	.	.753
	N	768	765
Barriers	Correlation Coefficient	-.011	1.000
	Sig. (2-tailed)	.753	.
	N	765	765

- *Are there any significant differences between teachers regarding the barriers that affect participation of teachers in online CPD related to other variables?*

To answer this question, the researcher used a variety of statistical tests, such as a one way ANOVA test, the Scheffe post hoc test, and the Independent Samples *t* Test to determine whether there were significant differences among some demographic variables such as the highest level of education obtained, the number of years of full-time teaching experience, the number of years of experience using a computer and the Internet, the place where they usually use computers, the place where they usually access the Internet, and their prior online training experience.

Qualifications:

To answer this question, the researcher used a one way ANOVA test to determine whether there were significant differences between teachers regarding the barriers that affect participation of teachers in online CPD, based on their qualifications.

A one way ANOVA test reveals that there was no significant difference among teachers in relation to their qualification, as shown in Table 5.59.

Table 5.59: One-Way ANOVA Results Regarding Differences amongst Teachers' Perceptions in Relation to Their Highest Levels of Education

Qualification	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
PhD	3	55.3333	.57735	.33333	53.8991	56.7676
MA	15	47.2667	12.57246	3.2462	40.3043	54.2291
High Dip	52	51.2885	10.57251	1.4661	48.3451	54.2319
BA	559	52.4651	9.26057	.39168	51.6958	53.2345
Other	135	52.5556	9.93386	.85497	50.8646	54.2465
Total	764	52.3102	9.54231	.34523	51.6325	52.9879

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	484.804	4	121.201	1.333	.256
Within Groups	68990.676	759	90.897		
Total	55359.283	766			

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

According to Table 5.59, there were no significant differences between teachers' perceptions of barriers in relation to the highest levels of education they had obtained. The Scheffe post hoc test, as shown in Table 5.60, confirmed that there were no significant differences between teachers in relation to their qualifications.

**Table 5.60 : Scheffe Post Hoc Test Results Regarding Differences between Teachers'
Perceptions of Barriers in Relation to their Highest Levels of Education Obtained**

Qualifications		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PhD	MA	8.06667	6.02982	.774	-10.5524	26.6857
	High Dip	4.04487	5.66100	.972	-13.4353	21.5251
	BA	2.86822	5.51920	.992	-14.1741	19.9105
	Others	2.77778	5.56527	.993	-14.4068	19.9624
MA	PhD	-8.06667	6.02982	.774	-26.6857	10.5524
	High Dip	-4.02179	2.79424	.723	-12.6499	4.6063
	BA	-5.19845	2.49447	.362	-12.9009	2.5040
	Others	-5.28889	2.59482	.386	-13.3012	2.7235
High Dip	PhD	-4.04487	5.66100	.972	-21.5251	13.4353
	MA	4.02179	2.79424	.723	-4.6063	12.6499
	BA	-1.17665	1.38225	.948	-5.4448	3.0915
	Other	-1.26709	1.55606	.956	-6.0719	3.5377
BA	PhD	-2.86822	5.51920	.992	-19.9105	14.1741
	MA	5.19845	2.49447	.362	-2.5040	12.9009
	High Dip	1.17665	1.38225	.948	-3.0915	5.4448
	Other	-.09044	.91428	1.000	-2.9136	2.7327
Other	PhD	-2.77778	5.56527	.993	-19.9624	14.4068
	MA	5.28889	2.59482	.386	-2.7235	13.3012
	High Dip	1.26709	1.55606	.956	-3.5377	6.0719
	BA	.09044	.91428	1.000	-2.7327	2.9136

Experience in Teaching

To answer this question, a one-way ANOVA was used to determine whether there
were significant differences among participants' answers according to their depth of
experience in teaching. The one-way ANOVA revealed no significant difference
among teachers in relation to their levels of teaching experience, as shown in Table
5.61.

Table 5.61 : ANOVA Test Results Regarding Differences between Teachers' Perceptions of Barriers in Relation to Their Teaching Experience

Experience in Teaching	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Less than 5 years	131	51.2290	9.90226	.86516	49.5174	52.9406
5 - 10	181	52.5359	9.01265	.66991	51.2140	53.8578
More than 10 years	451	52.6452	9.58555	.45137	51.7582	53.5323
Total	763	52.3761	9.51067	.34431	51.7002	53.0521

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	209.662	2	104.831	1.159	.314
Within Groups	68715.384	760	90.415		
Total	68925.046	762			

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

Table 5.62 shows the results of the Scheffe post hoc test, which confirmed that there was no significant difference among teachers' perceptions of the barriers in relation to their experience in teaching.

Table 5.62 :Scheffe Post Hoc Test Results Regarding Differences Between Teachers' Perceptions of Barriers in Relation to Their Teaching Experience

Teaching Experience		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Less than 5 years	5 - 10	-1.30690	1.09074	.488	-3.9820	1.3682
	More than 10 years	-1.41623	.94375	.325	-3.7309	.8984
5 - 10	Less than 5 years	1.30690	1.09074	.488	-1.3682	3.9820
	More than 10 years	-.10932	.83666	.991	-2.1613	1.9427
More than 10 years	Less than 5 years	1.41623	.94375	.325	-.8984	3.7309
	5 - 10	.10932	.83666	.991	-1.9427	2.1613

Experience in Using Computers

To answer this question, the researcher used a one-way ANOVA test to determine whether there were significant differences between teachers' perceptions of barriers in relation to their experience with computers.

The ANOVA revealed no significant difference, at a 0.05 level, among teachers in relation to their experience with using computers, as shown in Table 5.63.

Table 5.63 : One-Way ANOVA Results Regarding Differences amongst Teachers' Perceptions of the Barriers in Relation to Their Experience in Using Computers

Experience	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No experience	52	53.4615	11.29196	1.5659	50.3178	56.6052
Less than 5 years	377	51.7241	9.54320	.49150	50.7577	52.6906
5 – 10 years	219	53.4201	8.44989	.57099	52.2947	54.5455
More than 10 years	116	51.8793	10.40999	.96654	49.9648	53.7938
Total	764	52.3521	9.52766	.34470	51.6754	53.0288

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	488.391	3	162.797	1.799	.146
Within Groups	68773.895	760	90.492		
Total	69262.287	763			

** The mean difference is significant at $p < 0.01$ level.
 * The mean difference is significant at $p < 0.05$ level.

Table 5.63 shows that there was no significant difference among teachers in their perceptions in relation to their experience of using computers. The Scheffe post hoc test confirmed this result, as shown in Table 5.64, below.

Table 5.64 : The Scheffe Post Hoc Test Results Regarding Differences amongst Teachers' Perceptions of the Barriers in Relation to Their Experience in Using Computers

Experience in Using Computers		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No experience	Less than 5 years	1.73740	1.40722	.677	-2.2053	5.6801
	5 - 10	.04145	1.46746	1.000	-4.0700	4.1529
	More than 10 years	1.58223	1.58756	.803	-2.8657	6.0302
Less than 5 years	No experience	-1.73740	1.40722	.677	-5.6801	2.2053
	5 - 10	-1.69595	.80823	.222	-3.9604	.5685
	More than 10 years	-.15517	1.01002	.999	-2.9850	2.6747
5 - 10	No experience	-.04145	1.46746	1.000	-4.1529	4.0700
	Less than 5 years	1.69595	.80823	.222	-.5685	3.9604
	More than 10 years	1.54078	1.09239	.575	-1.5198	4.6014
More than 10 years	No experience	-1.58223	1.58756	.803	-6.0302	2.8657
	Less than 5 years	.15517	1.01002	.999	-2.6747	2.9850
	5 - 10	-1.54078	1.09239	.575	-4.6014	1.5198

Experience of Using the Internet

To answer this question, the researcher used a one-way ANOVA test to determine whether there were significant differences between teachers' perceptions of the barriers in relation to their amount of experience with using the Internet. The ANOVA test revealed that there was no significant difference among teachers in relation to their experience with using the Internet, as shown in Table 5.65.

Table 5.65 : One-Way ANOVA Results Regarding Differences amongst Teachers' Perceptions in Relation to Their Experience with Using the Internet

Experience in Using the Internet	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
No experience	78	52.1795	10.62556	1.203	49.7838	54.5752
Less than 5 years	422	51.6659	9.85716	.4798	50.7227	52.6091
5 - 10	211	53.8720	8.06803	.5554	52.7771	54.9670
More than 10 years	53	51.9057	10.27556	1.412	49.0734	54.7380
Total	764	52.3442	9.54114	.3451	51.6666	53.0219

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	699.016	3	233.005	2.575	.053
Within Groups	68759.449	760	90.473		
Total	69458.465	763			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.65 shows that there was no significant difference among teachers in relation to their experience of accessing the Internet. The Scheffe post hoc test confirmed this result, as shown in Table 5.66,below.

Table 5.66 : Scheffe Post Hoc Results Regarding Differences amongst Teachers' opinions in Relation to Their Experience with Using the Internet

Experience in Accessing The Internet		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No experience	Less than 5 years	.51361	1.17231	.979	-2.7709	3.7981
	5 - 10	-1.69255	1.26043	.614	-5.2240	1.8389
	More than 10 years	.27383	1.69321	.999	-4.4701	5.0178
Less than 5 years	No experience	-.51361	1.17231	.979	-3.7981	2.7709
	5 - 10	-2.20616	.80198	.057	-4.4531	.0408
	More than 10 years	-.23978	1.38616	.999	-4.1235	3.6439
5 - 10	No experience	1.69255	1.26043	.614	-1.8389	5.2240
	Less than 5 years	2.20616	.80198	.057	-.0408	4.4531
	More than 10 years	1.96638	1.46144	.613	-2.1282	6.0610
More than 10 years	No experience	-.27383	1.69321	.999	-5.0178	4.4701
	Less than 5 years	.23978	1.38616	.999	-3.6439	4.1235
	5 - 10	-1.96638	1.46144	.613	-6.0610	2.1282

Place of Computer Use

To answer this question, the researcher used a one-way ANOVA test to determine whether there were significant differences between teachers' perceptions of the barriers in relation to the places where they most often used their computers. The ANOVA revealed that there was no significant difference among teachers in relation to their places of computer usage, as shown in Table 5.67.

Table 5.67 : One-Way ANOVA Results Regarding Differences amongst Teachers' Opinions of the Barriers in Relation to Their Places of Computer Use

Place of Computer Use	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Home	399	51.9749	9.48680	.47493	51.0412	52.9086
School	29	52.3103	8.37131	1.5545	49.1261	55.4946
Both	266	52.7895	9.21242	.56485	51.6773	53.9016
Never	61	52.8033	11.43798	1.4645	49.8739	55.7327
Total	755	52.3417	9.51349	.34623	51.6620	53.0214

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	120.030	3	40.010	.441	.724
Within Groups	68121.806	751	90.708		
Total	68241.836	754			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.67 shows that there was no significant difference among teachers' perceptions in relation to the place where they use computers. The Scheffe post hoc test confirmed this result in Table 5.68.

Table 5.68 : Scheffe Post Hoc Results Regarding Differences amongst Teachers' Opinions in Relation to Places of Computer Use

Place of Computer Use		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Home	School	-.33541	1.83172	.998	-5.4676	4.7968
	Both	-.81454	.75389	.761	-2.9268	1.2977
	Never	-.82834	1.30933	.940	-4.4969	2.8402
School	Home	.33541	1.83172	.998	-4.7968	5.4676
	Both	-.47913	1.86249	.996	-5.6975	4.7393
	Never	-.49293	2.14823	.997	-6.5119	5.5260
Both	Home	.81454	.75389	.761	-1.2977	2.9268
	School	.47913	1.86249	.996	-4.7393	5.6975
	Never	-.01381	1.35205	1.000	-3.8020	3.7744
Never	Home	.82834	1.30933	.940	-2.8402	4.4969
	School	.49293	2.14823	.997	-5.5260	6.5119
	Both	.01381	1.35205	1.000	-3.7744	3.8020

Availability of the Internet

To answer this question, the researcher used a one-way ANOVA to determine whether there were significant differences between teachers' perceptions in relation to the places where they access the Internet. The ANOVA revealed that there was no significant difference among teachers in relation to where they access the Internet, as shown in Table 5.69.

Table 5.69 : One-Way ANOVA Results Regarding Differences amongst Teachers' Perceptions in Relation to Their Places of Accessing the Internet

Place of Accessing The Internet	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Home	519	52.4528	9.41479	.41326	51.6409	53.2647
School	20	49.7000	12.17893	2.7233	44.0001	55.3999
Both	116	51.3707	9.10951	.84580	49.6953	53.0460
Never	93	53.0000	10.35668	1.0739	50.8671	55.1329
Total	748	52.2794	9.57159	.34997	51.5924	52.9665

Test	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	292.749	3	97.583	1.065	.363
Within Groups	68143.854	744	91.591		
Total	68436.603	747			

** The mean difference is significant at p< 0.01 level.
 * The mean difference is significant at p< 0.05 level.

Table 5.69 shows that there was no significant difference among teachers in relation to their place of accessing the Internet. The Scheffe post hoc test confirmed this result, as shown in Table 5.70.

Table 5.70 : Scheffe Post Hoc Results Regarding Differences amongst Teachers' Perceptions in Relation to the Places They Access the Internet

Place of Accessing The Internet		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Home	School	2.75279	2.18083	.661	-3.3577	8.8633
	Both	1.08210	.98288	.750	-1.6718	3.8360
	Never	-.54721	1.07765	.968	-3.5667	2.4723
School	Home	-2.75279	2.18083	.661	-8.8633	3.3577
	Both	-1.67069	2.31714	.914	-8.1631	4.8217
	Never	-3.30000	2.35890	.582	-9.9094	3.3094
Both	Home	-1.08210	.98288	.750	-3.8360	1.6718
	School	1.67069	2.31714	.914	-4.8217	8.1631
	Never	-1.62931	1.33208	.683	-5.3617	2.1030
Never	Home	.54721	1.07765	.968	-2.4723	3.5667
	School	3.30000	2.35890	.582	-3.3094	9.9094
	Both	1.62931	1.33208	.683	-2.1030	5.3617

Previous Participation

An Independent Samples *t* Test was used to determine whether there were significant differences among teachers' opinions of barriers that influence teachers' participation in online CPD, in relation their previous participation.

Table 5.71 : Independent Samples t Test Results Regarding Differences among Teachers' Opinions of Barriers in Relation to Their Previous Online Participation

Answer	N	Mean	Std. Deviation	Std. Error Mean		
Yes	122	53.2295	8.37824	.75853		
No	643	52.1555	9.74955	.38448		
test					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Equal variances assumed	1.139	763	.255	1.07399	-.77643	2.92440
Equal variances not assumed	1.263	188.815	.208	1.07399	-.60354	2.75151

** The mean difference is significant at p< 0.01 level.
*   The mean difference is significant at p< 0.05 level.

The independent samples *t* test revealed that the mean of the teachers who had previously participated in online professional development programmes was 53.2295, whereas the mean of teachers who had not previously participated in online professional development programmes was 52.1555. This test showed that there was no statistically significant difference between teachers' perceptions in relation to teachers' prior participation in online CPD.

5.6 Teachers' Suggestions for Encouraging Their Peers to Participate in Online CPD

Research question 4 asked, "What are the major incentives that would encourage teachers to participate in online CPD?"

This open-ended question was designed to identify suggestions that might help stockholders to design and implement successful online CPDs in the future. Teachers were asked to suggest ways to encourage teachers to participate in online CPD. Responses were categorized into 11 main themes. The researcher ranked the responses based on the highest frequency for each statement. Table 5.72 presents both the suggestions and the frequency with which they were offered.

Table 5.72 : Teachers' Suggestions for Encouraging Their Peers to Participate in Online CPD

Teachers' Suggestions	Frequency	Percent
Train teachers to use computers and the Internet	162	27.27
Supply the required equipment to schools	110	18.52
Educate teachers about the importance of the Internet	78	13.13
Provide incentives for teachers to attend this type of training	72	12.12
Work towards providing affordable Internet access for teachers	38	6.40
Improve Internet services	32	5.39
Choose an appropriate time for training	26	4.38
Provide a laptop for each teacher	24	4.04
Carefully choose qualified trainers	24	4.04
Reduce workloads	20	3.37
Other	8	1.35
Total	594	100

According to the mean ranks, the majority of suggestions (162, or 27.3%) favoured training teachers and giving them opportunities to attend courses about computers and Internet use before asking them to participate in online CPD. The participants

believed that a huge number of both male and female teachers do not possess the skills needed to use computers and the Internet for training purposes.

The second most frequent suggestion recommended supplying the required equipments to schools (110, or 18.5%). Teachers suggested that the Ministry of Education should supply any necessary equipment, such as computers, laptops, printers, scanners, and digital cameras, in order for schools to develop resource instruction centres that can provide training to teachers.

The third most frequent suggestion (13.13%, 78 of teachers) recommended educating teachers about the advantages of the Internet in general and of online CPD programmes in particular. Teachers favoured the Ministry of Education providing sessions about the positive utilizations of the Internet, explaining how teachers can benefit from its content to develop their knowledge and practice.

More than 12% of the teachers suggested that it might be effective to provide incentives for teachers to attend such training; this was the fourth most frequent recommendation. Some teachers asserted that financial incentives must be given to teachers who participate in online CPD, whereas others confirmed that any kind of incentive (such as a promotion) might encourage teachers to attend.

The fifth most frequent suggestion recommended providing affordable, home-based Internet access to teachers. About 38 teachers (6.4%) claimed that providing a discounted Internet service rate to teachers might increase the number of participants in online programmes.

Improvement of Internet services was the sixth most frequent suggestion, mentioned by 32 teachers (5.4%); for example, responders suggested that upgrading the speed of the Internet at schools or using wireless modems could play a key role in attracting more participants to benefits from the Internet service at school.

26 participants suggested scheduling training at appropriate times; this was the seventh most frequent recommendation. Most of them thought that school days were the best time to participate in any kind of training. The teachers also suggested

offering Internet service free of charge if the Ministry required them to participate in online CPD at home.

Providing a laptop for each teacher had the eighth highest frequency, recommended by 27 teachers (12%). According to these responders, providing laptops would mean that staff members have no excuse for being absent from online CPD, at least when they are in school.

Carefully choosing qualified trainers and reducing teachers' workloads either during training days or as an incentive for participation in more online CPD were the ninth and tenth most frequent suggestions, recommended by 24 (4%) and 20 (3.4%) teachers respectively. Participants felt that providing online CPD training conducted by qualified trainers who have excellent qualifications would attract high numbers of attendees.

Eight participants (1.4%) suggested other ideas, such as choosing the session topics carefully, or that the Ministry of Education should obligate schools to use computers and the Internet in their daily schedules. Some participants also suggested that universities and teacher colleges should stress the importance of online CPD in their teacher preparation programmes.

5.7 **Summary**

This chapter presented and described the data gathered through the main instrument of this research, the questionnaire. The second section of this chapter presented brief information about the demographic information of the respondents. The results of the first question and all its related sub-questions were presented in the third section.

The data revealed that the average Islamic education teacher possesses the aptitude to use computers at beginner level. In addition, analysis of the results showed that there were significant differences among teachers in relation to their gender, Also there were some significant differences in relation to other factors, such as

qualifications, teaching experience, experience with using computers and the Internet, ownership of computers, Internet access, and previous online participation.

The fourth section illustrated teachers' attitudes towards online CPD. The data indicated that, in general, attitudes were positive. Moreover, the results confirmed that there was significant difference between the attitudes of male and female teachers towards online CPD. Female teachers are more likely to have more positive attitude toward online CPD. In addition, the results showed that qualifications and experience in teaching had no significant effect on attitudes, whereas experience with using computers and accessing the Internet, ownership of a computer, and prior participation in other online programmes significantly affected teachers' attitudes towards online CPD.

The fifth section presented responses to the major barriers that affect participation in online CPD. Teachers stated whether the fifteen expected problems listed in the fourth part of the questionnaire existed; additionally, they identified some other problems. No significant gender difference was found regarding teachers' answers in this section.

The sixth section of this chapter presented teachers' suggestions for encouraging their peers to participate in online CPD.

The following chapter, Chapter 6, will begin with a detailed description of the interviewees' demographic backgrounds. Next, it will present the data analysed by the second instrument of this study, the interview.

6. Data Analysis (2)

6.1   Introduction

As described in Chapter Four, a questionnaire and semi-structured interview were designed and distributed to gather the required data. The questionnaire data was presented in Chapter 4. The interview data was gathered to probe the results of the questionnaire, and this chapter presents the analysis of that interview data, organised into five sections: 1) demographic and background analysis, 2) interviewees' aptitude to use computers for training purposes, 3) teachers' attitudes towards using online CPD, 4) interviewees' barriers to using online CPD, and 5) teachers' suggestions for making online CPD programmes more effective and motivating. A final section summarises the chapter.

6.2   Demographic and Background Analysis
6.2.1   The interviewees' genders

A total number of 23 Islamic education teachers were interviewed. They were classified by gender, as shown in Figure 6.1; 48% of the participants were male and 52% were female.
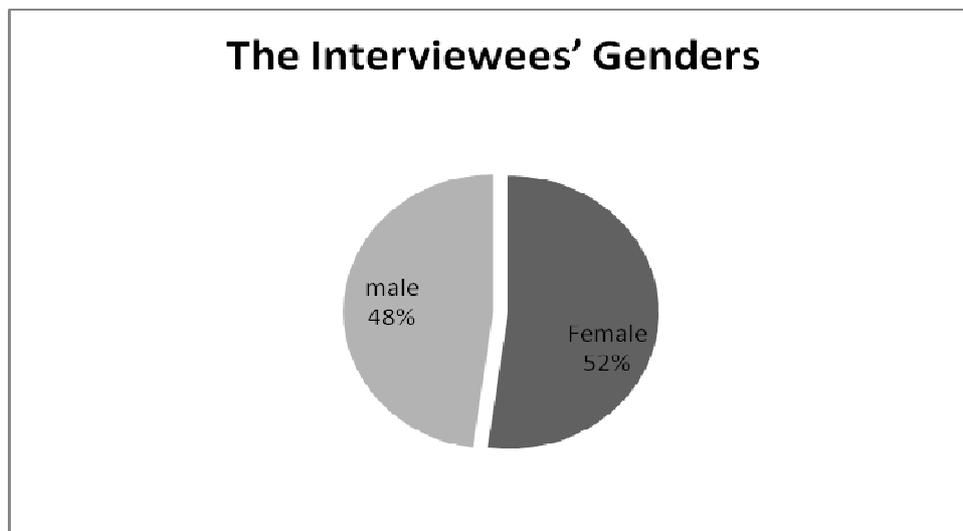
Figure 6.1: The interviewees' genders

Next, the researcher interviewed the participants who were interested in the research topic and willing to participate in the follow-up interviews. The first questions of the interviews asked about the interviewees' demographic characteristics, such as number of full-time years of teaching experience, number of years' experience with accessing the Internet, and prior online training experience. The following figures present the distribution of the interviewees, based on their demographic characteristics other than gender.

6.2.2 Teaching experience

The interviewed teachers had various levels of teaching experience.
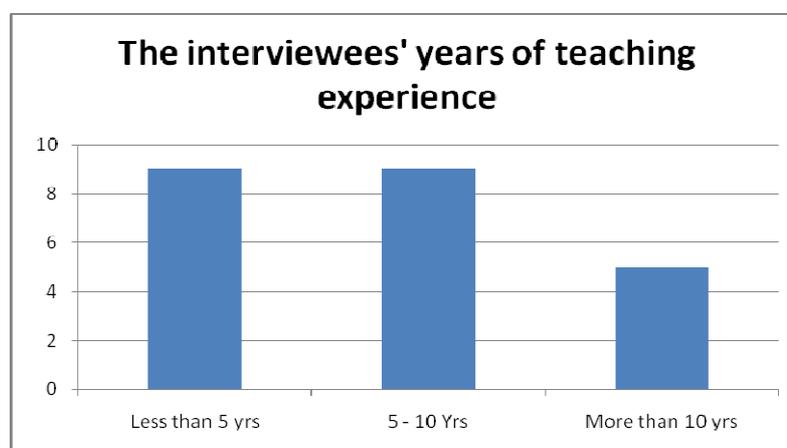
Figure 6.2 : The interviewees' years of teaching experience

Figure 6.2 shows that 9 teachers among the interviewees had less than 5 years' experience in teaching. About one-fifth (5) of the teachers interviewed had more than 10 years of teaching experience, whereas 9 teachers had between 5 and 10 years of teaching experience.

6.2.3   **Experience in using the Internet**

The participants also had varying levels of experience in using the Internet, as shown in Figure 6.3.

The majority of teachers who participated in the interviews, about 40%, had from 5 to 10 years of experience in accessing the Internet. More than one third of them had less than 5 years experience, and only 3 teachers had more than 10 years' experience in accessing the Internet. About 14% of this sample did not have any experience in using the Internet.

6.2.4   **Prior online training experience**

Regarding the previous experience in online training, a small number of the interviewees had previously participated in online training.

The interviewees' prior experience with Internet training

■ Yes ■ No

35%

65%
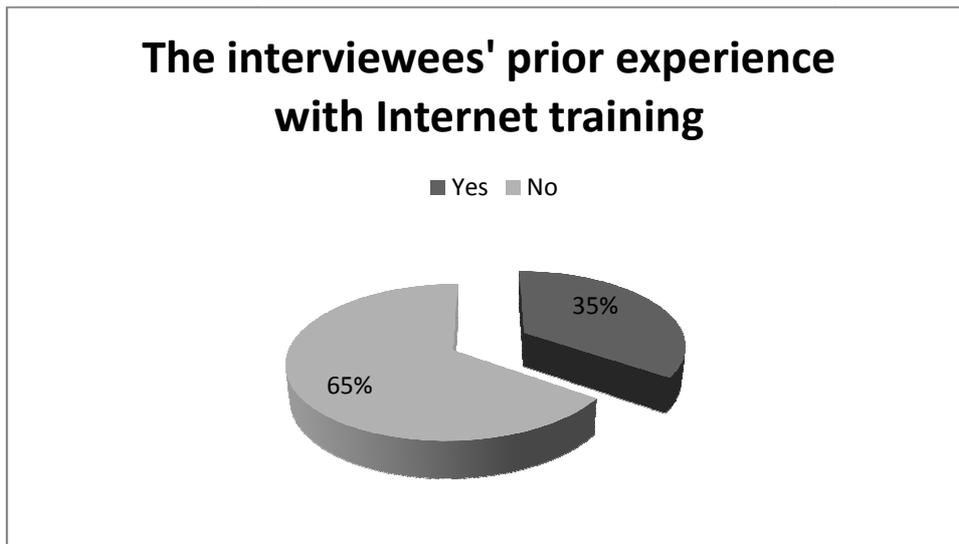
Figure 6.4 : The interviewees' prior experience with Internet training

Figure 6.4 illustrates that more than one third of the interviewees had prior experience in online CPD programs, whereas about two thirds of them had never participated in such programs.

6.3　Teachers' Aptitude to Use Computers for Professional Development
6.3.1　Teachers' aptitude to use computers

The interviews' findings revealed that the Islamic education teachers had four levels of competency in using computers and the Internet: high experience, intermediate experience, low experience, and no experience.

Four of the interviewees, three female and one male, had no experience with using computers. F5 answered the question "do you have the aptitude to access the Internet?" by saying, "I don't have any experience in the Internet" Similarly, F6 confirmed, "I don't have the aptitude to use a computer" M11 described himself as the kind of person who has no experience with the Internet, even though he is interested in it.

When the researcher asked the participants about the reasons for their lack of experience, both F5 and F6 said that they had not studied computing during their previous, general educational studies; later, when they felt that they should learn

how to use this important tool, they could not find suitable times to attend any relevant courses, due to their familial and social responsibilities. M11 further explained why he could not use a computer, even though he had many years of teaching experience:

> I have more than 25 years of experience in teaching and I consider the Internet as something new for me; there was no Internet when I was studying, neither at school nor the college of education. In the last few years, I have tried to attend some courses to develop my skills in computing, but due to my family duties, I could not continue. But as this thing [the Internet] has become necessary … we are obligated to do our best to learn how to use the computer and access the Internet.

One male teacher, M3, considered himself to have professional skills in using the computer and Internet. He had earned a diploma in high school for a six-month computer course. Additionally, he studied in a private school, and he is planning to take the ICDL (International Computer Driving Licence) test soon.

The rest of the interviewees had intermediate levels of experience in using computers and the Internet. One teacher, F7, stated, "I'm not that professional in using a computer, but I can do whatever I need, usually without any help". F11 responded, "I can say that I'm in the intermediate level". The third teacher, M2, answered: "Well . . . it is difficult for me to state what my level is exactly, because I can use some applications professionally, such as Word and Excel, but I have limited information about some other programmes, such as Microsoft Office Access. . . . I'm in the middle, I think".

6.3.2   Frequency of using the Internet

The data revealed different levels of Internet usage frequency among Islamic education teachers. The data showed that some teachers used the Internet extensively, whereas others used it rarely or not at all, and a huge number of them used it occasionally.

One teacher said, "I use the Internet every day". Another teacher responded, "I use the Internet just when I need to look for new information". More than one teacher responded, "I do not use the Internet". Another teacher cited, "Sometimes, I use the Internet," or "I often use it"

When I asked, "How frequently do you think Islamic education teachers use the Internet?" M3 answered the question by saying, "About half of them access the Internet daily, and the other half maybe two or three times a week".

When asked about the average teacher's aptitude to use a computer, more than 90% of the teachers interviewed believed "the majority of teachers are in the intermediate level of a using computer," as M10 replied. M6 presented the same opinion:

> I can say that the level of teachers [in their aptitude to use the Internet is intermediate, but they will be more professional in the near future because the Internet now is very necessary not only in the education environment but also in our life.

M7 responded, "Yes, teachers have the aptitude to use a computer, but at an intermediate level; they are not experts in this field". M8 similarly believed that "most of the teachers have good experience of using the Internet".

On the other hand, some interviewees disagreed, arguing that most teachers lack the aptitude to use computers and the Internet. For instance, M10 stated, "Regarding the ability of accessing the internet, we might just find two or three teachers in each school that can deal with the Internet perfectly". M4 specified,

I think teachers don't have enough experience to participate in online CPD right now, but if they attend a traditional training course about how they can use a computer and the Internet, they could adapt with this (online CPD) new idea. Furthermore, M5 supposed, "I think the majority of teachers do not have the required experience in using the Internet, and this is a real problem that will face this project [online CPD]".

Conversely, M1 thought that most Islamic education teachers have a high level of experience in accessing the Internet: "I think the majority of teachers deal with a computer perfectly . . . in my school, for example, 90% of my colleagues have the aptitude to access the Internet".

6.3.3 The impact of the Internet on the Saudi educational population

When the researcher asked the sample of this study whether the Internet influenced the Saudi population's education, the teachers agreed that it had a clear impact. F12, for example, asserted that "teachers have learned new information, skills, and instructional technology through the Internet Web sites". F3 answered this question by saying "Yes. The educational population can find all that they need through the Internet. The majority of teachers, especially those in the first years of teaching, need more professional development programmes to equip themselves with teaching skills and knowledge". F4 confirmed: "Yes, I believe that there is a clear impact of the Internet on teachers. The Internet has added valuable and different experiences to those who use it. I think teachers who use the Internet can easily be distinguished".

6.3.4 Factors that make a difference among teachers in their aptitude to use computers

With regard to the differences among teachers in their aptitude to use a computer, the interviewees stated that there are many factors, particularly age and gender, might play key roles in Islamic education teachers' aptitude to use computers and the Internet.

6.3.5 Gender

Two teachers believed that there was a difference among teachers' abilities to use computers and the Internet differ according to their genders. M3 mentioned,

One of my relatives, she is a teacher, confirmed that there is a big problem with using computers among her colleges. She confirmed that there is a real need to provide intensive courses to female teachers to increase their knowledge and skills

to use the basic applications.

M7 believed that "male teachers, in general, are better than female teachers at using a computer". He justified this opinion by explaining that "boys' schools are more likely to be equipped and to have computer labs than girls' schools".

6.3.6   Age

More than one teacher referred to the differences among various ages of teachers. They believed that teachers who have only recently begun teaching have better abilities than teachers who been teaching longer. M3 believed that "young teachers use a computer and the Internet much more than other teachers". M7 confirmed that "a teacher who has less experience in teaching is more likely to be more experienced in using a computer because computer emergence happened in their generation". M8 stated, "Most of the teachers have good experience in using the Internet, especially the new teachers". M8 explained, "I can say that some teachers, those who have graduated during the last 12 years or so, can deal with a computer perfectly".

6.3.7   Reasons for accessing the Internet

According the interviewees' answers, Islamic education teachers generally use the Internet to enhance their teaching in three main ways:

- Developing teaching skills
- Writing or downloading lessons plans
- Reviewing educational research and exploring new ideas.

M3 stated that "about half of teachers benefit from the Internet in developing their skills in teaching, whereas about the majority of them benefit from the Internet in writing their lessons plans". M2 agreed that teachers benefit from the Internet, but with a caveat: "I think the majority of teachers don't benefit from the Internet in anything related to their job except downloading their daily lessons plan". M4 said:

"Let me talk about myself, I do not think that I benefit from the Internet in what I have to do, especially in Islamic education teaching. Some of the Islamic education teachers benefit from the Internet in some domains, such as planning their lessons or something like that, but I do not think that the majority of Islamic education teachers benefit from the Internet as they should do".

M3, however, disagreed with the previous opinions. He believed that teachers who used the Internet to develop their skills in teaching were very limited, in contrast with those who did not use the Internet or used it just to explore the news. He concluded that "the majority of teachers do not benefit from the Internet, at least for educational purposes".

M6 asserted, "In my opinion, teachers vary from one to another. Teachers who do not have enough experience in using computers do not benefit from the Internet, and this result will be clear in their teaching methodology" he continued, "Old teachers are just an example of these teachers."

M1 believed the Internet can be very useful for teachers. To illustrate, he discussed his experience in using the Internet for planning lessons:

One time I had uploaded my written lesson plan in an educational forum, [and] more than 20,000 teachers downloaded this plan. . . . This is a clear proof that teachers do benefit from the Internet in writing their plans and preparing for their lessons.

F9 referred to other purposes: "Yes. Teachers benefit from it [the Internet] through reviewing the educational research and exploring new ideas in teaching and using instructional technology". F4 offered, "Yes, I think teachers benefit from the Internet in developing their skills and knowledge in teaching".

M3 stated that students' frequency of "accessing the Internet depends on the level of school teachers' experience with the Internet; if your school teachers do use the Internet to develop their work, you will find you automatically use the Internet to

keep pace with them".

6.4 Islamic Education Teachers' Attitudes Towards Online CPD

Research question 2 was stated as:

Q2: "What are the Islamic education teachers' attitudes towards online CPD?" This question aims to investigate Islamic education teachers' attitudes towards online CPD. The teachers who participated in this study were asked to answer a few questions related to their attitudes towards online CPD.

6.4.1 Internet contributions to developing education

To identify the teachers' attitudes towards the Internet's role in developing the educational population, they were interviewed and asked whether they believed the Internet contributes to developing education. All interviewees agreed that the Internet plays a key role in helping teachers to develop their teaching skills. Their answers clearly confirmed their positive attitudes towards using the Internet as a medium of professional development. F1, for example, said, "Yes, there is a clear impact of the Internet, not only on teachers but also on all the Saudi educational population". F11, as another example stated, "Yes, it [the Internet] has a clear impact on the Saudi educational population" he continued, "Huge numbers of teachers benefit from the Internet in teaching. They benefit from the Internet in developing themselves. Personally, I do benefit from the Internet."

6.4.2 Advantages of using the Internet

Some teachers mentioned specific advantages they experienced when they used the Internet, including the following benefits:

- Sharing good ideas with teachers in different areas (F5)
- Describing different experiences from many places around the world (F4)
- Developing teaching skills and exploring new instruction aids or new ideas in general (F11)
- Exploring how other teachers teach (F1).

M1 was excited to discuss his experience in accessing the Internet in order to explore new ideas. He explained:

> I think the Internet is a good source for learning, actually. Teachers do benefit from the Internet. For me, I benefit from the Internet in preparing my lessons. . . . I benefit from it in obtaining new information and enhancing my general knowledge. Sometimes, I share other teachers' ideas in some online educational forums.

6.4.3 Teachers' opinions of online CPD

Specifically, teachers were asked for their opinions about using the Internet as a means of delivering CPD to teachers. The interviewees' answers to this question varied. Some of them were very optimistic, offering answers such as "yes, I think it will be a good step if they do that," or "yes, I think it is good idea". One teacher responded, "It is very important and its benefits are very clear for teachers. I believe if that [online CPD] is done, it will be a great step indeed".

However, some teachers (even those who agreed that online CPD is a good idea) were uncertain whether the Saudi educational population in general, and Islamic education teachers in particular, was ready to apply this idea. F2, as one example of these teachers, explained, "Yes, I think it is a good step, but I think the Ministry of Education is not ready to apply such training". F3 agreed with F2: "Yes, I think it is good idea, but honestly, I do not think the Ministry of Education will be ready to benefit from this idea, at least in the near future". Conversely, F7 disagreed and stated that "all of the Ministry of Education, teachers, colleges, and education colleges have the ability to start providing online CPD, and it is a good step".

6.4.4 CPD or Online CPD?

The researcher also asked teachers which kind of training they would choose: if they had a chance to choose one of the two kinds of training methods, namely online and traditional face-to-face methods. Data obtained from interviews illustrated that the teachers presented three primary opinions. First, the majority preferred to participate in online CPD, for many reasons. F4 explained, "I think

online training is very suitable for me. Yes, the traditional training is available and sufficient, but online CPD will be more helpful if I do not have a lot of time" . F8 argued that "online CPD is better than face-to-face training because it has a number of advantages. It saves time [and] effort and gives teachers a chance to benefit from large numbers of teachers' opinions and experiences from different cities" . M4 as another example, stated, "As an Islamic education teacher, I think if we could benefit from the Internet to deliver online CPD to teachers, we will find great results" . M8 answered, "If I had to choose between the online and traditional training, I would chose online training because I can participate anywhere and anytime and I can say all that I want without time barriers" . F1 replied, "I prefer to participate in online training because it offers an opportunity to benefit from more trainers and experts" . F3 explained, "I think online professional development will be more interesting, helpful, and efficient because this kind of training lets us find the information quickly, and the trainers, as we imagine, will be more qualified and they will be like a team of trainers" .

Second, several teachers indicated that they would choose the traditional method of training, for many different reasons. F9, for example, noted, "I prefer the traditional way (face to face) because I do not have access to the Internet." M1 explained, "Traditional training is better because we can see and discuss things with the trainer face to face" . He added, "Yes, we can find the answers to our questions through the Internet, but we cannot discuss things as if we were asking the trainer in person." He acknowledged that the Internet has many advantages, but he still wondered how teachers can learn, not just browse, through the Internet: "As far as I know, not many teachers can do that." M5 agreed with M1, in choosing the traditional kind of training.

Third, a number of teachers confirmed that their decisions depended on other factors. For instance, M10 explained, "I prefer online training if I have technical support at my school" . M9 said, "The training through the Internet is better, but [only] with incentives" . M3 noted that he would consider the type of online CPD and whether he needed to be online at certain time or could participate at his convenience. He stated, "Obviously, the reality is the Internet is the fastest medium

for researching, and it develops teachers' knowledge and allows them to enquire about any new information" . M3 added, "I personally prefer to participate in online CPD if it is not necessary to be online at a certain time. In other words, I prefer synchronous programmes" .

Only two teachers, F2 and M7, stated that they preferred to combine traditional and online training. M7 justified that by saying "I prefer to participate in hybrid training to gain benefits from both online and traditional training".

6.4.5 Islamic education teachers' general attitudes towards online CPD

When asked about the general attitude of Islamic education teachers, the interviewees expressed various opinions. For example, M5 thought that the majority of Islamic education teachers would choose "traditional training, especially those who do not have the aptitude to use computers" . M3 explained, "I think it depends on the aptitude of teachers and how well they deal with the Internet. [For] teachers who have the aptitude to use the Internet, absolutely, they prefer to train online". M6 also believed that teachers generally prefer to participate in online CPD if they can use the Internet. He added, "Those who do not prefer to participate in online CPD, either they do not use computers, or they use it just for small tasks like sending emails or typing their tests in Word" . M6 explained that if the Ministry of Education applies this idea in Saudi Arabia, then "teachers will be in two groups. Some will like this idea, and others will refuse it completely because they are not ready for it". In addition, M3 indicated that most teachers might prefer to participate in online CPD but that older teachers, or those who do not have access to the Internet, might reject this idea.

6.5   The Major Barriers That Affect the Participation of Teachers in Online CPD

Research question three was stated as:

Q3: What are the major barriers that affect the participation of teachers in online CPD? When the interviewed teachers were asked about the difficulties or barriers

that might hinder online CPD programme implementation, they discussed many obstacles. Their responses were analysed and grouped into three general themes:

- Barriers referred to by the teachers themselves
- Barriers referred to by the educational system
- Barriers referred to by others.

Respondents' comments were then categorised by the researcher into more specific themes. Representative responses are provided below.

6.5.1 Barriers that referred to the teachers themselves

This theme included two sub-themes representing the barriers referred to by the teachers. The first sub-theme was teachers' lack of experience in accessing the Internet. Related responses included the following:

- F11: "I do not have enough experience in the Internet" .
- F8: "Some teachers will not accept the idea of training online because they don't have any experience with the Internet" .
- M9: "The CPD programmes that the Ministry of Education provides to teachers are not enough at all" .

As the questionnaire data revealed, a number of teachers lacked any experience in using a computer or accessing the Internet. Some teachers explained that the reason behind that was because they had thought that the Internet was a new phenomenon in the educational population. Hence, they had not attended any courses regarding Internet utilisation, either pre-service or in service training programmes. M11, as mentioned previously, said, "I have more than 25 years of experience in teaching, and I consider the Internet as something new for me; there was no Internet when I was studying, neither at school nor [at] the college of education" . Moreover, M9 believed that the Ministry of Education should provide some courses to develop teachers' computer abilities because what it had provided was not sufficient.

The second sub-theme was teachers' out-of-school responsibilities. Many responses related to teachers' familial responsibilities, including these examples:

- M11: "In the last few years, I have tried to attend some courses to develop my skills in computing, but due to my family duties, I could not continue" .
- F11: "I don't have free time to even learn how to do that (online CPD)." .

A few teachers justified their lack of time by referencing their family responsibilities. All of these teachers were either females or older males.

6.5.2 Barriers that referred to the educational system

This theme included five sub-themes that represented the barriers that were referred to by the educational system. The first sub-theme was the lack of necessary equipment. Related responses included these examples:

- F1: "Some schools suffer from bad energy suppliers as well as from their computers being out of the date" .
- F11: "There is no place for accessing the Internet in my school" .
- M10: "My school does not have any computers for teachers. . . . School buildings are not ready for that, in my opinion" .
- M7: "I think the areas where teachers teach and live play an important role; some cities are modern, but there are villages in need of even electricity services" . He added: "Some schools do not have the required equipment to apply this kind of training"

A number of the interviewees, especially those living in remote areas, confirmed that their schools needed many basic types of equipment, such as computers or even electricity service (as M7 and F1 mentioned). However, because some areas, in both villages and cites, still rent and use non-educational buildings (such as houses), some teachers believed that their schools were not ready to apply online CPD. Moreover, a number of teachers confirmed that their schools contained computers, but those computers could not be used for online CPD because they were very old and needed to be updated in order to access the Internet.

The second sub-theme was the unavailability of Internet service in some schools. Related responses included the following examples:

- F2: "Internet service is not available in some areas" .

- F4: "In some areas, the Internet service is not that good, so that would affect the benefits from using the Internet for training" .

- M3: "The basic barrier is unavailability of the Internet in a large number of schools" .

- F7: "The Internet is not available in some areas" .

- F8: "No, I don't participate, because the Internet service is not available in the area I live in" .

- F9: "Teachers who work in remote areas cannot participate in any online CPD because they do not have access to the Internet in their schools" .

The responses in this theme, like those in the previous themes, reflected the differences among various areas in which teachers work. Six teachers indicated a lack of Internet access in their schools. The unavailability of Internet service was one of the barriers to implementation of online CPD, not only in remote areas but also in some large modern cities, interviewees confirmed. A few teachers claimed that when they used the Internet through mobile internet connectors, in some areas, the service was insufficient, and they could not download or upload any files.

The third sub-theme was the absence of training centres. M7 admitted that training centres play a fundamental role in training teachers; however, he also claimed that "training centres do not give what we need from them to help teachers to develop their knowledge or skills in this area" .

The fourth sub-theme was school principals' experiences with and attitudes towards online CPD. Related responses included the following examples:

- M3: "Some supervisors have less experience than teachers in computing and teaching alike" .

- M8: "Some principals of schools have a negative attitude towards the Internet and its effect on teaching; they do not want teachers to depend on it." He added: "I do not know, honestly, if the Internet service is available in my school; my head teacher has a negative attitude towards the Internet" .

- M9: "Sometimes, the trainer was not qualified to train teachers. To my

knowledge, [for] the majority of training programmes I have attended, the trainers were not qualified to teach those topics. So, eventually, teachers preferred staying at schools with their students in order to save their time".

The fifth sub-theme, presented by several teachers, was teacher's workloads. however, although M7, disagreed that teachers "need to reduce their workloads if the training will be online or in the evening", he claimed that "22 or more hours per week makes teacher training at their schools and in school time very difficult, if not impossible."

6.5.3   Other barriers

This theme included two sub-themes representing the barriers involving other factors. The first sub-theme was the cost of Internet service, as mentioned by F11 and M10:

- F11: "The cost of the Internet service is more than what I can afford" .
- M10: "The financial barriers are a problem. The cost of the internet is not acceptable".

A number of teachers, both male and female, confirmed that the price of Internet service was too high. Only one teacher disagreed; M1 believed that the cost of Internet access was acceptable for teachers and that high prices were not a sufficient excuse for teachers to avoid participating in online CPD.

6.6   Teachers' Suggestions for Encouraging Teachers to Participate in Online CPD

Research question 4 was stated as:

Q4: "What are the major incentives that would encourage teachers to participate in online CPD?" When the interviewees were asked to suggest methods for encouraging teachers to participate in online CPD, the interviewees suggested many points that might help encourage other teachers to engage in any future online CPD. Responses were analysed and grouped into several primary themes:

- Train teachers to use computers and access the Internet
- Supply computers and accessories to schools
- Provide incentives for participating in online CPD
- Reduce Internet prices
- Reduce teachers' workloads
- Make online training compulsory
- Consider a variety of teachers' needs and desires
- Test this idea with a large number of teachers before generalisation
- Choose topics and trainers carefully.

Representative responses to the above themes are provided in the following subsections.

6.6.1 Train teachers to use computers and access the Internet

Several participants suggested training teachers to use computers and to access the Internet:

- F1: "Encourage them to use the Internet in their work . . . and provide them with a guide to the important educational Web sites" .

- F12: "Offer teachers who do not have experience in accessing the Internet enough chances to improve their skills and knowledge in dealing with the Internet" .

- F6: "Train teachers how to use the computer first, and consider the different needs of teachers. It is necessary to provide more than one topic and different methods of training. . . . Teachers need to know the advantages of using the Internet" .

- F8: "Encourage teachers to train online and explain its advantages to them" .

- M6: "If we want to spread the use of computers among teachers and students, we have to spread computer culture among them. . . . We need some courses about the importance of computers in our life, [about] the advantages of computers and the Internet. . . . Moreover, we need to develop

our schools to be able to adapt to the information era. . . . I would suggest starting with students; they must use the Internet everywhere. If we did that, I think we could start planning to provide online CPD programmes for teachers. . . . We don't need to develop all teachers at the same time; this is very difficult. We need to develop one or two teachers from each school, then they will play a key role in persuading their college and helping them to equip themselves to deal with computers and the Internet, and they will transfer our message to other teachers. Step by step, we can fulfil our aims"

.

Clearly, the majority of teachers strongly recommended that Saudi stakeholders provide more training opportunities for teachers before asking them to participate in online programmes.

6.6.2 Supply computers and accessories to schools

Several teachers recommended supplying computers and accessories to schools:

- F7: "Provide the Internet, especially in remote areas. Encourage teachers to participate by offering them free sessions in how to use computers and the Internet" .
- F8: "Provide the Internet, at least in teachers' training centres" .
- M10: "The Ministry should offer a computer-specialized lab in each school for student and teachers" .
- M3: "Schools play an important role in encouraging teachers to use the Internet; some schools have a good instruction resource centre to help teachers to access the Internet, while others do not" .
- F4: "It is important to ensure that a good Internet service is available in all the areas" .

Because adequate computers and labs are unavailable in a number of schools, respondents suggested ensuring that all schools possess computers, if not labs, that teachers can use for training. Additionally, participants suggested giving more attention to teachers' education centres, preparing them to train teachers online by

supplying the required equipment such as computers, printers, and scanners.

6.6.3 Provide incentives for teachers to participate in online CPD

Participants recommended providing incentives that encourage teachers to participate in online CPD:

- F3: "Provide attractive incentives to teachers who participate in a number of online CPD programmes. That would motivate teachers to participate in such programmes" .
- F4: "[Provide] good rewards for those who attend this course" .
- F10: "Financial incentives, as well as the reduction in teaching work load, are good solutions in this case" .
- M4: "If they are being giving an incentive and the training takes place in the morning period, then yes, teachers will participate; otherwise, I don't think they will participate, because they have their other duties during the rest of the day" .

A number of teachers claimed that the Ministry of Education did not distinguish between teachers who wanted to develop their teaching skills and teachers who ignored training tasks. Hence, they strongly encouraged the Ministry to provide some kind of reward to teachers who attend training courses.

6.6.4 Reduce Internet prices and teachers' workloads

Participants recommended reducing Internet prices and teachers' workloads.

- F3: "The cost of this kind of training is one of the big problems, I thought, so make this kind of training free of charge for teachers if you want them to participate",
- F12: "Reduce workloads; teachers cannot find time for training, neither in school nor out of school, and that is because of teachers' workloads in school and their need to have free time out of school" .
- F5: "Reducing teachers' workloads is very important to assist them to contribute to either online or traditional training" .

- M6: "We need some help from the Ministry to be able to attend training. We need to reduce teachers' workloads or free teachers during the training days and to acknowledge teachers who participate in such training" .

- M9: "There is no doubt that teachers' workloads have a negative effect on teachers' desire to train" .

In Saudi Arabia, teachers' workloads range from 22 to 24 classes weekly. In addition, teachers must participate in some extracurricular activities (Alqahtani, 2006). Participants believed that the Ministry of Education should reduce this number of classes, at least during training days, to encourage teachers to participate in some kind of training.

6.6.5 Make online training compulsory

Participants recommended making online training compulsory. Related responses included the following examples:

- M1: "Unless the Ministry obliges teachers to attend this training, online CPD, teachers will not attend except if there are good incentives, such as bonuses or points whereby teachers can be upgraded to higher positions. Also, the Ministry should reduce their loads, especially in training days" .

- M4: "In my opinion, there is no obligation. If the Ministry obliges teachers to participate, you will see positive changes" .

The Ministry of Education in Saudi Arabia strongly recommends teachers at all levels to attend training programmes; however, so far, the Ministry has not made such training compulsory. As a result of this, teachers believe that CPD programmes are optional and that they can choose whether they will attend. Accordingly, interviewees proposed that the Ministry of Education should make CPD attendance part of teachers' official duties.

6.6.6 Consider a variety of teachers' needs and desires

Participants recommended considering a wider variety of teachers' needs and desires. For example:

- M1: "It [in the morning] is supposed to state suitable times for training, I mean suitable times for teachers. In other words, they must consider teachers' time when they state training programme times in order to help teachers to participate" .

- M3: "The training time must be during the school day, and the training programmes must be held in the instructions' source centre. . . . [Additionally,] teachers prefer long-term training because its certificates have more value. Teachers participate and pay for attending some courses just because it is 3 or 4 months. . . . Also, morning training is preferable because they [teachers] have some evening social duties" .

Choosing times that are convenient for teachers is probably one of the most effective ways to encourage teachers to attend and participate in any CPD programme. Obviously, stating specific times for training is required only if the training is face-to-face or synchronous. According to teachers, the best time for teachers to train is during the school day. Also, teachers generally prefer long-term training programmes.

6.6.7 Test this idea with many teachers before generalisation

Several participants recommended piloting online CPD with a large number of teachers before generalisation:

- M1: "I think if the stakeholders pilot this idea and spread the results to teachers, that might motivate other teachers to participate" .

- M11: "This idea, as any other new idea, needs some support. It must be supported by supervisors and head teachers first, and after its implementation, there must be a follow-up evaluation to correct any mistakes that happened in the first implantation" .

Piloting online CPD and publishing the results to teachers is a vital step in helping teachers understand the real impact and positive results of using the Internet. Moreover, supervisors and head teachers must play a key role in persuading teachers to engage in online CPD.

6.6.8 Carefully choose training topics and trainers, and conduct a follow-up review

Participants recommended choosing online CPD topics and trainers carefully:

- M3: "The trainer himself plays a key role in attracting teachers to participate".
- M7: "Unless there is a serious follow-up review to ensure that teachers really benefit from the Internet, the success of this idea will be very limited" .

As M3 mentioned, choosing qualified trainers for these programmes is an important factor in attracting teachers to attend. M9 noted a significant related problem:

"Sometimes, the trainer was not qualified to train teachers. To my knowledge, in the majority of training programmes I have attended, the trainers were not qualified to teach those topics. So, eventually, teachers prefer staying at school with their students in order to save their time".

6.7 Summary

The purpose of this chapter was to present and describe the quantitative data gathered through the interviews. The second section provided brief information about the interviewees' demographic information.

The data revealed that Islamic education teachers, in general, can use computers at different level; namely, different teachers had various levels of experience in using computers and different levels of frequency in using the Internet.

Participants believed that gender and age play key roles in teachers' aptitude to use computers. The interviewees assumed that male teachers and young teachers have more experience in using computers. Additionally, they indicated that teachers use the Internet for three main purposes: developing teaching skills, writing lessons plans, and reviewing educational research.

Generally, the interviewed teachers had a positive attitude towards online CPD.

However, they mentioned some barriers that might affect teachers' participation in online CPD. Barriers were related to teachers (e.g., lack of Internet access and out-of-school responsibilities), the educational system (e.g., lack of necessary equipments, unavailability of Internet access, and principals' negative attitudes towards online CPD), or other topics (e.g., the cost of Internet service). Lastly, teachers provided some suggestions for overcoming these barriers.

The following chapter will discuss this study's findings in greater depth.

7. Discussion of Findings

7.1   Introduction

This study, as mentioned in chapter 4, used two instruments, a questionnaire and a follow-up, semi-structured interview, to gather the required information. This chapter discusses the study's results, which were presented in Chapters 5 and 6.

This chapter contains six major sections. The second section describes the results for the first research main question, which investigated Islamic education teachers' aptitudes to use computers and the Internet. Section 3 addresses the results of the second research question, which examined Islamic education teachers' attitudes towards online CPD. Section 4 discusses the results of the third research question, which asked about the major barriers that affect teachers' participation in online CPD. Section 5 examines teachers' suggestions for attracting their peers to participate in online CPD. Section 6 concludes the chapter.

7.2   Teachers' Aptitude to Use Computers and the Internet for Professional Development

This section discusses the results of the study's first research question, which asked, "Do Islamic education teachers have the competency to use computers and the Internet for professional development purposes?"

This section contains three subsections:

- Teachers' aptitude to use computers and the Internet for professional development
- Comparisons between male and female teachers regarding their competencies to use computers and the Internet
- Comparisons among teachers' computer competencies in relation to other factors.

7.2.1 Teachers' aptitude to use computers and the Internet for professional development

Male teachers' aptitude to use computers for professional development, according to the results of research question 2, was at the beginner level. The t test confirmed that the mean score of their computer and Internet abilities was 23.15. On the other hand, it is worth noting that male teachers had the highest level of competency in general usage of computers, Microsoft Office programmes, and email applications (M = 2.97, 2.64, and 2.50, respectively); however, their competencies in Web designing and learning management systems was at a lower level (M = 1.56 and 1.59, respectively).

Female teachers' average aptitude to use computers for professional development, as for male teachers, was at the beginner level. The results of a one-sample t test confirmed that the overall mean of female teachers' computer abilities was 19.79. The lowest levels of female teachers' technological abilities were in learning management system applications (M = 1.39), Web design (M = 1.42), and video and audio programmes (M = 1.74). Nevertheless, their aptitude in all other items on the aptitude scale fluctuated between (M=2.72) -general computer usage- and (M=1.84) - computer accessories-.

The results of this study reveal that most Islamic education teachers in the Asir region of Saudi Arabia have a beginner's level of competency in using computers and the Internet. The mean score on the aptitude scale was 21.57 out of 40.00. The results show that the majority of Islamic education teachers need more training to develop their computer abilities in general. Additionally, they need to focus on mastering some essential applications such as learning and management systems (e.g., Blackboard and WebCT), since these applications are widely used in online CPD.

These results support the findings of previous studies of teachers' competence in using computer and the internet for general educational purposes. A number of educational studies conducted in Saudi Arabia have mentioned that the use of ICT is increasing (Al-Asmari, 2005; Alaugab, 2007; Aloyaid, 2009; Alsaif, 2005).

Moreover, in the percent study it was found that many teachers use ICT for lesson preparation. Additionally, most teachers use only the lowest levels of computer skills, such as using Microsoft Office programmes and Internet search engines. My results are consistent with Aloyaid's (2009) study, which found that most teachers' technology use is related to lesson preparation and the presentation of extra information related to their lessons, such as showing videos, pictures, and sounds. Al-Asmari's (2005) study revealed that most teachers have limited experience in using computers or accessing the Internet, which accords with my study's findings.

This study's findings also indicate a shortage of training opportunities provided to help teachers develop their skills in using ICT. This result supported the findings of other studies, confirming that the majority of teachers need more help in order to use computers for educational purposes (Al-Thobaiti, 2001; Alalwani, 2005; Alshehri, 2005; Mahboob & Baroom, 1997; Mahdad, 2001).

The percent study results have indicated a need for more computer and Internet training for teachers. Fortunately, because of the increasing importance of technology in modern society, the Ministry of Education in Saudi Arabia has begun to focus on teaching computer skills in all levels of education. Accordingly, teachers will become more experienced in the use of computers for professional development in the near future.

7.2.2 Comparisons between male and female teachers' abilities to use computers and the Internet

This study's results reveal that Islamic education teachers' genders affect their aptitude to use computers for professional development (at a level of $p<0.01$ significance). The Independent Sample's *t* Test indicated that the mean of male teachers was 23.15, whereas the mean of female teachers was just 19.79. This result means that male teachers, in general, have more advanced computer skills than female teachers.

Although Altowaijri (2004) and Yung (2005) found no significant differences between male and female teachers' capability to use computers and the Internet, several studies have supported a relationship between gender and the computer

competency. For example, Cowan's study (2006) found significant differences between males and females regarding their ICT competence. This result was also confirmed by Dakich, et al.(2008).

In the context of Saudi Arabia, this result is not terribly surprising. Educational backgrounds vary between males and females, which might explain this finding. Computer education was first taught in boys' secondary schools in Saudi Arabia in 2003, then in boys' intermediate and elementary schools in 2004; in girls' secondary schools, however, computer education did not start until 2006, when the Ministry of Education started requiring computer education in all secondary schools (Alsunbul, et al., 2008). Moreover, at the time this study was conducted, computer education was still not available in intermediate and elementary girls' schools in Saudi Arabia.

Like M3, who contended that female teachers desperately need more training in computer usage, I strongly agree that Saudi stakeholders should pay more attention to female teachers by offering them more opportunities for computer training.

7.2.3 Comparisons between teachers' computer and Internet abilities in relation to other factors

To answer this question, I studied and analysed the effect of each variable separately. The independent variables of this study include qualification, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of Internet access, and previous participation in online programmes.

The study's results show that teachers' qualifications significantly affect their computer abilities. The ANOVA test results revealed a significance difference between teachers who held MA, High Dip., or BA degrees and those who possessed "other" degrees. The means of teachers who had MA degrees (M=27.33) High Dip (M=22.19) or BA degrees (M=22.09) were much higher than the mean of teachers who had "other" degrees (M=18.59). This means that teachers who have earned MA, High Dip or BA degrees are better prepared to use computers for online CPD. Teachers who have only earned "other" degrees require preparation courses to

develop their computer abilities so that they can participate in online CPD. This finding may be explained by the fact that some teachers' preparation programmes, particularly those provided before the establishment of education colleges, did not prepare teachers to use computers for teaching or training purposes.

The results of this study did not indicate any significant differences between teachers who earned PhDs and all other teachers. I believe this result is due to the small number of PhD-holding teachers who participated in this study.

The one-way ANOVA test revealed significant differences among Islamic education teachers' computer and Internet abilities in relation to their experience in teaching, especially between teachers who had more than 10 years of teaching experience and teachers who had fewer years of teaching experience. Teachers who have many years of teaching experience, especially those who started teaching more than 10 years ago, are most likely to need training in order to use computers for professional development. However, there was no significant difference between teachers who had between 5 and 10 years of teaching experience and those who had fewer than 5 years. As some interviewees noted, teachers who have fewer than 5 years' experience and those who have between 5 and 10 years' experience belong to the same generation, and both groups studied computer usage during their prior stages of education.

Overall, the results from both study instruments provide clear evidence that teachers who have many years of teaching experience should be given more attention when stakeholders provide online CPD. It is advisable to offer those teachers more opportunities to attend training programmes about using computers before inviting them to participate in online CPD.

The results also show a significant difference among the participants' aptitudes to use the Internet and computers based on their experience in using computers. At a level of $p < 0.01$ significance, there was a difference between teachers who had no computer experience and those who had some levels of experience. The results also indicated significant differences between teachers who had less than 10 years of computer use and those who had more than 10 years of experience; teachers who

have more experience in computer use are more likely to be able to use computers for professional development. This result seems obvious, but it is important to note because it increases confidence in this study's instruments.

Similarly, the one-way ANOVA test revealed a significant difference among Islamic education teachers' computer competence in relation to their experience in using the Internet. The ANOVA test clearly confirmed that teachers who had no experience with using the Internet were less competent than those who had some level of experience (at a level of $p < 0.01$ significance). Additionally, the results indicated that the mean of teachers who had been using the Internet for fewer than 5 years was 19.86, whereas the mean of teachers who had been using the Internet for 5 to 10 years was 26.91, and the mean of those had more experience was 29.04.

According to those results, unlike for computer competence in general, there were significant differences in Internet competence between teachers who had fewer than 5 years of computer use and those who had more than 5 years of computer use. However, the results showed that there was no significant difference between teachers who had 5-10 years of Internet experience and those who had more than 10 years' experience. One explanation for this finding is that both groups experienced the Internet's introduction to the public; accordingly, they have had similar experiences with Internet usage.

The questionnaire results revealed a significant relationship between the places where teachers can use computers and their competence in using computers. Teachers who do not or cannot use computers at school or home are less competent than those who use it at home, school, or both. The results rate the teachers' computer abilities, in relation to the places where they use computers:

- For teachers who use computers at both school and home, M = 26.40.
- For teachers who use computers at home only, M = 20.30.
- For teachers who use computers at school only, M = 19.72.
- For teachers who do not use computers at school or at home, M = 11.19.

Although there is slight difference between the mean aptitude of teachers who only

use computers at home and those who only use computers at school, this difference is not statically significant. It might indicate simply that more time is available for computer usage at home than at school.

The results show a significant difference among teachers' abilities to use ICT in relation to their Internet access. This significant difference (at a level $p < 0.01$) was confirmed, by a one-way ANOVA, between teachers who do not access the Internet at school or at home and those who access it at home, school, or both. The results rate the teachers' computer abilities in relation to their Internet access as shown by the following figures:

- For teachers who access the Internet at both school and home, M = 28.64.
- For teachers who access the Internet at home only, M = 21.96.
- For teachers who access the Internet at school only, M = 21.50.
- For teachers who do not access the Internet at school or at home, M = 12.13.

The results of an independent sample test indicated that teachers who had participated in online CPD had significantly higher levels of computer competency (M = 30.01) than teachers who had not participated in such programs (M = 19.94). This result indicates that teachers adapted well to the online training requirements. In support of this conclusion, about 16% of the respondents noted that the courses they attended significantly helped them advance their knowledge and enhance their aptitude to use computers for professional development.

These results are consistent with several previous studies, such as those of (Alalwani, 2005; Alaugab, 2007; Alshehri, 2005), and Al-Asmari (2005), which found clear evidence of significant correlations between computer aptitude and specific variables. For example, Alshehri's (2005) study revealed that academic staff members who had more than 5 years of experience in using ICT can easily implement online courses. Alaugab (2007) found that having the Internet service at home makes a learner more willing to participate in online courses. Alawani (2005) revealed that teachers who receive service training about using ICT are significantly more experienced than teachers who do not receiving any training. Al-Asmari's (2005) study revealed correlations between computer competence and

several independent variables, such as computer and Internet experience, availability of the Internet, and attitudes towards the Internet.

7.3 Islamic Education Teachers' Attitudes towards Online CPD

To my best knowledge, at the time of conducting this study, no studies have examined the comparisons between male and female teachers' different attitudes towards online CPD in Saudi Arabia or compared their attitudes in relation to other variables such as qualification, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of the Internet, and previous participation. Therefore, the results of the present study are compared with the results from previous studies that compared male and female attitudes towards online learning or training in general.

This section discusses the results of the study's second research question, "What are the Islamic education teachers' attitudes towards online CPD?"

This section contains three subsections:

- Islamic education teachers' attitudes towards online CPD.
- Comparisons between Islamic education male and female teachers' attitudes towards online CPD.
- Comparisons between Islamic education teachers' attitudes towards online CPD in relation to other factors.

7.3.1 Islamic Education Teachers' Attitudes towards Online CPD

This question was designed to determine the attitudes of Islamic education teachers towards online CPD. Teachers were asked to describe their responses to 25 items, which included statements related to online CPD. Moreover, in the interviews, they were asked some questions to investigate their attitudes. The analysis of the questionnaire data and the interview data investigated the attitudes of male, female, and overall teachers towards online CPD.

Male teachers' attitudes towards online CPD were positive, according to data observed from both qualitative and quantitative tools. The *t* test confirmed that the overall mean score of male teachers' attitudes towards online CPD was 91.50, which is interpreted as a positive attitude. These teachers were especially positive towards the capability of online CPD to train many teachers at the same time, which would facilitate opportunities to share new ideas. Male teachers did not choose positive or negative attitudes towards items that discussed the suitability of online CPD for teachers working in remote areas in Saudi Arabia, and they were not sure whether their colleagues were motivated to participate in online CPD. Hence, they did not choose positive or negative attitudes towards the statement that said, "The Saudi educational environment is appropriate for online CPD."

On the other hand, to determine the overall attitudes of female Islamic education teachers towards online CPD, the researcher used a *t* test, which showed that overall female attitudes towards online CPD were positive; the mean reached 94.16. The average female attitudes towards different items of the attitudes scale varied slightly. Female teachers had positive attitudes towards all items in the scale (25 items) except three items, for which they did not choose positive or negative attitudes. These were the three undetermined items: "I'm interested in implementing online CPD," "The Saudi educational environment is appropriate for online CPD," and "I feel my colleagues are very interested in participating in online CPD programmes."

A one-sample *t* test was used to analyse the responses, and it confirmed that the mean score of the Islamic education teachers towards online CPD was 92.76, which is interpreted as positive. However, the results revealed various attitudes towards some statements on the attitudes scale. For example, the following statements received the highest means: "Online CPD will give more opportunities to train more teachers at the same time" (4.0105), "Online CPD will encourage teachers to collaborate and share ideas" (4.0013), and "Online CPD programmes will help to reduce the problem of overcrowding in training centres" (3.9268). The following statements received the lowest means: "I feel that my colleagues are very interested in participating in online CPD programmes" (3.2343), "The Saudi educational

environment is appropriate for online CPD" (3.2810), and "I'm interested in implementing online CPD" (3.3908).

The results support the findings of previous studies on teachers' attitudes towards using computers and the Internet for educational purposes (Al-Asmari, 2005; Alaugab, 2007; Alharbi, 2002; Annetta, et al., 2008; Borko, 2004; Cowan, 2006). For example, Annetta, et al. (2008) examined teachers' attitudes both during and after their participation in online courses. The researchers found that teachers had positive attitudes towards online courses both while taking the courses and a few months after the courses. A descriptive study was conducted by Alaugab (2007) to explore the attitudes of female faculty and students in higher education institutes in Saudi Arabia; the findings revealed positive attitudes towards online instruction. Similarly, Alharbi (2002) examined the attitude of the academic and administration staffs of Imam Mohammed University towards online learning, and he argued that both academic and administration staff members had positive attitudes towards online learning. A total of 107 university faculty members in various degree programs were surveyed by Brooks (2008) to investigate their attitudes towards technology-based distance education; the results showed that their attitudes were positive. Aloyaid's (2009) study concluded that most teachers in secondary schools in Riyadh have positive attitudes towards using ICT.

Nowadays, with the unprecedented increase of advanced technologies and the widespread use of ICT in schools at all levels, it is expected that teachers have positive attitudes towards using computers and the Internet for educational purposes and towards learning and developing their knowledge in this important field.

7.3.2 Comparisons between male and female Islamic education teachers' attitudes towards online CPD

Comparing male and female Islamic education teachers' attitudes towards online CPD is unique in Saudi educational research. According to the national educational research databases at King Fahd National Library in Riyadh, no research has been conducted to compare between male and female teachers' attitudes towards online CPD in Saudi Arabia. However, studies that have compared male and female

teachers' attitudes towards online education worldwide have found different results. For example, Brooks (2008) indicated that gender was the only demographic variable, among the various demographic variables she studied, that had a statistically significant relationship with attitudes towards a blended online learning environment; females' attitudes were more positive. A similar result was also found by Zhou and Xu (2007), . Zhou and Xu did not only indicate the significant difference between female and male in their attitudes toward online environment but also suggested different models of online CPD for the two genders because he had found that females prefer training that involves more showcases and interactions, whereas males prefer to involve in training that provides more chances for hands-on activities.

However, other studies have suggested that there is no significant difference among teachers' attitudes in relation to their gender. Uzunboylu (2007), for example, used a *t* test to compare between male and female teachers' attitudes towards online education. The results showed no significant difference between teachers' attitudes towards online learning in relation to their genders.

The current study agrees with the findings reported by Zhou and Xu (2007) and Brooks (2008) and with their explanations of that difference. Especially in Saudi Arabia, the difference might result from the variances of their preferred ways of learning and training and the variances of their educational backgrounds.

In this study, a *t* test was used to examine the difference between female and male attitudes towards online CPD. The findings confirmed that the difference between them is significant, at $p < 0.05$ level.

7.3.3 Comparing between Islamic education teachers' attitudes towards online CPD based on other factors

Studies of teachers' attitudes towards online learning in relation to some factors, such as qualification, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of the Internet, and previous participation, have reported mixed findings. Some found no significant differences, whereas others noted a significant impact of some variables,

Brooks (2008), for example, indicated that only educational technology preferences significantly affected attitudes towards blended learning. Alougab (2007) reported that home Internet access significantly influences attitudes towards online instruction, whereas experience in using educational technology did not significantly predict attitudes towards online instruction. Borady-Ortmann (2002) noted that a lack of technological skill can affect teachers' self-confidence in teaching online courses, which in turn can affect their attitudes. Sipilä (2008) reported a difference between teachers' attitudes towards ICT in relation to their ownership of laptops. The findings indicated that teachers who use personal laptops for their work have more positive attitudes than teachers who do not.

In this study, the researcher study and analysed the effect of each variable separately. The independent variables of this study are qualification, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of the Internet, and previous participation. Findings revealed that there were several significant differences among the demographic variables of the participants and their attitudes towards online CPD.

A one-way ANOVA confirmed that qualification has no significant impact on teachers' responses. In general, all teachers, regardless of their highest levels of education completed, have the same positive attitudes towards online CPD.

In regard to teachers experience in teaching, no significant differences were found among teachers' attitudes based on their experience in teaching. This result consists with the results of the previous point, which indicated that all teachers have positive attitudes towards online CPD, despite their qualifications and their experience in teaching. In the other word, this result as well as the previous result confirmed that teachers' educational backgrounds do not affect their attitudes towards online CPD.

A one-way ANOVA revealed that teachers' experience in using computers has a significant impact on their attitudes towards online CPD. Specifically, the post hoc test results showed that teachers who had no experience had less positive attitudes towards online CPD than those who had experience. No significant difference was found among teachers who had some experience in using computers.

Regarding the differences between teachers' attitudes toward online CPD in relation to their experience in accessing the Internet, the researcher used a one-way ANOVA test to determine whether there was a significant effect on teachers' attitudes in relation to their experience in the using the Internet. The results confirmed a significant difference between teachers who had no experience in using the Internet and those who had some experience. These differences fluctuated between $p <.01$ and $p <.05$ levels of significance. Additionally, this test revealed no significant differences among teachers who had some experience in accessing the Internet.

The results also revealed that the availability of computers (i.e., places where teachers can use computers) has a clear effect on teachers' attitudes towards online CPD. The post hoc test showed that teachers who can use computers at home and/or at school are more likely to have positive attitudes towards online CPD than those who cannot access computers. No significant differences were found between teachers who used computers at home and those who used them at school.

By applying ANOVA and post hoc tests, the researcher has found clear evidence of significant differences, at a $p <0.05$ level, between teachers who did not use the Internet at school or at home and those who used the Internet at home and/or school. Those who accessed the Internet somewhere were more likely to have positive attitudes towards using the Internet for professional development. No significant difference was found between teachers who accessed the Internet at home and those who accessed it at school.

The results of an Independent Sample *t* Test, used to find out the affect of teachers previous participation in online CPD, revealed that teachers who had no prior experience in online CPD were less motivated to participate in online CPD than those who had previous experience in this field.

To sum up, this study found clear evidence that teaching qualifications and experience did not influence teachers' attitudes towards online CPD, whereas experience in using computers, experience in accessing the Internet, availability of computers at home and school, availability of the Internet access at home and

school, and previous participation in online programmes did significantly affect teachers' attitudes towards online CPD.

7.4   The Major Barriers That Affect Teachers' Participation in Online CPD

Barriers are associated with any new idea applied in any educational system. These barriers usually limit, if not prevent, fulfilment of the new idea's goal unless the idea has been studied previously to find potential solutions that might help overcome those barriers. In other words, identifying the potential barriers to integrating ICT in the educational environment might help use the technology for educational purposes effectively. Consequently, this section focuses on the most significant barriers that may limit teachers' participation in online CPD, in an attempt to answer the study's third research question: "What are the major barriers that affect teachers' participation in online CPD?"

This section contains three subsections:

- The major barriers that affect teachers' participation in online CPD, in the opinions of Islamic education teachers
- Comparisons between the views of male and female Islamic education teachers regarding the major barriers that affect teachers' participation in online CPD
- Comparisons between Islamic education teachers' views of the major barriers that affect teachers' participation in online CPD in relation to other factors.

7.4.1   The major barriers that affect teachers' participation in online CPD, according to Islamic education teachers

Although stakeholders in any educational system endeavour to overcome any potential obstacles before applying new projects, assessments and surveys that explore those barriers are usually not instituted in the projects' first stages. Online CPD is not an exemption to this general rule. Hence, it is necessary to examine the factors that are most likely to hinder teachers' participation in online CPD.

In this study, Table 5.45, in Chapter 5, provides a list of barriers considered in the fourth part of the questionnaire. Participants were asked to evaluate the existence of each item and to add any barriers not listed in the section.

About 83.2% of male teachers either agreed or strongly agreed that there is a lack of incentives to participate in online CPD. This item received the highest mean score in this section (M = 4.16). The second highest mean was earned by "lack of good Internet service in schools" (M = 4.11). More than 82% of male teachers agreed that good Internet service's unavailability has a negative effect on teachers' participation. Additionally, 81% of male teachers believed that this lack of technical support was among the most important barriers and subsequently need more consideration from stakeholders. The mean of this item was (M=4.02). The top 10 barriers, after that, are presented below, ordered from highest to lowest mean scores:

- Lack of required equipment
- Low teacher experience in using computers
- Expensive cost of Internet access
- Internet service is not good enough
- Unavailable hardware
- Heavy academic loads
- Lack of awareness of online CPD's importance
- Lack of self-motivation among teachers
- No acceptable level of satisfaction among stakeholders towards online CPD
- Negative social attitudes towards online professional development.

Among female teachers, the highest mean score for a major barrier that affects female participation in online CPD was earned by this item: "Lack of good Internet service in schools" (M = 4.13). About 83% of female teachers agreed or strongly agreed that the Internet service in schools should be improved to help teachers benefit from the Internet in developing their teaching practices and knowledge. The females' second highest mean score was for "more technical support is needed" (M = 3.99); 77.6% of female teachers believed that the current technical support was

not sufficient. The third highest mean, supported by 292 female teachers (79.6%), confirmed that "low teachers' experience in using computers" plays a key role in preventing teachers' participation in online CPD (M= 3.91). The next 10 greatest barriers are ordered from highest to lowest mean scores:

- Lack of incentives to participate

- Not enough available hardware

- Heavy academic loads

- Lack of required equipment

- Lack of self-motivation among teachers

- Lack of awareness of online CPD's importance

- Insufficient Internet service

- Expensive cost of Internet usage

- No acceptable level of satisfaction among stakeholders towards online CPD

- Existence of some side effects of using the Internet

- Negative social attitudes towards online professional development

- Teachers' lack of confidence in using the Internet for professional development.

Regarding overall teachers' opinions, among the 768 teachers who participated on this study, more than 630 (82.9%) agreed or strongly agreed that sufficient Internet service is not available at schools; the mean score of this item was the highest score among all this section's items (M = 4.12). The second highest mean was for the item "lack of incentives," which was (M=4.03). However, 80.4% of responses agreed or strongly agreed with the existence of this barrier. Lack of technical support earned the third highest mean (M = 4.00), with agreement of 79.5% of the participants.

Teachers also added some barriers that were not listed in this section, including the following examples. Teachers' levels of English language competence are insufficient. The cost of computer equipment is too high. Schools have no obligation from the Ministry of Education to let teachers use computers. Head teachers or/and supervisors have negative attitudes towards online training.

The results have shown that, following the three barriers mentioned earlier, these are the top 10 barriers, ordered from highest to lowest mean scores:

- Low teacher experience in using computers
- Not enough available hardware
- Lack of required equipments
- Insufficient Internet service
- High cost of Internet access
- Heavy academic loads
- Lack of awareness of online CPD's importance
- Lack of self-motivation among teachers
- No acceptable level of satisfaction among stakeholders towards online CPD
- Existence of some side effects of using the Internet
- Negative social attitudes towards online professional development
- Teachers' lack of confidence in using the Internet for professional development.

Finding from the fourth section of the questionnaire and finding from the interviews clearly indicated that teachers believed that number of barriers have a clear impact of teachers' participation on online CPD

The findings of this study agree with the results of previous studies that identified barriers to the integration or use of ICT in the educational context. For example, many studies indicated the lack of teachers' experience in using computers as a barrier to successful adaption of technologies in education. Beggs (2000) justified not using ICT by the number of teachers who fear failure if they tried. This problem exists not only in developing countries but also in a number of developed countries. For instance, Newhouse (2002) asserted that many teachers in Australia avoid using computers in their classrooms because they lack competence in using such technology. Through analysis of his questionnaire, Alshawi (2003) found that a number of teachers lacked the knowledge and skills needed to use ICT.

Several recent studies referred to the lack of incentives as a barrier to using

computers for educational purposes. Alsaif (2005), for example, concluded that poor incentives limited teachers' use of ICT. Likewise, Alqahtani (2006) found that an important obstacle that reduces teachers' motivation to use computers in their teaching practices was lack of incentives.

Insufficient technical support is a common barrier to the using ICT in education. A number of researchers have indicated the importance of this barrier, concluding that if stakeholders do not diligently endeavour to overcome it, then it might lead to other problems (Al-Asmari, 2005; Al-Wehaibi, et al., 2008; Alharbi, 2002; Alshawi, 2007; Korte & Husing, 2007; Lim & Khine, 2006; Palgrum, 2001).

Similarly, many researchers have addressed additional barriers, such as a lack of computers and software (Al-Asmari, 2005; Alharbi, 2002; Alshawi, 2007; Bingimlas, 2009), lack of time (Al-Wehaibi, et al., 2008; Aloyaid, 2009; Bingimlas, 2009), expense of Internet service and maintenance (Al-Asmari, 2005; Aloyaid, 2009; Alsaif, 2005; Bingimlas, 2009), lack of training (Aloyaid, 2009; Alsaif, 2005; Bingimlas, 2009), lack of accessibility of the Internet (Bingimlas, 2009), language barriers (Al-Wehaibi, et al., 2008; Alharbi, 2002), and lack of good Internet service (Al-Asmari, 2005; Al-Wehaibi, et al., 2008).

7.4.2 Comparisons between the male and female Islamic education teachers' views of the major barriers that affect teachers' participation in online CPD

Data analysis reveals that there are no gender differences between the views of male and female Islamic education teachers regarding the major barriers that affect teachers' participation in online CPD. An independent sample *t* test confirmed that the mean of male teachers was (M =52.57), whereas the mean of female teachers was(M=52.07). This minor difference was not statistically significant. The researcher used Spearman test which confirmed that the difference between male and female was not significant. This finding agrees with Alwahibi's (2008) study, which examine the relationship between some independent variables, including gender, and teachers' opinions of barriers to Internet adoption among faculty in Saudi Arabia and found no differences related to gender.

7.4.3 Comparisons between Islamic education teachers' views of the major barriers that affect teachers' participation in online CPD in relation to other factors

Two tests, an Independent *t* Sample test and a one-way ANOVA, were performed to determine whether the demographic variables predict teachers' overall opinions towards barriers that might affect participation in online CPD. The relations between teachers' opinions and all examined variables (qualification, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of the Internet, and previous participation) were not significant at the 0.05 level.

Qualitative results from this study's other sections were consistent with these quantitative results. Moreover, this result accords with the results of Alwehaibi (2008), who investigated the correlations between various variables (such as academic discipline, age, academic rank, and teaching experience) and the study sample's opinions about barriers to Internet adoption among faculty in Saudi Arabia universities. Alwehaibi found no significant correlations at the p < .05 level.

7.5 Teachers' Suggestions for Encouraging Their Peers to Participate in Online CPD

Exploring the barriers associated with any program is not sufficient unless appropriate solutions for these barriers are also considered. One of the best sources for appropriate solutions is the people who actually suffer from the problems, in this case, the teachers themselves. Accordingly, this section discusses the results of the fourth research question, which asked participants for ways to improve online CPD programmes' efficiency and effectiveness.

The analysis of the teachers' open-ended suggestions for encouraging their peers to participate in online CPD was combined with an analysis of the qualitative data from the interviews; teachers believed that some suggestions could encourage them and their peers to participate in online CPD. The researcher received 594 suggestions from participations who answered the fourth question of the questionnaire.

Suggestions offered by 162 teachers (27.27% of suggestions) recommended training teachers to use computers and the Internet. Additionally, a number of teachers emphasized the significance of increasing teachers' knowledge and skills in computer and Internet usage before implementing online CPD in Saudi Arabia. Participants suggested first training teachers who have no computer experience.

Many recent studies have indicated the importance of teacher training and have suggested providing more opportunities for teachers to study technology professionally before establishing online programmes. Beggs (2000) argued that training teachers was an important factor that increased teachers' motivation to use ICT in their classrooms. Moreover, Albirini's (2006) study found that a lack of technology skills was the main reason for the poor use of ICT in Syrian schools. Accordingly, he strongly recommended providing intensive courses that would teach teachers to use technology in their lessons. Newhouse (2002) argued that "teachers need to not only be computer literate but they also need to develop skills in integration computer use in their teaching/ learning programmes" (p. 45).

In this study, teachers confirmed that the Ministry of Education should supply the requirement equipments for schools; 110 teachers (18.52%) claimed that the shortage of computers in schools must be considered by stakeholders, who should ensure that schools possess all computer equipment necessary for online training. This suggestion aligns with Al-Showaye (2002) and Al-Asmari's (2005) recommendations.

Teachers (78, 13.13%) also indicated the importance of educating teachers about the Internet's importance and its significant role in developing teaching practices and knowledge. Participants noted that some teachers can use computers and the Internet but do not believe in their role in professional development. In addition, participants suggested that the Ministry of Education should focus on supervisors and head teachers because they play key roles in persuading teachers about the importance of the Internet in their jobs.

Teachers also proposed several suggestions related to providing incentives for attending online programmes. A few teachers, for example, suggested paying

teachers extra money, especially when the training time was conducted outside of school hours. Others indicated the importance of acknowledging teachers who attend these programmes. This latter suggestion was confirmed by Alshehri's (2005) study.

Financial issues challenge not only teachers but also educational organisations, making it difficult to use updated technologies. Consequently, teachers suggested that the Ministry of Education should work towards providing affordable Internet access for teachers. Thirty-eight teachers believed that the cost of the Internet service is too high, and they further believed that the cost might prevent teachers from participating in online CPD.

Additionally, teachers claimed that current Internet service is not sufficient to use as a medium of professional development, due to its slow and inconsistent speed. Therefore, they suggested improving the Internet service in Saudi Arabia and insuring that Internet service reaches all cities and villages. This barrier is common not only in developing countries but also in developed countries; for example, Husing (2007) claimed that one third of European schools lack broadband Internet access.

Teachers proposed that appropriate, convenient times should be chosen for online training (4.83%). A number of teachers indicated that training should be scheduled during school days, especially if teachers will be required to logon at certain times. Teachers' lack of time to train, due to their busy schedules, has been confirmed by other researchers. Alalwani (2005) found that teachers in Saudi Arabia could not find time to train or to use ICT in schools.

Because using computers is vital in online CPD and because there is a shortage of computers in schools and a large number of teachers working in each school, participants also suggested that the Ministry of Education should provide a laptop for each teacher. According to Al-Asmari (2005) and Al-Showaye (2002) the shortage of computers and labs in schools influences the successful integration of ICT into schools. Consequently, schools should maintain adequate labs and computers for teachers in order to encourage them to invest in online training.

In terms of human resources, 4.04% of the suggestions concentrated on the impact of trainers' qualifications on teachers' participation in online CPD. Teachers proposed that the Ministry of Education should train and choose trainers carefully. Participants confirmed that trainers' qualifications are an important factor that teachers consider before deciding whether they will participate in any training programmes.

Twenty suggestions related to teachers' heavy workloads. A number of teachers suggested that reducing workloads in general would help teachers find more time to participate in professional development programmes. Others proposed reducing workloads as a specific incentive for participation in online CPD.

Additional suggestions discussed choosing suitable and attractive topics, making training compulsory and requiring teachers to use computers for teaching and training purposes.

7.6   **Summary**

This chapter discussed the study's findings and compared them with the findings of related previous studies conducted on the field of using the ICT in education. This study agreed with prior studies that most teachers possess only basic computer skills. Female teachers, teachers who have more than 10 years of teaching experience, and teachers who have no experience in using computers have the greatest need for opportunities to improve their technological competence. Lack of accessibility (including the Internet access at homes and schools) also prevents teachers from improving their computer and Internet abilities.

This study's findings also agreed with most previous studies that most teachers have positive attitudes towards the technology. In line with some prior studies and according to this study, teaching qualifications and experience did not influence teachers' attitudes towards online CPD, whereas experience in using computers, experience in accessing the Internet, availability of computers at home and school, availability of the Internet access at home and school, and previous participation in online programmes did significantly affect teachers' attitudes towards online CPD.

Regarding the barriers that influence teachers' participation in online CPD, this study revealed that, in Saudi Arabia, the top three barriers are lack of sufficient Internet service, lack of incentives, and lack of technical support.

Teachers offered some suggestions for attracting their peers to participate in online CPD.

This leads us to discussing this study's contribution. It is worth noting that none of the previous works studied the attitudes of teachers towards online CPD, the barriers that hinder the implementation of such programmes. Additionally, none of the previous studies focus on the differences among teachers' attitudes, aptitude, perception of barriers of implementation of online CPD, and other independent variables, such as gender, experience in teaching, and using computers and the Internet, availability of computers and the Internet, and prior experience in online training. Accordingly, there is a clear, nationally and internationally gap in the literature on this point, and the present study hopes to fill this gap in the national and international literature of online CPD.

It is also worth noting that the majority of previous studies on online education in Saudi Arabia focus on the content of the higher education level. Therefore, online education in the k-12 level still needs more research to explore the reality of its situation. Some researchers attribute this shortage on the brief history of this type of education in Saudi Arabia (Aloyaid, 2009).

Equally important, although Islamic education in Saudi Arabia, like other Islamic countries, has a special importance due to the large population of Islamic education teachers in contact with teachers of other subjects, none of the previous studies that had been carried out were based on a sample of Islamic education teachers.

The following chapter concludes this thesis by presenting the study's summary, principle findings, contributions, limitations, implications and recommendations.

8. Conclusion and Recommendation

8.1   Introduction

The purpose of this study is to investigate whether Islamic education teachers in the Asir region of Saudi Arabia are ready to benefit from the Internet in developing their teaching skills and knowledge. This goal required exploring teachers' computer competencies, their attitudes towards using the Internet for professional development purposes, the barriers that hinder their participation in such training, and their suggestions for encouraging teachers to benefit from this tool in equip their teaching.

This chapter reviews the research aims and describes the instruments, sample, and data collection in section 2. Section 3 summarises the answers to the research questions. In section 4 the contributions and limitations of this study are presented. Section 5 discuses this study implication for policy-making and understanding the field. Section 6 recommends and suggests several areas for future research while the final section summarise the chapter.

8.2   Aims, Participants and Data Collection

This section consists of two subsections; the study's aims are considered in subsection 8.2.1, and its instruments, sample and data collection are presented in subsection 8.2.2.

8.2.1   Aims of the Study

As mentioned above, this study explored the extent to which Islamic education teachers in Saudi Arabia are ready to benefit from the Internet as a medium for delivering CPD. Specifically, the study endeavoured to accomplish these tasks:

- Measure Islamic education teachers' current levels of computer and Internet competency for academic purposes
- Explore the attitudes of Islamic education teachers towards online

professional development programmes

- Explore the major barriers that prevent teachers from participating in online CPD
- Gain an in-depth understanding of Islamic education teachers' perceptions of online CPD programmes and how to overcome any barriers that might hinder teachers' participation in such training and make these programmes more effective and inspiring
- Provide a holistic theoretical framework for teachers' professional development in Saudi Arabia in order to fill the gaps in national literature.

Four main research questions, followed by 15 secondary research questions, were designed to accomplish those aims. Data were gathered by a questionnaire survey and by semi-structured interviews to answer the research questions.

8.2.2 **Participants and data collection**

Participants (N = 768) in the main instruments of this study were Islamic education teachers; 47.8% of them (n = 367) were female, and 52.2% (n= 401) were male. The follow-up interviews examined 23 teachers (11 male and 12 female). All participants worked in state schools in the Asir region of Saudi Arabia. The data were collected from those participants' responses to a five-part survey (see Appendix 3). The first part solicited demographic information. The second part (10 items) measured teachers' experience with computers and the Internet. The third part (25 items) measured the attitudes of Islamic education teachers towards online CPD. The fourth part (15 items) explored the major barriers that might affect teachers' participation in online CPD. The fifth part (open-ended question) identified the participants' suggestions of methods that should be followed in order to encourage teachers to participate in online CPD.

8.3   **Main findings**

As stated earlier, this study answers four main research questions and fifteen secondary questions. Those questions and their main findings are presented in this section.

The first research question asked:

- *Do male Islamic education teachers have the competency to use computers for professional development purposes?*

This question was followed by some secondary questions.

(a)   Do Islamic education male teachers have the competency to use computers for professional development purposes?

The results of this study revealed that overall, Islamic education male teachers have the aptitude to use computers for professional development purposes on a beginner level. In addition, most teachers have no experience with learning and management systems such as Blackboard and WebCT, and they have no experience in Web designing. Nevertheless, they are generally competent with general computer usages such as email and Web searching.

(b)   Do Islamic education female teachers have the competency to use computers for professional development purposes?

According to this study's findings, the majority of female Islamic education teachers can use computers and the Internet for professional development at a beginner level. However, they have the competency to conduct general computer tasks at an intermediate level. They generally lack any experience in video and audio programmes, Web designing, and learning and management systems.

(c)   Do Islamic education teachers have the competency to use computers for professional development purposes?

This study's findings, obtained from both questionnaires and interviews, revealed that Islamic Education teachers can use computers and the Internet for professional development at a beginner level but they generally lack any experience in Web designing, and learning and management systems.

(d) Are there any significant differences in male and female teachers' competency to use computers?

A correlation between teachers' computer and Internet competences and their genders was examined in this study. An independent sample *t* test found a significant correlation, at a p<0.01 level of significance. Female teachers have less competence in computer use, in general, than male teachers.

(e) Are there any significant differences in their aptitude to use computers for professional development in relation to other variables?

Correlations between teachers' computer competency and seven independent variables were examined. The independent variables were teaching qualifications, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of Internet access, and previous participation. The study results showed that all independent variables have significant influences on teachers' competency to use computers and the Internet.

The second main research question asks:

- *What are the Islamic education teachers' attitudes towards online CPD programmes?*

This question was investigated through some secondary questions.

(a) What are the Islamic education male teachers' attitudes towards online CPD programmes?

This study's findings, obtained from both questionnaires and interviews, revealed that male teachers have generally positive attitudes towards online CPD. Male teachers were best motivated by the ideas that "online CPD will give more opportunities to train more teachers at the same time," that "the use of audiovisual material in online CPD will improve teachers' training," and that "online CPD will encourage teachers to collaborate and share ideas."

(b)   What are the Islamic education female teachers' attitudes towards online CPD programmes?

The *t* test results confirmed that female teachers also have positive attitudes towards online CPD programmes. The strongest positive attitudes regarded these items: "Online CPD will encourage teachers to collaborate and share ideas"; "online CPD will give more opportunities to train more teachers at the same time"; "online CPD programmes will help to reduce the problem of overcrowding in training centres."

(c)   What are the Islamic education teachers' overall attitudes towards online CPD programmes?

The overall attitude of education teachers towards online CPD programmes was positive. Teachers believed that "online CPD will give more opportunities to train more teachers at the same time," that "online CPD will encourage teachers to collaborate and share ideas," and that "online CPD programmes will help to reduce the problem of overcrowding in training centres." In addition, the majority of interviewed teachers preferred to be trained through online CPD programmes.

(d)   Are there any significant differences between male and female teachers' attitudes towards online CPD programmes?

The *t* test results confirmed that there is a significant difference between male and female teachers' attitudes towards online CPD; female teachers' attitudes are generally more positive than male teachers' attitudes.

(e)   Are there any significant differences among teachers' attitudes towards online CPD programmes in relation to other variables?

Studying the potential correlations between this study's independent variables and teachers' attitudes found no significant differences in teachers' attitudes towards online CPD in relation to their qualification and experience in teaching. However, experience in using computers, experience in accessing the Internet, availability of computers at home and at school, availability of Internet access at home and at school, and previous participation in online programmes significantly affected

teachers' attitudes towards online CPD.

The third primary research question asked,

- *What are the major barriers that affect teachers' participation in online CPD?*

This question was followed by some secondary questions.

(a)   What are the major barriers that affect teachers' participation in online CPD, according to male teachers?

Part five of the questionnaire addressed this question through 15 items. The male Islamic education teachers agreed that some barriers prevent participation in online CPD. These barriers were ordered from highest to lowest mean scores. The top 5 barriers were lack of good Internet service at schools, lack of incentives to participate, lack of technical support, lack of required equipment, and low teacher experience in using computers.

(b)   What are the major barriers that affect teachers' participation in online CPD, according to female teachers?

In response to the same items, female Islamic education teachers agreed that some barriers hinder teachers' participation in online CPD. The top 5 barriers, according to female teachers, were lack of good Internet service in schools, lack of the technical support, low teacher experience in using computers, lack of incentives to participate, and insufficient available hardware.

(c)   What are the major barriers that affect teachers' participation in online CPD, according to teachers in general?

Overall, Islamic education teachers ranked the top 5 barriers to teachers' participation in online CPD in this order: lack of good Internet service in schools, lack of incentives to participate, lack of technical support, low teacher experience in using computers, and insufficient available hardware. Through the interviews, teachers mentioned some other barriers, such as teachers' insufficient English

language competency, the high cost of computer equipment, the lack of obligation from the Ministry of Education to let teachers use computers, and head teachers' or/and supervisors' negative attitudes towards online training.

(d) Are there any significant differences between male and female teachers' views of the barriers that affect participation in online CPD?

Comparisons between the opinions of male and female Islamic education teachers regarding the major barriers that hinder teachers' participation in online CPD were conducted by an independent sample *t* test. This test revealed no significant differences between male and female opinions of those barriers.

(e) Are there any significant differences among teachers' views of the barriers to participation, in relation to other variables?

Correlations between teachers' opinions of the barriers that might affect teachers' participation on online CPD and the seven independent variables of this study, qualification, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of the internet and previous participation, ware were examined by an independent sample test and a one-way ANOVA. The results confirmed that none of these independent variables cause significant differences in teachers' opinions.

The fourth main research question asks,

- *What are the major incentives that would encourage teachers to participate in online CPD?*

An analysis of both qualitative and quantitative data revealed that teachers support offering intensive training for teachers, with special consideration for teachers who have no experience and those who have many years' experience in teaching. This training, which should educate teachers to use computers and the Internet, should be offered before teachers are invited to participate in online CPD. Moreover, schools should maintain the required equipments, educate teachers about the importance of the Internet in developing teaching practice, provide incentives for

teacher participation, facilitate affordable Internet access, and offer technical support; these changes might encourage teachers to participate in such programmes.

8.4 Contributions and Limitations
8.4.1 Contributions of this Study

There are two subsections under this section; contribution to the body of knowledge in the field and methodological contributions.

Contribution to the body of knowledge in the field

The findings of this study can be used to make several significant contributions not only to Saudi education but also worldwide. One of the primary contributions of this study is that it is the first attempt, to the best of my knowledge, to explore the religious education teachers' competencies in using a computer to improve their professional development. It also analyzed their attitudes toward online CPD. Moreover, this study revealed a number of factors that might affect their attitudes toward training. To be specific, it is expected that the findings of this study will provide valuable information to policy makers in Islamic countries in particular and in other countries where religious education is applied. The findings of this study will offer them with a clearer image of teachers' competencies in using the ICT for professional development, which might guide them to plan, design, and establish an appropriate online CPD for this group of teachers.

The study reveals significant data about teachers' attitudes towards online CPD. Bradley (1991) is just one example of the many researchers who asserted that discovering teachers' attitudes toward any training programme is a vital step before any application is attempted. As teachers' attitudes impact the completion and implementation of a professional development task, this study makes a contribution by identifying not only teachers' attitudes towards online CPD but also reveals the attitudes of males and females. It also uncovers the factors that influence their attitudes toward online CPD.

New information is provided regarding the correlation between teachers' attitudes and their competencies in using computers for professional development purposes

and some variables such as qualifications, teaching experience, level of experience in using a computer, the place where they usually use the computer, the place where they usually access the Internet, and their prior online training experience. Exploring these correlations is very helpful to assure that the online CPD meets the variety of teachers' needs and aims.

The study makes a considerable contribution to the body of knowledge in the field of online teachers' CPD, in particular in Saudi Arabia, and it will fill the gap in the literature in this field and open the door for more research in using modern technology for teachers' professional development in the future.

In addition, studying gender influences and differences makes this research unique. This research explored the important differences among teachers' competencies and attitudes toward online CPD that were due to their genders and their views of the barriers that might hinder online CPD implementation. The study concluded that female teachers in Saudi Arabia were not at the same level of readiness as males to benefit from modern technology in the development of their knowledge and skills in teaching. Accordingly, the present study confirmed that "one size fits all" would not work effectively in the Saudi context or any other similar context.

Another significant contribution comes from identifying the barriers that might influence teachers' participation in online CPD. Teachers were provided the opportunity to identify these barriers and make suggestions about overcoming them. Although some western studies tried to identify theses barriers, this study as attempt to make a significant contribution by exploring these barriers in the developing countries where there are different culture, different level of development life and different religious instructions.

The timing of this thesis is another strength; its topic is consistent with the Ministry of Education's goals for Saudi Arabia in the current stage of the development of public education. The Ministry is interested in introducing computer and Internet usage in all levels of education through the King Abdullah Project, which was launched recently.

Methodological contributions

This study used a mixed research methodology, namely quantitative and qualitative. The researcher used the questionnaire to gather more information about many aspects of the research problem and then conducted semi-structured interviews to get more details about the outcomes of the questionnaire. The use of this design helped the researcher to conduct an exploratory review that provided a clearer image and enriched the outcomes of the study. If this study were to be replicated, I would recommend using small discussion groups before designing the questionnaire. In that way, the researcher could easily find more up-to-date data to aid him or her in the design of the instruments. In the end, however, considering the time and effort required to do this, I decided to use as many instruments as I could.

Using different types of instruments, questionnaire and interview, and different types of data, quantitative and qualitative, are not the only methodological contributions of this study. This study used different ways of distributing and collecting the instrument. For instance, the researcher used three ways to distribute the questionnaire: online, posted, and hand delivered. In addition, he used online and face-to-face interviews. This increased the rate of participation as it met the requirements of participants. When teachers' competencies in using computers is being examined, it is strongly recommended that the researcher not depend completely on teachers' opinions in assessing their skills using the computer and the Internet, especially as their assessment may not be accurate. For a better assessment, the investigator should use another type of instrument, such as tests. This would increase the reliability and the validity of the outcomes.

It is not always necessary to use a large sample in order to make a valuable contribution. However, when investigating the overall attitude towards new phenomenon such as using the Internet as a medium to deliver professional development, surveying a large representative sample provides important data to decision makers. Therefore, this study surveyed more than 760 teachers, and the researcher interviewed 23 teachers. This makes the results more valuable for researchers and decision makers alike.

8.4.2   **Study Limitations**

This study has a number of possible limitations.

The teachers who participated in the study were chosen randomly from a sample of various schools in one region (the Asir region) in Saudi Arabia. Although I endeavoured to make this sample representative of all schools in Saudi Arabia by choosing randomly from various cities and villages in the Asir region, some unrepresented cities in Saudi Arabia have special religious or economic characteristics. Hence, generalizing this study's findings would need to be managed carefully.

The sample of this study was chosen among Islamic education teachers because of this subject's importance in Saudi Arabia, as mentioned in chapter 4, and because there is a huge number of Islamic education teachers population in Saudi Arabia. Additionally, the researcher has a relevant background in this subject. Accordingly, different results might be found if a similar study were conducted with a sample of teachers who taught other subjects.

Moreover, this study depended on teachers' own assessments to identify their levels of competence in using computers and the Internet. However, as for all studies, choosing different instruments (such as computer tests) may find other conclusions.

The study variables were limited to these seven: qualification, experience in teaching, experience in using computers, experience in using the Internet, place of computer use, availability of the Internet, and previous participation. If this study had included other variables (such as age ranges, stages of school, or institutes of graduation), that would be have added another dimension to the results. However, that would have required more resources and time than were available for this study.

There were additional difficulties faced by the researcher during the investigation due to the nature of the Saudi Arabian educational system. The primary difficulty was faced while gathering data from girls' schools; as mentioned in chapter 4, in Saudi Arabia, any direct communication between irrelative males and females

should not be conducted in person. Moreover, the majority of females do not allow males to record their voices because they believe that would violate their privacy. Accordingly, the researcher used email to send the interview questions to the female teachers. I found that sending all questions at once was rather ineffective; hence, I eventually settled on sending the interview questions one by one. I asked for clarifications or additional details when necessary.

8.5   **Implications**

In accordance with the findings of this study, there are several major implications that are significant to the decision makers and to the researchers, nationally and internationally, in the field of online CPD.

Implications for Decision Making

This study's results provide a clear image about the level of teachers' experience and skills in computer use. Most teachers have just basic information. The Ministry of Education in Saudi Arabia should pay more attention to increasing the opportunities of teachers to be trained in ICT use and put this issue on the top of its agenda.

The findings of this study confirmed that there is a significant difference between the computer use competencies of male and female teachers. This result is very important for online CPD providers in Saudi Arabia and might be beneficial to their counterparts in similar countries. As mentioned in Chapter 7, an online CPD programme should be designed for each gender that is compatible with their level of experience.

This study found that teachers' competencies in using computers was affected by their qualifications, teaching experience, level of experience in using a computer, the place where they usually use the computer, the place where they usually access the Internet, and their prior online training. Subsequently, decision makers should continue to encourage teachers to use the computer and the Internet to complete job tasks. In addition, the Ministry of Education should ensure that all schools have a

suitable access to the Internet and work cooperatively with the Internet service providers to assure the service is available for an affordable price.

In order to raise the rate of participation, the Ministry of Education should survey teachers attitudes toward any new training idea before the implementation. This study completed this step and revealed that teachers, male and female alike, have positive attitudes towards online CPD. Thus, the Ministry of Education can go ahead in providing this kind of training, which will sustain teachers' positive attitudes.

This study also indicated that teachers' attitudes toward online CPD were affected by their experience with using a computer and the Internet, the availability of computers at home and in schools, the availability of Internet access at home and in schools, and their previous participation in online CPD. Decision makers should pay more attention to these factors when they plan and provide online CPD for teachers. Identifying the factors that influence teachers' attitudes toward online CPD would help them promote activities that lead to positive attitudes and control those that lead to negative attitudes

Early investigation of barriers plays a central role in the successful adoption of any new programme, and the findings of this study indicated that there are some significant barriers that must be taken into account, such as the lack of good Internet service at schools, the lack of incentives that encourage participation, and the lack of technical support. The online CPD provider should make certain that all these barriers have been cleared before applying online CPD.

It would perhaps be beneficial for decision makers to know about suggested ideas to increase teacher participation in online CPD. This study revealed that teachers, who understand their own problems best, believed that offering more training for teachers, supplying the required equipment, educating teachers about the importance of the Internet in teachers' professional development, and providing incentives for teacher participation would encourage more teachers to engage in such training. The stakeholders should consider these suggestions.

Implications for Understanding the Field

As mentioned earlier, although many prior studies tried to investigate the reality of online learning, this is the first attempt to study the reality of online CPD when teachers act not as a sender of information like other studies but as a receiver of training or instruction.

The findings of this study were similar to those of a number of studies carried out in different cultures or different education systems (Cowan, 2006; Dakich, et al., 2008; Zhou & Xu, 2007). This study found clear evidence that teachers still need more efficient training to develop their skills and knowledge in computer use at all levels, regardless of cultural differences.

Although this study was conducted in a different cultural and educational context than many others, its findings are well-matched with studies conducted in the online education sector regarding teacher's attitudes toward online education (Al-Asmari, 2005; Alaugab, 2007; Alharbi, 2002; Aloyaid, 2009; Annetta, et al., 2008; Borko, 2004; Cowan, 2006). This might be interpreted to mean that teachers' attitudes toward online education are similar, in spite of the impact of cultural or education system differences.

There is an ongoing debate among educational policy makers in Saudi Arabia, and perhaps in other countries as well, about the differences among teachers' aptitudes and attitudes toward online education due to their gender. This debate is more pronounced in countries such as Saudi Arabia where there are different educational systems for males and females. Although the findings of this study disagree with those of Yung (2005) and Altowaijri (2004), the results of this study are similar to those of other researchers (e.g. Cowan (2006) and Dakich, et al. (2008)) who confirmed that there is a clear gender influence on teachers' attitudes and competencies related to computers.

8.6   Recommendations

In accordance with the results of this study, the researcher recommends the following actions.

8.6.1   Recommendations for Teachers

- Teachers should continue endeavouring to increase their skills and knowledge through independent technology use. This can be achieved by finding adequate time for training, whether inside or outside of school.
- Teachers should read about advantages of the Internet and of technology in general, particularly as they relate to education and teaching. This would help develop teachers' positive attitudes towards online CPD.
- Teachers should endeavour to overcome barriers that hinder their participation in professional development programmes.

8.6.2   Recommendations for the Ministry of Education

The following recommendations should be followed before the implementation of online CPD:

- The Ministry of Education should train teachers to use computers and the Internet for professional development through intensive courses that concentrate on vital technological skills. Female teachers and teachers who have many years' experience in teaching should be given special consideration.
- The Ministry should raise awareness of the importance of technology in general and of the Internet in particular, particularly as they relate to improving teachers' practices. More attention should be paid to the head teachers and supervisors, due to their significant influence on teachers' attitudes.
- The Ministry should continue to offer laptops for all teachers and should offer them affordable Internet service, at both their homes and their schools. This, according the results of this study, encourages teachers to engage on online CPD.

- The Ministry should reduce teachers' workloads, especially on training dates.
- The Ministry should maintain reliable technical support for each school as the absence of technical support would encourage teacher to participate in online CPD and also would be a barriers to continue any online programmes.

The following recommendations should be followed during and after the implementation of online CPD:

- The Ministry of Education should choose appropriate times for training.
- The Ministry should carefully choose topics that will interest teachers and that will enhance teachers' competence in teaching.
- The Ministry should choose the training supervisors/trainers carefully, selecting only well-qualified persons for this task.
- The Ministry should provide incentives for teachers who attend these programmes and should make attendance compulsory for all teachers.

8.6.3   Recommendations for further studies

The topic of professional development remains a nebulous area that requires additional studies, especially in developing countries. After conducting this research in one area of professional development, it is clear that some further research could increase the general understanding of professional development and could help stakeholders to plan, prepare, and apply successful online professional development programmes in the future. Along with the findings of this study, the researchers recommend the following ideas to future researchers:

- This study examined one region of Saudi Arabia (the Asir region); it would be beneficial to apply this study or a similar study to other regions and then to compare the results.
- An international comparative study could examine Islamic education teachers' perceptions of online CPD in Islamic countries other than Saudi Arabia.
- This study examined Islamic education teachers' perceptions. It would be beneficial to consider how teachers of other subjects view online CPD.

- This study revealed Islamic education teachers' perceptions. It would be beneficial to examine Islamic education supervisors' perceptions of online CPD.

- This study involved Islamic education teachers who worked as teachers at the time of conducting the study. It would be beneficial to study student teachers as well, comparing their perceptions of online CPD with the perceptions of fully certified teachers.

- This study was conducted as a survey research. It would be beneficial to conduct an experimental study to examine the effect of participation in online CPD on teachers' attitudes towards online CPD.

- A further study could examine the extent to which the content of current online CPD fulfils teachers' various needs.

- This study suggested using online CPD to develop teachers' abilities and skills in teaching. An additional study could investigate the effectiveness of other methods of online CPD, such as blended CPD or mobile CPD.

Significant questions are yet to be answered concerning technology's availability in the educational field and that availability's impact on teaching practices, student achievements, and teacher performances.

In a few words, more research is needed because of the dramatic increase in new technologies among educational populations.

8.7 Conclusion

Based on this study's findings, the following conclusions were drawn by the researcher.

- Both male and female Islamic education teachers have the competency to use computers and the Internet at a beginner's level.

- Male teachers were more competent than female teachers in using computers and the Internet for training purposes.

- Both male and female Islamic education teachers have positive attitudes towards online CPD.

- Female teachers' attitudes towards online CPD are more positive than male teachers' attitudes.

- Experience in using computers, experience in accessing the Internet, availability of computers at home and at school, availability of Internet access at home and at school, and previous participation in online programmes significantly affect teachers' attitudes towards online CPD.

- Many barriers should be considered prior to the implementation of online CPD. The most significant barriers are lack of adequate Internet service in schools, lack of incentives to participate, lack of technical support, low teacher experience in using computers, and insufficient available hardware.

- This study found no correlation between its independent variables and the teachers' views of barriers that hinder participation in online CPD.

- There are many ways to encourage teachers to participate in online CPD, such as training teachers to use computers and the Internet, supplying the requirements equipments for schools, educating teachers about the significant role of the Internet in teaching, and providing incentives for teachers.

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Appendixes

Appendix 1: Questionnaire Introductory Letter - English Version

Dear Colleague,

I'm Mohammed Albahiri, a PhD student at the Faculty of Education, University of Strathclyde, Glasgow, UK. Currently, I'm working in my PhD in Education with emphasis in Curricula Studies.

The attached questionnaire is a part of my thesis in the field of using the Internet for teacher professional development. I'm conducting this research to investigate Islamic Education teachers' aptitudes to benefit from online continuing professional development programmes, their attitudes toward online professional development Also, it will survey the major barriers that might affect teachers' participations in such programmes with invistgation teachers' suggestions to make such training effective

Some variables, such as teachers' gender, qualification, the number of full-time years of teaching experience, the number of years of their experience of using a computer, the availability of computers and the Internet, and prior online training experience will be examined to determine their impact on teachers' answers.

This questionnaire will take approximately 20 minutes to complete.

Although your participation is absolutely voluntary, I believe that it is very important for this study and will help to gain a deep understanding of the subject of this study. I ensure that all the information obtained from this study will not be used for any purposes but for the purposes of this research.

If you would like more information about this study or your participation, please do not hesitate to contact me by my email: Mohammed.Albahiri@strath.ac.uk

Thanks in advance for your cooperation.

Sincerely,

Mohammed Albahiri

Appendix 2: Questionnaire Introductory Letter - Arabic Version

<div dir="rtl">

بسم الله الرحمن الرحيم

الزميل العزيز

أقوم حالياً بدراسة الدكتوراه في تخصص المناهج وطرق التدريس بكلية التربية بجامعة ستراثيكلايد في جلاسكو — المملكة المتحدة.

الاستبيان المرفق هو جزء من رسالتي الدكتوراه في مجال استخدام الانترنت في التنمية المهنية للمعلمين في المملكة العربية السعودية ، يهدف البحث إلى استكشاف مدى استعداد معلمي التربية الإسلامية للاستفادة من برامج التنمية المهنية عبر الانترنت بالإضافة إلى الكشف عن اتجاهاتهم تجاه الانترنت كوسيلة لتوفير التنمية المهنية لهم ، كما سيقوم البحث باستقصاء المشكلات التي تحول دون اشتراك المعلمين في هذه البرامج مع رصد مقترحات المعلمين لتفعيل هذا النوع من التدريب

سيقوم البحث أيضا بالكشف عن تأثير بعض المتغيرات كالجنس والمؤهل والخبرة في التدريس والخبرة في استخدام الحاسب الآلي والتعامل مع الانترنت وتوفرهما للمعلم والخبرات السابقة في التدريب الالكتروني على إجابات المعلمين

إجابة هذا الاستبيان تستغرق منكم حوالي 20 دقيقة

رغم أن مشاركتكم في الإجابة عن هذا الاستبيان تعتبر تطوعا منكم إلا أنني متأكد أنها ذات أهمية كبرى للوصول إلى فهم أعمق لموضوع الدراسة ، كما أؤكد لكم أن جميع المعلومات التي تقدمونها لن تستخدم لغير أغراض هذه الدراسة.

إذا كنتم ترغبون في معرفة المزيد حول هذه الدراسة أو حول مشاركتكم ، لا تترددوا بالاتصال بي عبر البريد الالكتروني

<div dir="ltr">Mohammed.Albahiri@strath.ac.uk</div>

شكرا لكم - سلفا - على تعاونكم

أخوكم /

محمد البحيري

</div>

Appendix 3: The Questionnaire - English Version

PART 1: Demographic Information

For each item, please put (✓) beside the item that best fits your answer.

Gender		Qualification		Teaching Experience	
	Male		PhD		less than 5 years
	Female		MA		05-10 years
			Higher Diploma		11 or more
			BA		
			others		

Experience in using a Computer		Experience in accessing the Internet	
	No experience		No experience
	less than 5 years		less than 5 years
	05-10 years		05-10 years
	11 or more		11 or more

You can use computers at:		You can access the Internet at:	
	Home only		Home only
	School only		School only
	Both		Both
	Never		Never

Have/Did you participate in online CPD?	
	Yes
	No

PART 2: **Teachers' Experience in Using a Computer and the Internet**

For each statement, please put (✓) in the box that best describes your assessment by using this scale:

No experience	You do not have any experience in using a computer.
Beginner	You know only the basic skills.
Intermediate	You can do a lot of tasks by computer but you still need some help.
Expert	You can do all what you need by computer without any help.

No.	Items	No Experience	Beginner	Intermediate	Expert
1	General Computer Usage				
2	Microsoft Office *e.g., Word, PowerPoint , Excel, etc.*				
3	E-mail				
4	Computer Accessories *e.g. Flash Memory, Digital Camera , etc.*				
5	Internet Browsers *e.g. Internet Explorer, Netscape, Safari, etc.*				
6	Web Search Engines and Digital Libraries *e.g., Google, Yahoo, Eric, etc.*				
7	Web design *e.g. Dreamweaver, Front Page, etc.*				
8	Learning Management Systems *e.g. Blackboard, Moodle, WebCT, .etc*				
9	On-Line Communication Programmes *e.g. Messenger, Skype, .etc.*				
10	Video and Audio Programmes *e.g. Media Player, Real Player .etc*				

PART 3: Attitude toward using Online CPD

For each statement, please put (✓) in the box that best describes to what extent to you would agree or disagree with that statement by using this scale:

1= Strongly disagree, 2= Disagree, 3= Undecided, 4= Agree,5= Strongly agree

	Statements	SD	D	U	A	SD
1	Online CPD is more flexible than the traditional way.					
2	Online CPD programmes are an appropriate medium for transmitting educational training.					
3	I'm interested in implementing online CPD.					
4	I believe that using Online CPD will be more effective than the traditional way.					
5	The use of online CPD will facilitate my training.					
6	I believe that Saudi policymakers will support online CPD.					
7	I feel that my colleagues are very interested in participating in online CPD programmes.					
8	I have a desire to participate in online CPD programmes.					
9	I'm willing to participate in training about how to use the Internet for CPD.					
10	I believe that using online CPD will improve the quality of teacher CPD programmes.					
11	The Saudi educational environment is appropriate for online CPD.					
12	Online CPD will give teachers in remote areas more opportunities to development their skills.					
13	Online CPD will help me in my duties.					
14	Online CPD increases teacher motivation for development.					
15	Online CPD enables trainers to identify the individual teacher's needs.					
16	Online CPD is more accessible and quickly answers questions.					
17	Online CPD is more suitable for teachers with disabilities.					
18	Online CPD will provide more training opportunities for teachers.					
19	Online CPD will encourage teachers to collaborate and share ideas.					
20	Online CPD will work well with my school					

	Statements	SD	D	U	A	SD
	responsibilities.					
21	Online CPD programmes will help to reduce the problem of overcrowding in training centres.					
22	The use of audiovisual material in Online CPD will improve teachers' training.					
23	Online CPD will address problems of the lack of qualified trainers.					
24	Online CPD is appropriate for Saudi female teachers.					
25	Online CPD will give more opportunities to train more teachers at the same time.					

PART 4: Online CPD Implementation Obstacles

For each statement, please put (✓) in the box that best describes to what extent you agree or disagree with that statement, using this scale:

1= Strongly disagree, 2= Disagree, 3= Undecided, 4= Agree, 5= Strongly agree

	Items	SD	D	U	A	SA
1	Lack of the required equipment					
2	Low teacher experience in using computers					
3	Lack of self-motivation among teachers					
4	Lack of good Internet services at schools					
5	Cost of the Internet usage is expensive					
6	Lack of incentives to development					
7	Not enough available hardware					
8	Existence of some side effects of using the Internet					
9	A need to reduce the academic load					
10	Teachers need more confidence in using the Internet for professional development					
11	More technical support is needed					
12	Negative social attitude towards online professional development					
13	Internet service is not good enough					
14	There is no acceptable level of satisfaction among stakeholders towards online CPD					
15	Lack of awareness of the importance of online CPD					
	Others:…………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… …………………………………………………………………………………… ……………………………………………………………………………………					

PART 5: Teachers' suggestions

What ways should be used to make online CPD programmes effective and motivational?

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Thank you!

The researcher will conduct follow-up interviews and will be in need of your support to complete the study. If you are willing to participate in the follow-up interviews, please provide your name, address, phone number, and e-mail.

Name:

Address:

Phone Number:

E-mail:

Appendix 4: The Questionnaire - Arabic Version

القسم الأول : المعلومات العامة .

الرجاء وضع علامة (✓) أمام الخيار المناسب لك .

الخبرة في التدريس		المؤهل		العمل	
أقل من خمس سنوات		الدكتوراة		معلم	
من 5-10 سنوات		الماجستير		معلمة	
أكثر من 10 سنوات		دبلوم عال			
		بكالوريوس			
		أخرى			

الخبرة في استخدام الانترنت		الخبرة في استخدام الكمبيوتر	
لا يوجد خبرة		لا يوجد خبرة	
أقل من خمس سنوات		أقل من خمس سنوات	
من 5 – 10 سنوات		من 5 – 10 سنوات	
11 أو أكثر		11 أو أكثر	

تتوفر لك الانترنت في :		يتوفر لك الكمبيوتر في:	
البيت فقط		البيت فقط	
المدرسة فقط		المدرسة فقط	
فيهما معا		فيهما معا	
ليس في أي منهما		ليس في أي منهما	

هل شاركت في أي من برامج التنمية المهنية عبر الانترنت سابقا؟	
نعم	
لا	

القسم الثاني : مستوى خبرات المعلمين في استخدام الحاسوب والانترنت :

يرجى وضع علامة (✔) بما يصف مستواك في استخدام الحاسب في ضوء المعيار التالي :

لا يوجد خبرة : لا تجيد استخدامها

مبتدئ : تجيد أساسيات الاستخدام فقط

متوسط : تستطيع إجراء الكثير من المهام بواسطتها لكنك تحتاج مساعدة الآخرين في بعض الإجراءات.

متمكن : تستطيع إجراء كافة المهام دون الحاجة إلى مساعدة أحد .

م	العبارة	لا يوجد خبرة	مبتدئ	متوسط	متمكن
1	**الاستخدامات العامة للحاسوب**				
2	**حزمة برامج مايكروسوفت أوفيس** مثل: وورد، إكسل،بويربوينت ، أكسس ، ..الخ				
3	**البريد الاليكتروني**				
4	**ملحقات الحاسب الآلي** مثل: الذاكرة المتنقلة الكاميرا الخ				
5	**محركات البحث والمكتبات الرقمية** مثل: مثل قوقل ، ياهو ،الخ				
6	**برامج تصميم مواقع وصفحات الانترنت** مثل: الفرونت بيج ، الدريم ويفر ..الخ				
7	**برامج التعليم الالكتروني** مثل: بلاكبورد، مودل ، ويب ستي ...الخ				
8	**برامج استعراض صفحات الانترنت** مثل: اكسبلورر ، نت سكيب ، سفاري				
9	**برامج الاتصال عبر الانترنت** مثل: الماسنجر ، سكايبي، الخ				
10	**برامج الفيديو والصوتيات** مثل: ميديا بلير ، ريل بلير ، الخ				

القسم الثالث : اتجاهات المعلمين نحو استخدام التدريب الالكتروني عن طريق الانترنت .

يرجى وضع علامة (✔) بما يصف إلى أي مدى توافق أو لا توافق على كل جملة مما يلي باستخدام

المعيار التالي :

1. لا أوافق بشدة
2. لا أوافق
3. متردد
4. أوافق
5. أوافق بشدة

أوافق بشدة	أوافق	متردد	لا أوافق	لا اوافق بشدة	العبارة	
					التدريب عبر الانترنت أكثر مرونة من التدريب التقليدي	1
					التدريب عبر الانترنت وسيلة فاعلة لتدريب المعلمين	2
					أنا مهتم بتطبيق التدريب عبر الانترنت	3
					أعتقد أن التدريب عبر الانترنت أكثر جودة من التدريب التقليدي	4
					التدريب عبر الانترنت سيسهم في تسهيل تدريبي	5
					أعتقد أن مسؤولي التدريب سيشجعون التدريب عن طريق الانترنت	6
					أعتقد أن زملائي المعلمين سيرحبون بفكرة التدريب عبر الانترنت	7
					ليس لدي الرغبة حاليا للتدرب عن طريق الانترنت	8
					أنا مستعد للتدريب حول كيفية الاستفادة من التدريب عبر الانترنت	9
					أعتقد أن التدريب عبر الانترنت سيسهم في جودة محتوى الدورات التدريبية	10
					أعتقد أن البيئة التربوية في السعودية مهيئة لتطبيق التدريب عبر الانترنت للمعلمين	11
					التدريب عبر الانترنت سيسهم في تقديم التدريب لمعلمي المناطق النائية	12
					التدريب عبر الانترنت يساعدني في أداء واجباتي الوظيفية	13
					التدريب عبر الانترنت يقدم تدريبا أكثر جودة من التدريب التقليدي	14
					التدريب عبر الانترنت يزيد من حماس المتدرب للبرنامج	15
					التدريب عبر الانترنت يمكن المدربين من تحديد الاحتياجات الفردية التدريبية للمتدربين	16
					التدريب عبر الانترنت يوفر سرعة الاجابة على تساؤلات المتدربين	17

					العبارة	م
					التدريب عبر الانترنت مناسب للمعلمين ذوي الاحتياجات الخاصة	18
					التدريب عبر الانترنت يوفر للمعلمين خيارات أكثر من التدريب التقليدي	19
					التدريب عبر الانترنت يشجع المعلمين على تبادل الأفكار الناجحة	20
					التدريب عبر الانترنت مناسب للمعلمين الذي لديهم التزامات خارج وقت الدوام	21
					التدريب عبرالانترنت يساعد على التغلب على مشكلة قلة مقاعد التدريب في مراكز التدريب	22
					استخدام الصوت والفيديو في التدريب عبر الانترنت يجعله أكثر تأثيرا من التدريب التقليدي	23
					التدريب عبر الانترنت سيحل مشكلة قلة المدربين المؤهلين	24
					التدريب عبر الانترنت مناسب للمعلمة السعودية	25
					التدريب عبر الانترنت سيعطي الفرصة لتدريب عدد أكبر من المعلمين في نفس الوقت	26

القسم الرابع : معوقات التدريب الاليكتروني عبر الانترنت

يرجى وضع علامة (✔) بما يصف إلى أي مدى توافق أو لا توافق على وجود معوقات التدريب الالكتروني المذكورة في كل جملة مما يلي باستخدام المعيار التالي :

1. لا أوافق بشدة
2. لا أوافق
3. متردد
4. أوافق
5. أوافق بشدة

أوافق بشدة	أوافق	متردد	لا أوافق	لا اوافق بشدة	المعوقات	
					نقص التجهيزات الطلوبة للتدريب عبر الانترنت	1
					قلة خبرة المعلمين في استخدام الانترنت	2
					ضعف الدافع الذاتي للتدريب من قبل المعلمين	3
					خدمة الانترنت المناسبة غير متوفرة في المدارس	4
					تكلفة استخدام الانترنت مرتفعة	5
					قلة الحوافز لحضور الدورات عموما	6
					أجهزة الحاسب غير متوفرة بالمدارس	7
					الأضرار الصحية المترتبة على التدريب عبر الانترنت	8
					العبء الوظيفي يحول دون وجود وقت مناسب للتدريب	9
					عدم الثقة بالنفس يحد من استخدام التدريب عبر الانترنت	10
					وجود حاجة لدعم فني أكثر للمدارس	11
					النظرة الاجتماعية السلبية للتدريب عبر الانترنت	12
					خدمة الانترنت لا تزال دون المستوى المطلوب	13
					عدم قناعة مسؤولي التدريب بالتدريب عبر الانترنت	14
					قلة الوعي بأهمية التنمية المهنية عبر الانترنت لدى لمعلمين	15
					أخرى..	
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القسم الخامس : مقترحات لتفعيل التدريب عبر الانترنت .

ما المقترحات التي ترى أنها قد تساعد على جعل التدريب عن طريق الانترنت أكثر فاعلية وتأثيراً ؟

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شكرا لك

سيقوم الباحث بعمل مقابلات ويحتاج مشاركتكم ودعمكم لإكمال هذه الدراسة ، إذا كنت لا تمانع من المشاركة في هذه المقابلات فيرجى كتابة اسمك ، عنوانك ، رقم هاتفك وإيميلك أدناه

الاسم :

العنوان :

الهاتف:

الايميل:

Semi structure Interview

- ❖ Introduction
- ❖ Thank respondents for their time
- ❖ Mention the nature and importance of the research
- ❖ Assure interviewee of absolute confidentiality

(1) Background Information:

Code: …………..…………………………….Gender: □F   □M

Teaching Experience: □ Less than 5 Years □5-10 Years   □More than 10

Experience in using the Internet:

□ No exp.   □Less than 5 Years   □5-10 Years   □More than 10

Prior online training experience: □Yes   □No

(2) Interview Questions:

[The following question is just a guide to possible questions. As semi structure interview, researcher may be prepared questions or questions that occur to him during the interview. The wording of questions will not necessarily be the same for all respondents.]

Research aim	Questions
Measuring the current Islamic education teachers' levels of competency to use the computer and Internet for academic purposes	How do you see your aptitude to use the Internet for professional development ?
	Do you think that the Islamic education are competent to use the Internet for professional development?
	Did/do you participate in an online CPD such as the Ministry of Education's forum or any online training?
	[ ] Yes. Please tell how did/do you find it?
	[ ] No. Please tell why.
Exploring the attitudes of Islamic education teachers towards online professional development programmes	Do you think that there is a clear Internet influence on the educational population in Saudi Arabia?
	Do you think teachers benefit and equip their skills and knowledge by Internet?
	If yes, describe how? If No, describe why?
	- How do you compare the online CPD with the

	traditional way?
Explore the major barriers that prevent teachers from participating in online CPD	What are the problems that influence teachers participation in online CPD? What are difficulties and problems that might be associated with online CPD programmes implementation?
Gaining an in-depth understanding of how to make these programmes more effective and inspiring	What do you think is the best way to encourage teachers to participate in online CPD programmes?

المقابلة

- المقدمة
- شكر المشارك
- توضيح طبيعة وأهمية الدراسة
- التأكيد على سرية جميع معلومات المقابلة

(1) المعلومات العامة:

الرمز : .... جنس المشارك: ☐ ذكر ☐ أنثى

الخبرة في التدريس : ☐ أقل من خمس سنوات ☐ من 5-10 ☐أكثر من 10 سنوات

الخبرة في استخدام الانترنت : ☐ لا يوجد خبرة ☐ اقل من خمس سنوات

☐ من 5-10 ☐أكثر من 10 سنوات

المشاركات السابقة في برامج التنمية المهنية عبر الانترنت : ☐ نعم ☐ لا

(2) أسئلة المقابلة :
(الأسئلة التالية هي مجرد دليل للأسئلة المحتملة ، سيقوم الباحث بطرح سؤال أو عدد من الأسئلة التي ستظهر الحاجة لها أثناء المقابلة ، كلمات الأسئلة أيضا ليس بالضرورة أن تكون متطابقة لجميع المشاركين)

الهدف	السؤال
قياس مستوى خبرات المعلمين في استخدام الحاسب والانترنت لأغراض التنمية المهنية	كيف ترى قدراتك في استخدام الحاسب والانترنت لأغراض التنمية المهنية ؟ هل تعتقد أن معلمي التربية الإسلامية مؤهلين لاستخدام الحاسب والانترنت للتنمية المهنية هل تشارك أو شاركت في برامج للتطوير المهني عبر الانترنت
اكتشاف اتجاهات المعلمين نحو التدريب عبر الانترنت	هل تعتقد أن هناك تأثير للانترنت في المجتمع التربوي السعودي ؟ هل تعتقد أن المعلمين يستفيدون من الانترنت لتطوير مهاراتهم ومعارفهم ؟ • نعم .. وضح إجابتك • لا .. علل إجابتك كيف تقارن بين التدريب عبر الانترنت والتدريب التقليدي؟

اكتشاف الصعوبات التي قد تحول دون مشاركة المعلمين في برامج التنمية المهنية عبر الانترنت	ما المشكلات التي تأثر على مشاركة المعلمين في برامج التنمية المهنية ما الصعوبات التي قد تظهر مع تطبيق برامج التنمية المهنية عبر الانترنت
معرفة العوامل التي ستساعد على جعل التدريب عبر الانترنت أكثر فاعليه وجذبا	ما افضل الطرق التي ستساعد على جذب المعلمين للمشاركة في برامج التنمية المهنية عبر الانترنت ؟