

**Using A Community of Practice via a New Technology (Moodle) for
Continuing Professional Development in Saudi Arabia**

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Content of Thesis

Chapter One: Introduction

- 1.1 Introduction 10
- 1.2 The Aim of the Study and Research Questions 11
- 1.3 Methodological Approach 11
- 1.4 Significance of the Study 13
- 1.5 Overview of the Thesis 14

Chapter Two: Continuing Professional Development (CPD)

- 2.1 Introduction 16
- 2.2 Definitions of Continuing Professional Development (CPD) 16
- 2.3 Significance of CPD 18
- 2.4 Objectives of CPD 20
- 2.5 Forms of CPD and Types of CPD Activity 20
- 2.6 Effectiveness of CPD 23
- 2.7 Limitations to Teachers' Participation in CPD Activities 25
- 2.8 Evaluation of CPD Activities 25

Chapter Three: Community of Practice (CoP)

- 3.1 Introduction 30
- 3.2 Concept of a CoP 30
- 3.3 The Learning Process within CoPs 35
- 3.4 The Benefits of a CoP in Respect of CPD 40
- 3.5 The Potential for an OCoP 43
- 3.6 Conclusion 45

Chapter Four: The Study Setting – The Kingdom of Saudi Arabia

- 4.1 Introduction 47
- 4.2 Saudi Arabia: Background 47
- 4.3 Educational System 48
- 4.4 Policies and Aims of the Ministry of Education 50
- 4.5 Teacher Training in Saudi Arabia 52
- 4.6 The Educational Context of ICT 54
- 4.7 Using Online Training Courses 57

Chapter Five: Methodology

• 5.1 Introduction	59
• 5.2 Qualitative Method	60
• 5.3 Case Study	62
• 5.4 Analysis of Data	72
• 5.5 The Role of the Researcher	76
• 5.6 Ethics	77
• 5.7 Establishing Validity and Reliability	78
• 5.8 Limitations of the Study	80

Chapter Six: Findings (Five cases)

• 6.1 Introduction	84
• 6.2 First case: Mahmoud	85
• 6.3 Second case: Atta	106
• 6.4 Third case: Ahmed	124
• 6.5 Fourth case: Aman	140
• 6.6 Fifth case: Eaad	152

Chapter Seven: Common Themes

• 7.1 Introduction	164
• 7.2 Changing Practice	164
• 7.3 Solving Problems	171
• 7.4 The Impact of Trust on Teachers' Participation	175
• 7.5 The Impact of Ownership and Belonging on Teachers' Participation	182
• 7.6 The impact of the OCoP in Continuing Professional Development	187
• 7.7 The Impact of the OCoP in Building Professional Relationships	193
• 7.8 The OCoP as a Preferred Method of CPD	196
• 7.9 The Impact of the OCoP in the Improvement of Reflection	200

Chapter Eight: Discussion of Themes Relating to the Research Questions

• 8.1 Introduction	206
• 8.2 Research Question 1: How far does an OCoP contribute to improve teachers' practices?	207
• 8.3 Research Question 2: How far can an OCoP assist teachers to solve the problems they face in the real world?	211
• 8.4 Research Question 3: What do teachers see as the differences between CPD in Training Centres and CPD through an OCoP ?	215

- 8.5 Research Question 4: What is the potential for an OCoP being used to strengthen the professional relationship among teachers? 218
- 8.6 Relevance of the Findings to the Literature 220

Chapter Nine: Conclusion

- 9.1 Introduction 229
- 9.2 Conclusion 229
- 9.3 Implications of the Study Findings and Recommendations 230
- 9.4 Contribution to Knowledge 233
- 9.5 Methodological Contribution 236
- 9.5 Possibilities for Further Research 237
- 9.6 Last Thoughts 238

References 240

Appendixes 255

Abstract

Given the spread of the implementation of Online Communities of Practice (OCoP) as a new approach to organisational learning in the context of continuing professional development (CPD) programmes in some countries such as the UK, USA and Australia, this study conducts a trial in which the OCoP is introduced for this purpose in Saudi Arabia.

The aim of the study is to establish the potential of the OCoP to function as an approach to CPD, and how such a mechanism can be adopted in the Saudi context to have an impact upon teachers' professional performance and development. I designed the OCoP and the sample was composed of 14 male teachers of ICT in secondary schools located in five different cities in Saudi Arabia. The teachers interacted with each other in the OCoP, discussing eight subjects that they chose for themselves. In order to explore the operation and outcomes of the OCoP, I used qualitative methods, in particular semi-structured interviews, classroom observation of a sample of teachers, and observation and monitoring of teachers' interaction within the OCoP over a three-month period.

The overall findings show the positive impact of adopting an OCoP in CPD programmes. They reveal that some teachers change their practice and improve their levels of reflection. Additionally, the findings show significant differences between the levels of contribution made by teachers in the OCoP compared with their participation and engagement in other general online communities and in training courses attended in the country's Training Centres. Furthermore, the study points to the importance of commitment and internal motivation among teachers in the context of the OCoP since without this, the overall aims of the Community cannot be achieved. The study also raises critical issues concerning the psychological aspects of teachers' professional development, specifically the need to allow teachers more autonomy in determining their professional needs, and the requirement for trust to be built among teachers since the presence of such autonomy and trust promotes greater engagement in the CPD process.

As a result of the trial OCoP, several avenues for further research are suggested in order to gain a deeper understanding of the potential of OCoPs in the educational field.

Declaration

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List of tables and figures:

Table	Page
Table No 3.1: Differences between a CoP and Other Forms of Community	36
Table No 4.2: Summary of phases and indicators	39
Table No 4.3 Number of Schools, Classes, Students, and Teachers in Public Education in Saudi Arabia 2010-2011	51
Table No 5.1: Demographic Information Concerning the Participants in the OCoP	66
Table No 5.2: Data Collection Techniques and Sources	69
Table No 5.3: Six-phase Guide to Conducting Thematic Analysis	75
Table No 5.4 Demonstration of Coding - Theme: Practice	76
Table No 6.3: Mahmoud's contributions	93
Table No 6.4: Initial details for the observation event for Mahmoud	97
Table No 6.5: Explain teaching strategies used by Mahmoud (First Observation)	97
Table No 6.6: Explain teaching strategies used by Mahmoud (Second Observation)	99
Table No 6.7: Explain lesson plan used by Mahmoud (First Observation)	100
Table No 6.8: Explain lesson plan used by Mahmoud (Second Observation)	101
Table No 6.9: Explain using educational resource by Mahmoud (First Observation)	102
Table No 6.10: Explain using educational resource by Mahmoud (Second Observation)	103
Table No 6.11: Atta's contributions	112
Table No 6.12: Initial details for the observation event for Atta	116
Table No 6.13: Explain teaching strategies used by Atta (First Observation)	116
Table No 6.14: Explain teaching strategies used by Atta (Second Observation)	117
Table No 6.15: Explain teaching strategies used by Atta (Third Observation)	118

Table No 6.16: explain lesson plan used by Atta (First Observation)	119
Table No 6.17: explain lesson plan used by Atta (Second Observation)	119
Table No 6.18: explain using educational resource by Atta (First Observation)	120
Table No 6.19: explain using educational resource used by Atta (Second Observation)	121
Table No 6.20: explain using educational resource used by Atta (Third Observation)	122
Table No 6.21: Ahmed's contributions	134
Table No 6.22: Aman's Contributions	146
Table No 6.23: Eaad's contributions	155
Table No 7.1: Subject of Discussion in the OCoP	171
Table No 7.2: Diversity of Topics in the OCoP	172
Table No 7.3: Level of teachers' involvement and engagement in the OCoP compared with other Online Communities	177
Table No 7.4: Authentic Issues within the Community	182
Table No 7.5: Time Spent by Individual Teachers in the OCoP	185
Table No 7.6: collaborative CPD that teachers attended (2009-2011)	189
Table No 7.7: Frequency of Visits to OCs	191
Table No 7.8: Demographic Details of the OCoP Members	196
Table No 7.9: Difference in Teachers' Attendance – OCoP and Training Centres	198
Table No 7.10: Teachers' Opinions on CPD in the OCoP and in Training Centres	199
Figure No 3.2: Learning Architecture: Three Infrastructures for Learning	42
Figure No 4.1: Saudi Arabia's Administrative Divisions	50
Figure No 8.2: Suggested Model for CPD via OCoPs in Saudi Arabia	232

Abbreviations

CMC	Computer-mediated Communication
CoP	Community of Practice
CPD	Continuous Professional Development
GTCE	General Teaching Council for England
ICT	Information and Communications Technology
MoE	Ministry of Education
NCEL	National Centre for e-learning and Distance Learning
OC	Online Community (electronic forum)
OCoP	Online Community of Practice
PD	Professional Development
TDA	Training Development Agency
HEI	Higher Education Institute
SDL	Self-Directed Learning

Chapter One: Introduction

1.1 Introduction

The study reported in this thesis concerns the adoption of an online community of practice (OCoP) in the Kingdom of Saudi Arabia. The main aim of conducting this experiment in the Saudi context is to establish the potential of the OCoP to function as a source of continuing professional development (CPD) by providing the basis for teachers' sustained interaction with colleagues, thereby promoting the opportunities for them to share knowledge, and exchange experiences. Communities of Practice have been shown to be successful in the educational field (Barab and Duffy, 2000; Riel and Polin, 2001), as evident by the increase in the number of such communities, which provide teachers with guidance, support and inspiration (Cornu, 2004; Matei, 2005). Examples are the MirandaNet (<http://www.mirandanet.ac.uk/>), the Australian Flexible Learning Community (<http://community.flexiblelearning.net.au/>), and Webheads in Action (<http://webheadsinaction.org/>). Their emergence has been in response to many studies that indicate traditional professional development (PD) programmes as being ineffective, due to their failure to provide sufficient time, their use of external trainers, and their inability to meet teachers' real needs. In this respect, Garet et al (2001:920) observe that "[a]lthough traditional forms of professional development are quite common, they are widely criticized as being ineffective in providing teachers with sufficient time, activities, and content necessary for increasing teachers' knowledge and fostering meaningful changes in their classroom practice".

However, my personal experience as an employee within the Saudi Ministry of Education (MoE) is that in the Saudi context, the traditional method of CPD is still used, and in that model, teachers attend CPD programmes that are conducted by external trainers. Only relatively recently, has the MoE decided to implement a new development project to explore the usefulness of OCoPs (Tatweer, MoE, 2009). There is no existing literature to support the MoE in this matter, and consequently, this study will produce important information which will help in determining the possibility of adopting the OCoP as a new method of CPD for teachers in Saudi Arabia.

1.2 The Aim of the Study and Research Questions

As indicated, having explored the literature, and especially academic journals such as the Journal of Community Practice, Educational Technology Research and Development, and Journal of Distance Education, to discover whether any research about CoPs in Saudi Arabia had been undertaken, I found nothing at all. The aim of the study is, therefore, to develop a strong theoretical understanding of how CoPs might be used in CPD and of how such a mechanism can be adopted in the Saudi context. Additionally, it intends to illustrate the difference between a physical community and an online community of practice (OCoP). Thus, this study seeks to present the benefits of adopting an OCoP as an informal CPD mechanism which gives teachers the opportunity to interact with colleagues in the same subject area in contrast to what is provided by formal CPD in training institutions or universities which is limited in this respect. The study entails exploring issues such as whether an OCoP can provide meaningful learning opportunities for its members, and what impacts such opportunities might have on teachers. Specifically, four research questions are developed, as follows:

- 1. How far does an OCoP contribute to improve teachers' practices?**
- 2. How far can an OCoP assist teachers to solve the problems they face in the real world?**
- 3. What do teachers see as the differences between CPD in Training Centres and CPD through an OCoP?**
- 4. What is the potential for an OCoP being used to strengthen the professional relationship among teachers?**

1.3 Methodological Approach

In order to answer these research questions, an OCoP is established and teachers invited to participate in designing its content such that it meets their professional needs (see Table 7.2). The reason for involving teachers in this way is that whilst the old adage "if you build they will come" implies teachers will indeed come, there is no guarantee that having done so they will actually interact or contribute (see Table 7.3) as becomes

clear in the study when a comparison is made between the trial OCoP and other online communities of which the teachers are already members. The belief that as adults, teachers should be given the opportunity to be responsible for their PD underpins the character of the OCoP, since it is accepted that such an approach encourages them to be more involved and hence, to realise more benefit (Knowles et al, 1998; Mariam, 2002).

The study adopts the predominantly qualitative paradigm using an exploratory case study design. This approach is chosen, as is explained in detail in Chapter Five, because in order to achieve the study's aim, it is necessary to discover what the participants think and how they behave in the precise context of the trial OCoP (Creswell, 2009; Robson, 2002). Additionally, given the dearth of literature concerning the use of OCoPs in Saudi Arabia, it is necessary to observe and interpret the interaction of a relatively small number of teachers in a detailed manner, and a quantitative methodology would not allow that.

The OCoP is designed to provide a forum where the participating teachers can interact with their peers and share knowledge and experience. All members of the OCoP are selected on the basis of being ICT specialists. The data for the research are collected via three instruments as follows:

- Prior to the launch of the OCoP, semi-structured interviews are conducted with the 14 participating teachers;
- For a three month period (17th February - 10th April 2012) the teachers are given an opportunity to interact with each other via the OCoP and a record of their interactions is kept
- Three of the teachers are observed on three occasions, in their respective schools (nine observations in total);
- At the end of the OCoP, semi-structured interviews are conducted with the 14 participating teachers.

1.4 Significance of the Study

The significance of the study arises from its contribution to knowledge, and consequently, its contribution to the development of the teaching profession in Saudi Arabia. In particular, the significance can be seen as follows:

- 1- The literature reveals that Top-Down CPD programmes fail to achieve their aims because they are too short in length, and because the training is delivered by external trainers who have no real idea of teachers' needs (Corcoran, 1995; Boyle et al, 2005; Goodall et al, 2005). By experimenting with another CPD design, this study demonstrates that opportunities for systematic efforts that support teachers in their attempts to improve their teaching methodology and reflective practice, and to make better use of shared learning sources, are offered by the OCoP.
- 2- The study observes the outcome of a changed direction in the method of training, i.e. from the top-down approach adopted in traditional CPD courses, to a bottom-up approach in which teachers themselves develop the focus of development in a teacher-centred as opposed to a trainer-centred design.
- 3- The OCoP identifies the significance of giving teachers a high degree of professional autonomy; this is seen to encourage them to be more active in enhancing their own professionalism, which they can do by communicating with different professional communities worldwide.
- 4- The research illustrates that trust plays a very important factor in maintaining the interaction among teachers in the OCoP, and that it supports the creation of a homogenous group which in turn encourages members to become lifelong learners.
- 5- It is known through previous research (Ajaji, 2008) that there are weaknesses in CPD programmes that use technology in the KSA. Hence, the practical experiment conducted in this study provides valuable information for the Saudi MoE which intends to use technology to deliver teacher training programmes according to its new development project (Tatweer, 2009; Ajaji, 2008).
- 6- Research undertaken by Harpy (2006), and Ajaji (2008) indicates that there is a lack of trainers in some regions of Saudi Arabia. This study might, therefore, contribute to finding a solution to this problem through the implementation of a

new generation of technology – Moodle – as the means to deliver CPD programmes.

- 7- The study enriches the literature by evaluating the CoP as a vehicle for CPD, by highlighting its impact on the development of teaching and learning, and by locating its findings in the precise context of Saudi Arabia.

1.5 Overview of the Thesis

The thesis is presented in seven chapters. After this first Introductory chapter, the thesis is structured as follows:

1. Chapter Two reviews the literature related to the subject of the research. It considers the concept of continuing professional development, exploring definitions, its significance, and objectives. It also discusses models of CPD, types of CPD activity, the effectiveness of CPD, and limitations surrounding teachers' participation in CPD activities.
2. Chapter Three reviews the literature related to Communities of Practice. It considers the concept of a CoP, the learning process within CoPs, the benefits of a CoP in respect of CPD, the limitations of a CoP, and the potential for an OCoP to be valuable in CPD initiatives.
3. Chapter Four provides information concerning the context of the study, Saudi Arabia. It includes an overview of the Kingdom, its educational system, and the policies and aims of the Ministry of Education, as well as providing information about teacher training, and the educational context in which ICT is taught.
4. Chapter Five gives details about the methodology adopted for the study. Specifically, it discusses the research design, the role of the researcher, ethical issues, the trustworthiness of the study, and the study's limitations.
5. Chapter Six presents the results of five case studies. The studies are of five of the teachers involved in the OCoP - Ahmed, Eaad, Aman, Mahmoud, and Atta – all fictitious names to protect the identity of the participants.
6. Chapter Seven introduces common themes derived from the interviews, observation of the OCoP interaction, and classroom observations. Nine themes emerge, these being: changing practice, solving problems, the impact of trust on teachers' participation, the OCoP as a forum for discussing authentic issues, the impact of ownership and belonging on teachers' contributions, continuing

professional development, professional relationships, the OCoP as a preferred method of CPD, and the improvement of reflection.

7. Chapter Eight presents a discussion of these themes in line with the research questions outlined in Chapter One.
8. Chapter Nine draws the thesis to a close, providing a brief answer to the research questions, a conclusion and several recommendations regarding the use of OCoPs, together with some suggestions for further research.

Chapter Two : Continuing Professional Development (CPD)

2.1 Introduction

Continuing professional development (CPD) is considered vital by many organisations and authorities for enhancing the skill of their workforce and improving the quality of outcomes in their sector. Evidence for this can be seen in the world of education through asking teachers to attend professional development programmes annually, in order that they might contribute towards the realisation of the aims and objectives of their educational institutions. In the context of Saudi Arabia, the government has attempted to enhance the quality of teachers and schools, so that the advanced learning systems that have emerged as a result of developments in educational systems and technologies, are available to younger generations of Saudi citizens, and it has funded a huge project to develop the educational field (Tatweer, 2011). This chapter aims to explore the concept of CPD in detail, and begins by considering current definitions (Section 2.2). It then discusses the significance of CPD (Section 2.3), highlighting its objectives (Section 2.4). In Section 2.5, the models of CPD and the various types of CPD activity within those models are highlighted, and on the basis of this, the researcher's preferred model is indicated. Section 2.6 discusses the effectiveness of CPD, Section 2.7 addresses the limitations preventing effective teacher participation in CPD, and Section 2.8 focuses on the evaluation of CPD activities. The chapter then finishes with a short conclusion in Section 2.9.

2.2 Definitions of Continuing Professional Development (CPD)

There are many definitions of CPD. The Department for Education and Skills (DfES) in England adopted a broad definition for CPD as “any activity that increases the skills, knowledge or understanding of teachers, and their effectiveness in schools” (Earley and Bubb, 2004:3). Based on this definition, CPD can either be formal and delivered via workshops, seminars, and training courses, or informal such as discussion among teachers, peer observation within the classroom, reading of relevant journals, and contributions in informal seminars. Guskey (2002:381) perceives CPD as planned and

formal, defining it as “systematic efforts to bring about change in the classroom practices of teachers, in their attitudes and beliefs, and in the learning outcomes of students”. These two definitions indicate the different view of researchers about the manner of CPD, pointing out that it can be implemented via a formal and/or informal approach. Grant (1997) supports the idea that both formal and informal methods are to be included within the definition. Indeed, given the need for teachers to achieve as much CPD as possible, it seems appropriate that all potential means of realising this should be embraced, and not surprisingly, the Training and Development Agency for Schools in England (TDA) adopted the general definition which involves two methods of CPD. In its definition, the TDA considers professional development as a process that

Consists of reflective activities designed to improve an individual’s attributes, knowledge, understanding and skills. It supports individual needs and improves professional practice (TDA, 2006:43).

This definition of TDA is considered to be more inclusive than many other definitions which have appeared somewhat limiting, by addressing only the goal of developing teaching and learning.

Day’s (1999:4) earlier definition of the concept does not fall into this category, however, since he states that “Professional development consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school and which contribute to the quality of education in the classroom”. This is more inclusive than any other explanation, and hence, the researcher prefers this, believing that CPD programmes should be applied through both formal and informal methods and should particularly capitalise upon advanced modern technology which allows for many forms of communication among teachers and many applications relating to educational activities. These forms and applications can configure a ground for sharing best practice and exchanging experience and expertise whether teachers are in or out of their schools, in order to develop their pedagogic skill and practices (Lieberman and Mace, 2010).

2.3 Significance of CPD

The significance of CPD is readily apparent from the benefits that it brings to the educational process. Clearly, it develops teachers' knowledge, skills and pedagogic practice, thereby enhancing the educational outcome (Borko, 2004, Day 1999). This is important for any nation, but particularly for developing countries, and hence, it is central to any reform of educational systems. Moreover, as advanced technology facilitates CPD to a much greater extent than previously, the opportunities it brings for worldwide improvement of the teaching profession, and for improved educational achievements are important and substantial. Specifically, the chances now exist for teachers to engage in CPD not only on a face-to-face basis, but also through electronic communication, and as this has no boundaries, it implies instantaneous contact between teachers internationally, with all the advantages that accompany such interaction.

In the Saudi context, it is believed that developing teachers professionally is the core of school teaching and learning. This development follows the dramatic change within the educational field and has enhanced the outcome of the educational process. The evidence of the significance of CPD in the KSA is demonstrated through the extensive investment in it by the Saudi Government in an attempt to raise the quality of the educational environment. Indeed, the Saudi Government spends around £4 billion, a very large part of which is allocated for the professional development of teachers (MoE, 2010). The importance of teacher development in the process of educational reform has been raised by Fullan (2001), who emphasises that educational change depends completely upon what teachers do and think. Moreover, a number of researchers (Wang et al, 1993; Yung, 2005) hold the view that educational authorities cannot achieve educational improvements without teachers' contributions. Undoubtedly, teachers' contribution cannot be sought without ensuring their CPD.

Another important aspect derives from the positive effect of CPD upon teachers through encouraging them to continue with their lifelong learning which is reflected in their educational qualifications, and in the improved outcomes of the educational system

(Day, 1999). This product of the educational system – students with skills and knowledge – will play a vital role in the future development of their local communities and society at large.

With respect to the impact of CPD on student performance, several studies find a positive relationship (McGinn and Borden, 1995; National Commission on Teaching and America's Future, 1996; Tatto, 1999). The report of the National Commission on Teaching and America's Future articulated that "investments in teachers' knowledge and skills increase students' achievement [in the United States] more than other uses of an education dollar" (Darling-Hammond, 1999:32).

Coussey and Jackson (1991) highlighted some other factors associated with CPD that confirmed its importance, such as it serves as a vehicle for developing a strategy for changes in practice, giving teachers the opportunity to learn new skills and enhance their educational expertise. This role of CPD as a change agent in the educational area, coupled with the more obvious benefits already discussed, combines to strengthen the importance of CPD programmes for teachers. And not surprisingly, certain international reports stress that the way to develop educational systems is to improve the quality of CPD (UNESCO, 1998; Norris, 2004). The importance attached to such reports is evident from the responses of the UK and USA governments with regard to CPD. For example, in Scotland, the Department of Education requires every teacher to complete 35 hours of CPD annually in order to retain their teacher status (Boyd, 2005). And the General Teaching Council for England (GTCE) created educational TV on the internet, in which respect, the number of registered users on its website has reached 400,000, and over 3,000 training videos have been provided on it on a wide variety of teaching topics (GTCE, 2008). In the USA the final report of Teaching at Risk in 2004 stressed that "helping our teachers succeed and enabling our children to learn is an investment in human potential, one that is essential to guarantee America's future freedom and prosperity" (2004:11).

2.4 Objectives of CPD

Clearly, implicit in the identification of the significance of CPD, its benefits have also been highlighted, and it is logical to assume that these represent the objective of CPD. Indeed, as noted by scholars (Craft, 2002; Day and Sachs, 2004; Friedman and Woodhead, 2008), the primary objective of CPD is to enhance the quality of teachers in the educational field in order to improve the learning outcome. This enhancement can occur by extending teachers' knowledge of their subject areas, and their pedagogic skills. In this way, the dissemination of new educational philosophies, and new ideas concerning classroom management can take place. Hence, CPD aims to produce greater levels of professional expertise among a large population. In the Saudi context, CPD is considered essential to achieve improved expertise among the teaching profession, particularly since the latest statistics indicate large numbers of teachers (490,097) in the Kingdom (MoE, 2010), most of whom are believed not to possess sufficient knowledge and skill to achieve the required government standards of the students in their care.

Friedman and Phillips (2004) considered the objectives of CPD in respect of many professional associations, and some of these aims have been mentioned in connection with the Saudi context. However, there are two particular aims which have special relevance for Saudi Arabia, and these relate to the intention of CPD to guarantee career security, and to assure the public that individual professionals are up to date. These two aims are mentioned specifically because within the KSA there is strong public demand for the development of teachers (Alriydh, 2010), and CPD is a necessity in convincing the public to have trust in the educational community.

2.5 Forms of CPD Activity

There are many forms of CPD which have been developed and adopted in order to spread the culture of ongoing development and hence, achieve the ultimate goal of improving teachers' professionalism. Likewise, there are many types of CPD activity that can be undertaken within those forms. Essentially, the forms can be divided in the first instance, into those that involve internal providers, and those that involve external providers. In respect of internal providers, it is possible to identify schools' networks,

teachers' group discussions, observation of excellent practice, workshops, courses, etc., whilst external providers include for example, colleges, universities, and private sector agencies.

Kennedy (2005) identifies nine models of CPD, which are classified in relation to their capacity for supporting professional autonomy and transformative practice. Two of these models (Training Model, and Action Research) have been mentioned by Spark Loucks-Horsley (1989), but the remaining seven are: the Award-bearing Model, Deficit Model, Cascade Model, Standard-based Model, Coaching/Mentoring Model, Community of Practice Model, and Transformative Model.

Having considered these models proposed by Kennedy (2005), and the previous ones identified by Sparks and Loucks-Horsley (1989), it is important to stress, as mentioned in the beginning paragraph of this section, that within these various theoretical frameworks, it is possible to use several approaches to train teachers and update their educational knowledge, including workshops, seminars, coaching, networking, collaborative learning, self-directed study, observations, professional learning teams, action research, personal reflection, and distance learning (Clark and Hollingsworth, 2002; Craft, 2002).

Indeed, the possibilities are great in this respect, since any of these techniques might well feature in any of the models identified, and as noted by Kennedy (2005), every educational and social system can establish appropriate CPD activities that are compatible with its own context. Furthermore, whilst many different CPD activities exist, some may have no significant effect on teachers' professionalism, as for example, short periods of training in the form of workshops or seminars which are very common but not very effective (Corcoran, 1995; Boyle et al, 2005).

Clearly, this presents an important concern, since organisations do often adopt methods that are not only inappropriate, but which may also be expensive and time-consuming, and yet yield no noticeable change or performance enhancement (Beardwell et al, 2004). At the same time, organisations might well adopt models that are inappropriate

for the precise needs of their members, but in the case of teaching, it should be pointed out that whilst the various models discussed are characterised by some difference, there are nonetheless, certain similarities within them, when viewed from the perspective of CPD for teachers. Specifically, it can be seen that most are teacher-centred and consequently place demands upon individual teachers, whether this be as proactive or reactive participants. The variation in such demands can be seen in the approaches of the models, for instance, the Cascade, Standard-based, and Coaching models demonstrate a top-down philosophy in which the teaching capacity of experienced staff is relied upon, whereas the Award-bearing, Participation, and Training Models depend upon the ability of teachers to organise their commitments.

A common feature, however, is denoted in its title – Continuing Professional Development – from which it is understood that a process approach is required, rather than a one-time burst of information. Hence, all models implicitly embrace the notion of a review of existing ideas and a re-assessment of the teaching experiences accumulated by teachers. Additionally, CPD models require contextualised regular input, and outcomes that are good not only for the individual teachers participating in it, but also for the educational outcomes (students), and for other teachers who collaborate in the educational process.

A careful consideration of the various models presented in the literature, leads to the belief that the Community of Practice (CoP) model incorporates most of the salient features, such as:

- Flexibility of access;
- Flexibility of time;
- Autonomous learning;
- Individualised as well as group-based input;
- Effective utilisation and appreciation of existing knowledge and experience;
- Access to expert opinion and professional moderation;
- A humanistic nature.

2.6 Effectiveness of CPD

While it has been mentioned that CPD can assume many forms, there is an agreement in the literature reviewed, that some CPD approaches are expected to be more effective than others. This clearly depends upon the objectives of the development activity, and its characteristics, and it is, therefore, important to consider both of these aspects in any discussion of CPD effectiveness. Certainly, it is necessary to define what is meant by 'effectiveness' in the context of CPD, in which respect, it is generally agreed that CPD that meets its objectives as indicated earlier in Section 2.4, fulfils that criterion. In fact, the Department for Education and Employment DFEE (2000:3) describes CPD as "an activity that increases the skills, knowledge or understanding of teachers, and their effectiveness in schools". Hence, any CPD activity that increases such effectiveness of teachers, is in itself, effective.

However, as already mentioned, the literature demonstrates that the effectiveness of traditional forms of CPD such as short courses and workshops delivered by external experts is lower in terms of teachers' professional development than other methods (Corcoran, 1995; Boyle et al, 2005; Goodall et al, 2005). Moreover, not only are these approaches less effective but they may promote a negative attitude among teachers to the notion of being personally responsible for self-development. The problem with short courses lies in their short duration, and the fact that teachers' participation is more passive than active. They are characterised by a 'top-down' philosophy, which in general fails to achieve success in the educational field (Hargreaves, 2000; Fullan, 2003).

That said, depending upon the objectives of the CPD in question, such an approach may be warranted, for example where it is necessary to introduce teachers to new skills that will enhance their teaching delivery, such as instruction in the use of an interactive whiteboard where the intention is genuinely to pass on knowledge of how to operate a piece of machinery rather than to internalise an educational technique.

In the latter instance, where it is important for teachers to achieve a much deeper reorientation, it can be appreciated that for CPD programmes to be effective, teachers

should be active participants, being offered the opportunity to become fully engaged in their own professional development through meaningful discussion, planning, and practice. Only, if CPD designers pay attention to this need, will programmes reach their aims (Day, 1999; Garet et al, 2001). Another important point to bear in mind is that CPD is a construct that relates to adults, who are by definition, involved in some profession or other. Clearly, then, if the active participation is required of the profession in question, such participation should extend to the design process, so that the CPD programmes created are a true reflection of the needs of those who will engage in them. Teachers, for example, may well be aware of their weaknesses and/or the obstacles to their ability to achieve their classroom objectives, and hence, should be involved in designing the means to realise these.

Another characteristic of CPD effectiveness is its sustainability. The sustained duration of CPD allows for in-depth coverage of an issue, whether it be knowledge and/or skill development, and for positive effects upon teachers to be observed. Furthermore, the longer the duration of CPD programmes, the more opportunity teachers have to exchange their experiences and expertise, and to reflect upon the outcomes of their practice. Research demonstrates that sustained CPD programmes do have a positive impact on teachers in respect of their teaching and learning (Cordingley et al, 2003). Conversely, CPD programmes that adopt short 'one-hit' courses often have limited effect on teachers.

Thirdly, it is necessary for collaboration among teachers to be present if CPD is to be effective, since the promotion of expertise and knowledge referred to in the previous paragraph can only occur in such situations. The literature reveals that teachers who become involved in collaborative learning are more reflective and analytical about their pedagogy (Boyle et al, 2005). Indeed, Day (1999:80) has concluded from studies conducted by Rosenholtz (1989), Purkey and Smith (1982), Reynolds (1988), and Hopkins (1996) that "much research suggests that collaboration is an essential ingredient of teacher development and thus school improvement".

Opportunities for collaboration are greatest in the CoP model since this creates the ground for the sharing of practices and negotiation of experiences, thereby offering opportunities for teachers to develop their practice and increase their knowledge (Darling-Hammond et al, 2009).

2.7 Limitations to Teachers' Participation in CPD Activities

Despite the fact that the literature reveals the need for teachers to be active participants in all CPD activity, certain factors may be present which limit this ideal, and it is important to appreciate what these are. One important limitation is the fact that teachers may be discouraged from attending, as has been indicated to be the case in Saudi Arabia, as they perceive the activities to be top-down in their approach, and unconcerned with, or inappropriate to, their personal development. Clearly, such a perception stems from other factors, one being school culture, another teachers' attitudes towards CPD, and a final factor being the actual content of professional development initiatives.

2.7.1 School Culture

In respect of school culture, this is noted by Phillips (1996) as consisting of a set of beliefs, attitudes and behaviour which provide the school with its distinctive characteristics. The literature demonstrates that this has an important part to play in encouraging/discouraging teacher development, and that ideally it should provide a stimulating context for teachers to continue to develop; indeed school culture has been found to play the main role in changing and developing schools (Jurasaitė-Harbison and Rex, 2010). In its attitude towards CPD, school culture can be positive or negative. A positive approach encourages a culture of collaborative work among teachers whether this occurs in or out of the school (Day and Sachs, 2004). A negative approach discourages such activity, failing to appreciate the importance of collaboration among teachers, and instead requiring teachers to concentrate on teaching students. In their summary of the findings of the National Research Council's (1999) new principles for learning, Loucks-Horsely and Matsumoto (1999) indicate the requirement for teacher participation in a community in order for effective professional development. They argue that "teacher learning is enhanced by interactions that encourage them to

articulate their views, challenge those of others, and come to a better understanding as a community (Loucks-Horsely and Matsumoto, 1999:261). They continue to observe that time is a crucial component of CPD activity since collaborative working and the provision of feedback among the teachers involved cannot occur without sufficient time being allocated to the activity.

This has implications for school leaderships in as much as they need to recognise the need for this resource, and appreciate that “professional development does not stop, but it is a continuous process through discussion and sharing ideas” (Day, 1999).

It is clear already that differences in school culture exist, and this may be the result of local or national influences, which in turn may result from economic and political imperatives. Day (1999) suggests that differences in school culture produce five types of school that can be typified as follows:

- Moving schools in which members work together and continue their development and learning;
- Cruising schools which are generally effective but have scope for more development;
- Strolling schools which are average;
- Struggling schools which are attempting to develop but which need more external assistance;
- Sinking schools which lack the will and skills to be successful.

2.7.2 Teachers’ Attitudes Towards CPD

Positive attitudes by teachers towards their own professional development are crucial to the success of any structured programme of CPD, or indeed to any informal approach, and consequently, any attempts to mount CPD activities must take these into account, and where it is known that they may be negative, all efforts are required to create convincing inputs. As confirmed by several researchers (Guskey and Huberman, 1995; Fullan and Hargreaves, 1994; Stoll et al, 2003), teachers’ attitudes in this respect can make the difference between CPD activities being successful or failing.

When teachers acknowledge the importance of increasing their knowledge and developing their practice, they are intrinsically motivated to change, and such internal motivation is considered the starting point for learning (Franke et al, 1998; Stoll, 1999). On the other hand, when teachers have a negative opinion of CPD programmes, believing these to be a waste of their time for whatever reason, their contribution towards them is minimal, with the consequent minimal positive outcome (Albhiri, 2010). Negative opinions towards CPD are not formed in isolation but rather develop when teachers perceive their professional worlds not to value any efforts they make in this direction, as for example when promotion is not seen to be on the basis of professional skill or achievements, but on other factors such as nepotism or favouritism. Additionally, teachers may have unsatisfactory experience of previous CPD initiatives in which they have been involved. Those initiatives may have been conducted by external experts who may have been unable to contextualise the material sufficiently for it to be relevant to the teachers in attendance. Hence, teachers may lack confidence in their ability to profit from their participation and weigh the inconvenience of attending CPD activities against the potential benefit. Ernest (1989) suggests that in order to change teachers' negative attitudes, more opportunity should be given to teachers to reflect on their practice autonomously. Indeed, some research into how adults learn (Knowles, 1990; Merriam et al, 2012) has highlighted the need for time to engage in such reflection.

2.7.3 Content of CPD Programmes and Activities

The third factor which might hinder teachers' participation in CPD is the content of the programmes or activities in question. Initiatives which are considered to be irrelevant to current and future needs will not be approached with any degree of enthusiasm by busy teachers, and hence, to ensure effective participation, teachers should be invited to contribute towards the design of CPD activities. This will stimulate teachers' belief in the value of such activities and hence, they will participate in order to satisfy their professional needs. Nonetheless, despite the importance of teachers' involvement in the design of CPD programmes, in many cases the professional needs of teachers are determined by school management or other stakeholders (Sorge and Russell, 2000),

with the potential result that teachers have no faith in the programme on offer, and do not enrol.

2.8 Evaluation of CPD Activities

Evaluation of CPD initiatives is essential in order to determine their impact and effectiveness. Additionally, it provides information regarding any weaknesses in programme or activity design that need to be avoided in the future, and aspects that were successful and should be reinforced in subsequent programmes. Evaluation can occur in several ways, such as observing the level of teachers' interactions during events, measuring and observing changes in teachers' behaviour, and eventual enhancements in students' performance etc. However, whilst there are several forms of evaluation, most strategies involve straightforward methods (Guskey, 2000; Day and Sachs, 2004) that simply ask participants for their feedback on their experience. For instance, Edmonds and Lee (2001, cited in Day and Sachs, 2004) found in their research about CPD programmes in the UK that the majority of all CPD evaluation consisted of teachers completing feedback sheets requiring their comments on the content and delivery of the programme they had attended. This is clearly limiting in its provision of comprehensive information, since as Guskey (2000) points out, such feedback does not give sufficient indication of the effectiveness of CPD, which may not be fully appreciated at the time. Evaluation through questionnaires, interviews or other instruments cannot be said to provide an accurate measure of effectiveness, rendering only low level feedback (Phillips, 2006; Kirkpatrick, 2007). Moreover, the evaluation of the effects of CPD is often adopted through one-off cases, but as already mentioned, the impact of professional development programmes may take a long time to be felt.

In the case of teachers, evaluation of CPD should concentrate on whether teachers did actually acquire new knowledge and skills as a result, whether they are doing things differently and better, and if so what these things are. Additionally, their attitudes towards other forms of CPD (CoP, for example) should be obtained. In order to avoid the limitations of most evaluation mechanisms mentioned so far, it is important to adopt different levels of evaluation. Guskey (2000) proposes five such levels in a model that is similar to those designed by Philips (2006), and Kirkpatrick and Kirkpatrick (2007). Briefly, these are:

First Level: participants' reactions; Second level: participants' learning from CPD; Third level: organisational support and change; Fourth level: participants' use of new knowledge and skills; Fifth level: student outcomes.

With regard to the third and fifth levels, these are not appropriate in the current research which concentrates on CPD via an online community. With regard to level three, the initiative will not be supported by the Ministry of Education in Saudi Arabia, and in respect of level five, I will be unable to review the educational outcome and be satisfied that any changes have occurred as a result of the CPD programme unless teachers are asked about the level of students and their understanding in a post-programme interview.

In the next chapter, the focus will be on the Community of Practice concept.

Chapter Three : The Community of Practice (CoP)

3.1 Introduction

This chapter considers the concept of the Community of Practice (CoP) which offers the opportunity for personal development in a variety of professional situations, not simply in relation to teachers (Wenger et al, 2002). However, in the face of rapid change throughout the world occasioned by technological, economic, political, and social advancement, the educational enterprise must be constantly improved. Hence, teachers should be at the forefront of major changes, thereby needing to continually develop themselves professionally. Most educational systems adopt formal approaches to CPD, but, as seen in the previous chapter, there are alternative models of CPD which may well be more productive than the traditional seminar and lecture model.

One such possibility is the Community of Practice (CoP) and this chapter considers the CoP alternative. The chapter starts (Section 3.2) with an exploration of the concept of a CoP, considering the various definitions in the literature, and the characteristics of such a community. In Section 3.3, the chapter progresses to address the learning process as it is believed to occur within a CoP, and then in Section 3.4, the focus switches to the benefits of a CoP for teacher CPD. Section 3.5 highlights the limitations of CoPs. In Section 3.6 the potential for an online CoP is considered, and specifically the differences between physical and virtual CoPs are identified, as also are the roles and responsibilities of online facilitators. The chapter ends with a short conclusion.

3.2 Concept of a CoP

A Community of Practice is a group of people who share their connections and experiences with a view to enhancing their own performance and by implication that of the professional community of which they are a part. In an educational context, a CoP implies that teachers who are interested in one subject join together in an informal or formal manner to discuss their experiences, practices and knowledge in order to develop themselves professionally, and develop their subject.

Wenger et al (2002:4) have defined a COP as a group “of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis”, and as can be seen by the absence of any reference to education, this is a general definition which applies to CoPs in a whole range of different professions or disciplines.

The interaction mentioned by Wenger et al (2002) can take place in a variety of ways, the main point being that CoPs are socially constructed, and that it is their communicative nature that serves as the conduit for the transfer of information among members. Hence, individuals may participate in CoPs on a face-to-face basis, via telephone, or indeed using online methods such as Wenger et al (2002) suggested. Advanced technology has produced tools that enable teachers to meet their colleagues face-to-face by using live video, which in turn reduces the effect of being unable to observe body language. Through online interactions, CoP members benefit from the convenience of not needing to be in the same physical location, and this opens up an array of possibilities for membership. Such differences call for specific definitions, and in the case of a CoP founded on ICT, Ludwig-Hardman (2003:iv) states this to be: “[a] group of people, connected via technology-mediated communication, who actively engage one another in collaborative learner-centred activities to intentionally foster the creation of knowledge, while sharing a number of values and practices”.

This definition shows that CoPs emerge from situated learning, therefore reflecting the idea that learning is a social phenomenon. According to Brown et al (1989), in situated learning, the learning and knowledge involved is grounded in and inseparable from, the context and culture. So, the sharing of experiences and activities among members on the basis of collaborative learning is considered the heart of a CoP. Situated learning leads one to rethink the nature of learning. Traditional CPD models adopt a top-down approach and attempt to transmit knowledge to learners, whereas in situated learning, the focus is on giving priority to members’ personal experiences and problems. Many researchers document the positive outcomes of the CoP strategy in encouraging teachers from different cultural contexts to solve specific problems and share their knowledge (Printy, 2008; Supovitz, 2002; King, 2002; Hassell, 2007; Hara, 2000; Kling and Courtright, 2003). The goal of situated learning is to acquire concepts and problem-

solving strategies that might help learners to resolve problems they encounter (Grabinger, 1996). Lave and Wenger (1991) considered learning as the process that helps a learner to move from being a newcomer to an experienced individual, through legitimate participation in knowledge-sharing activities which develop skills and practices such that that learner can become expert. The idea is that newcomers move from the periphery of a knowledge community to the centre of that community as they become more expert, and as a result, are able to offer assistance and support to other learners. Currently, advanced technologies provide a good means of using this kind of collaborative learning electronically, and as noted by researchers (Duncan-Howell, 2010; Lieberman and Mace, 2010), the use of online communities by teachers to support themselves professionally has increased internationally.

Still considering the characteristics of a CoP, it can be seen that Wenger (1998) has indicated three essential features as being mutual engagement, joint enterprise, and shared repertoire of negotiable resources, which all accumulate with time. The first of these characteristics (mutual engagement) requires members of the CoP to sustain their relationships with each other by becoming involved in activities that build trust between them. Joint enterprise, as the second essential feature, places members in a co-operative position as they work together for the same outcomes. The third characteristic (shared repertoire) requires all members to have access to a pool of resources, contributed to, and further developed by, the community. Such resources include ideas, stories, tools, knowledge of how to do things, and the means to develop the skill to do things.

It can be understood, therefore, that if these are the essential features of a CoP, then in the creation of such a community, consideration must be given to ways in which these characteristics can be present, and in this respect the criteria in the following subsections should be satisfied:

3.2.1 Shared Goals

All participants in the CoP have different perspectives but at the same time they have the common goal of creating and joining the community (Wenger, 1998; Barab and Duffy, 2000; Kim, 2000). The sense of shared goals requires members to participate effectively so as to reach the goals of the CoP even when there is disagreement on

certain issues (Donath, 1991). Engagement in the CoP requires that teachers work to sustain their interactions and discussions in order to achieve the goals of the CoP, which in turn leads to greater depth of discussion. Sharing goals among members of the CoP will create an identity for the community that enables members to use the community as a reference for their professional needs.

3.2.2 Mutual Engagement

The Community of Practice framework is based on situated learning, in which mutual engagement in the community is considered key (Wenger, 1998). The community exists because its members engage in and discuss their practice and authentic experience in the community, which in turn encourages them to exchange and evolve ideas. Learning takes place in the OCoP via mutual engagement, which enables members who interact with others to develop their learning from being novices to becoming old-timers through the learning process. This mutual engagement establishes coherence in the community (Wenger, 1998). A community of practice is not only a group of people or teachers who have relationships with each other; it goes beyond that in that it has members mutually engaged in achieving the goals of the CoP.

3.2.3 Safe and Supportive Conditions/Respective Inclusion

Respect among members should be spread and protected because individuals have different ideas and experiences, which is bound to lead to disagreement on some points. Indeed, whilst individuals participate in a CoP because of a shared interest, they nonetheless demonstrate diverse backgrounds and possibly cultures, and as noted by Wenger (1998) and Barab and Duffy (2000), this presents a challenge for the CoP facilitator or mentor in evaluating how to accommodate such diversity such that negotiation is sustained. It is, therefore, necessary to develop trust and respect among participants so that they are encouraged to contribute in the safe knowledge that whether they express agreement or disagreement does not matter (Barab and Duffy, 2000). New ideas are generated through discussion of different perspectives, and the CoP must, therefore, allow for varying perspectives to be aired within a democratic atmosphere.

Having considered the various characteristics of a CoP, further questions might be raised concerning whether any group of people who communicate with each other could be considered to be such a community. In this respect, it can be understood that individuals who share ideas and discuss these between themselves would not automatically fulfil the criteria associated with a CoP, since discussion must be ongoing and there must be aspirations to reach a particular professional goal. Hence, social communities conducting discussions on Facebook and/or Twitter, and people engaged in blogging, for example, do not constitute CoPs. Their main aim is to build relationships among members to exchange interesting ideas and news without having mutual aims to achieve through such relationships. Likewise, a project team, as a form of community, which is created to achieve a specific task does not fulfil the criteria for a CoP since on realisation of the goal, the team disbands, whereas a CoP continues to exist as long as its members are interested in sustaining their effort to develop themselves experientially and in qualification terms. In elaborating the differences between a CoP and other forms of group communication, Wenger et al (2002) produce the following table.

Table 3.1: Differences between a CoP and Other Forms of Community

Form of Communities	What's the purpose?	Who belongs?	Who holds it together?	How long does it last?
Community of Practice	To develop members' capabilities; to build and exchange knowledge	Members who select themselves	Passion, commitment and identification with the group's expertise	As long as there is an interest in maintaining the group
Formal work group	To deliver a product or service	Everyone who reports to the group's manager	Job requirements and common goals	Until the next reorganisation
Project team	To accomplish a specific task	Employees assigned by senior manager	The project's milestones and goals	Until the project has been completed
Informal network	To collect and pass on business information	Friends and business acquaintances	Mutual needs	As long as people have a reason to connect

Source: Wenger et al (2002:42)

3.3 The Learning Process within CoPs

Santrock (2001: 239) define learning as “relatively permanent change in behaviour that occurs through experience”. This definition has its basis in psychology, which considers the aim of learning as being to change the behaviour of learners. Kolb (1984), on the other hand, views learning as following a cyclical pattern starting with the learner’s interaction with the environment (concrete experience), his subsequent reflection upon that experience, and the generation of new ideas and hypotheses that result in new action being adopted. Savin-Baden and Major (2004:26) thus suggest that there are two approaches to learning: surface learning and deep learning. Surface learning concentrates on memorising information while deep learning encourages dynamic interaction with content in order to acquire a deep understanding of the content being learned. Learning shifts from surface learning to deep learning as learners’ skills are improved.

The current research used a CoP as a CPD framework, assuming that learners can evolve their knowledge and practice by interaction with colleagues from the same discipline, and hence, with shared objectives, and a shared repertoire of ways of doing things. This framework guides the design of the OCoP. Wenger (1998) believes that the learning process takes place via legitimate peripheral participation, which means that learners develop their learning through interaction with others who have the same interests and concerns. The novice learner starts to develop his/her learning, and gradually evolves from being a newcomer to an “old-timer” Wenger (1998:101) with a wealth of knowledge and experience, through sustained interaction in the community. Learning in the OCoP occurs when teachers who are on the edge of the community move towards the centre, thereby indicating the development of expertise in the subject being discussed.

Lave and Wenger (1991) argue that concrete social life experiences provide members with constructs that can be related to, and built upon in the future. They suggest that learning is seen to occur when newcomers begin to be active in a CoP, and gradually increase their participation until eventually, they are frequent contributors towards debate, and move into maturity, offering increasingly more examples of their own experience for the benefit of other members (Lave and Wenger, 1991; Wenger, 1998).

This process has been influenced by Dewey's (1938) views about the meaning of learning, to the effect that experience plus reflection equals learning.

However, simply by designing OCoPs and gathering groups of people together to become members, will not guarantee a high quality of interaction, full participation and/or reflection. The mere presence of an OCoP with members is not in itself sufficient to promote collaboration. And to understand the actual level of interaction as well as the level of learning among members of an OCoP, it is necessary to analyse the content of posts and materials that are made and exchanged among members in the OCoP. In order to meet this requirement, I adopted the practical inquiry model developed by Garrison et al (2001) to analyse online interaction.

This model was employed as an analytical framework for the interaction in the OCoP for several reasons. Firstly, it takes into consideration, the perspective of the shared/private experience, as the core idea of using the online community is to share experiences and knowledge among participants in order to evolve their practice and increase their knowledge about their subject. Secondly, the model contains four gradual phases which enable me to recognise the effectiveness of the online community, although the full picture of the changes cannot be seen without using other methods, such as interview, and observation. And finally, the model takes account of members' practices and critical thinking process.

The practical inquiry model has four phases. The first is the Triggering phase and relates to the particular event that stimulates new discussion and interaction between the participants. The second phase is the Exploration phase, in which the participants move between their own reflections and experiences, and the experiences and reflections of others, which eventually leads to the exchange of information and practices among all the participants in an effective way. This exchange will lead participants to the third phase, which is the Integration phase and that outlines the outcome of their discussion and reflections on the cases they have discussed. As the participants have to deal with some new cases, they may face some difficulties during their implementation of the previous phases, which leads them to the fourth and final phase, which is the Resolution phase which is about the resolution of some of the issues that might face them in the last

phase. The following table demonstrates these phases and the indicators that relate to each of them.

Table 3.2: Summary of Phases and Indicators

Phase	Indicators
First Phase: Trigger events	T.1 Recognising the problem
	T.2 Sense of puzzlement
Second Phase: Exploration	E.1 Divergence – within the online community
	E.2 Information exchange
	E.3 Suggestions for consideration
	E.4 Brainstorming
	E.5 Leaps to conclusions
Third phase: Integration	I.1 Convergence
	I.2 Connecting ideas, synthesis
	I.3 Creating solutions
Fourth phase: Resolution	R.1 Vicarious application to real world
	R.2 Testing solution
	R.3 Defending solutions

Source: Garrison et al (2001)

Garrison’s model is concerned with the stages of problem-solving practices in an online community. However, it does not address the question of how far this process leads to reflection by participants and what kinds and levels of reflection are stimulated. Therefore, I have adopted the model suggested by van Manen (1977), which allows for these differences to be understood better. According to van Manen’s theoretical model, reflection involves three levels of activity. The first level is technical rationality, which involves recall only, and at this point the individual recalls or does what others say. There is no in-depth reflection, merely a reiteration of what others have said. Van Manen referred to this as ‘technical reflection’. At the second level, the learner moves from what others have said about the subject being discussed, to become more concerned about whether what they have said is applicable to his/her situation or not. At this stage the learner can assess his/her situation and modify the experience of

others, such that it can be appropriate to his/her situation or rejected as unsuitable. From this level of reflection, the final level emerges, that being critical reflection. When the learner reaches this level s/he has become a critical thinker who is able to offer the reason for accepting or refusing to incorporate others' ideas into his/her own practices. Additionally, the critical thinker is able to find alternative solutions or new applications that are appropriate to his/her circumstances.

Wenger (1998) makes four assumptions about learning in his CoP theory, these being: firstly, that human beings are social animals so they can learn through interaction with others: secondly, that knowledge consists of capability relating to valued enterprises and is part of practice; thirdly, knowledge is found through active engagement with colleagues or friends who share with in some interesting matter; and fourthly, that some meaning is attached to that participation so the community creates its own meaning through interaction. Wenger's notion is that individuals learn by practice, and that three processes are involved in this, namely "evolving forms of mutual engagement, understanding and tuning the enterprise and developing a shared repertoire" (Wenger, 1998:95).

3.3.1 Evolving Forms of Mutual Engagement

The members of a CoP are engaged in actions that are central to the community (Wenger, 1998:73) Also developing these actions will support the community in the creation of its identity, thus resulting in productive interaction. However, evolving forms of mutual engagement require the development of trust between members, and this implies learning what helps to build that trust, and what hinders it, since without the sense of well-being created by such an atmosphere, shared solutions to common problems will not emerge (Longworth, 2006). Mutual trust encourages participants to offer their learning solutions without embarrassment or fear of being derided, and equally to show respect to others when their contributions are being aired.

3.3.2 Understanding and Tuning the Enterprise

The CoP activities keep members joined to a single purpose and enable their continuous participation. These activities represent the main objective of the CoP. Thus, understanding the enterprise is very important in order to keep the CoP on track and to create the trust among members that has been referred to already. These enterprises

reflect the complexity of mutual engagement and consider the result of collective processes of negotiation among participants. Therefore, clarity in understanding the aim of the CoP is fundamental so that members are sure of the point of their efforts and discussions, and are able to clarify this objective for others (Wenger, 1998:77).

3.3.3 Developing a Shared Repertoire

During its existence, a CoP may accumulate much educational expertise and many educational resources as a result of the experiences of its members. Such experiences may have enabled others to learn new skills, to gain new knowledge, and to become more open to experimental ways of working, thereby having new pedagogical tools at their disposal. This resource bank is referred to by Wenger (1998:95) as a shared repertoire, and it functions to consolidate the practice observed within the community, such that once-new styles of discussion, types of discourse, ways of approaching problems become familiar courses of action. Moreover, more experienced members of a CoP may represent a greater resource for newer participants.

3.3.4 A Learning Architecture

Learning is viewed by Brown et al (1989) and Lave and Wenger (1991) as something that occurs by practice in social environments, as outlined in 3.3.1-3.3.2. The main challenge in this respect is to determine how to provide a learning architecture that offers the facilities to support the process of learning during the practice and interaction (Wenger, 1998). This raises some questions concerned with identifying ways to encourage participants to be more active, evaluating the facilities that might encourage members to participate and to be more active, and continuing the process of building community identity. An associated question is what are the qualifications of people who can contribute and participate in the CoP? In this respect, it can be understood that the ability to communicate is essential, but there is no necessity for all communication to be on a face-to face basis, nor is it necessary for all communication to be synchronous despite the ability of advanced technologies to provide live video conferences or chatting if desired. According to Wenger (1998), a learning architecture should support three modes of belonging, these being: engagement, imagination, and alignment. The engagement mode comprises things to do together, the availability of help, and a problem that engages energy and negotiation in some joint enterprise. The imagination

mode includes, for example, open space, explanation, and examples. And the alignment mode includes, for instance, common interest, vision, and principles and strategies for implementing whatever solutions are found. Figure 3.1 presents this learning architecture.

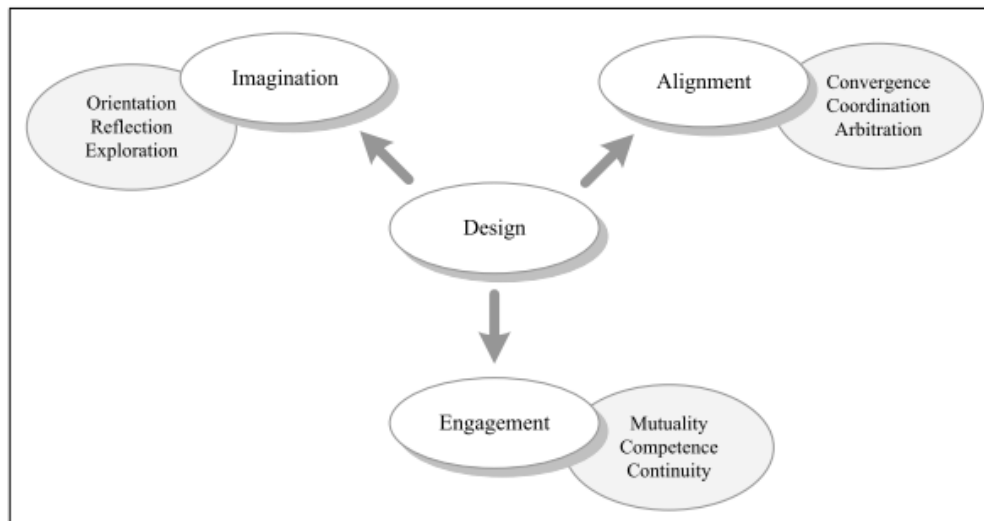


Figure 3.1: Learning Architecture: Three Infrastructures for Learning (Wenger, 1998:237)

In addition to Wenger’s proposed learning architecture, however, social learning theory is also of interest in explaining how learning occurs within a CoP, since as understood, human beings are essentially social animals and it is through their society that they extend their ideas and knowledge. Social learning theory emphasises experiences, knowledge, and social interaction, recognising that learning is strongly embedded within individuals who are sociable in nature. Brandi and Elkjaer (2011) argue that ‘deep learning’ occurs in cases where social interaction is sustained, as in a CoP, and hence, this explains how teacher professional development occurs via this mechanism.

3.4 The Benefits of a CoP in Respect of CPD

From the discussion so far, which has highlighted the nature of a CoP, it is already apparent that the bottom-up character of such an interactive group has certain attractions to teachers who feel their professional status accords them the right to be involved in their own development. However, there are several other benefits which this section seeks to identify.

It has been argued that it is beneficial to adopt a CoP in CPD programmes, when for example: there is a definite shift from formal CPD through training courses to informal CPD (Fullan and Hargreaves, 1991; Killion, 2000); there is a need to achieve development in subject-specific areas without input from external experts; there is a requirement to attend seminars away from school; and when it is necessary for teachers themselves to explore an actual problem in its real context (Hargreaves, 1999). Moreover, the value of changing the direction of development from top-down to peer-peer is noted (Darling-Hammond and McLaughlin, 1995), particularly considering that teachers are adult learners who have their own experiences that form the basis of the problems they need to solve in order to advance professionally (Knowles et al, 1998). Indeed, the CoP gives teachers, as adult learners, a new source of CPD through collaborative work, which enables them to refine and restructure their knowledge and practice through discussing and debating with their peers. Also, communications among teachers who are interested in one subject provide the ground for solving authentic problems collaboratively, leading to the development of both their knowledge and practice (Barab and Duffy, 2000).

Another valuable aspect of a CoP is the society it creates, that in itself helps to reduce feelings of isolation and improve teachers' attitudes towards professional development (Ludwig-Hardman and Dunlap, 2003; Ludwig-Hardman et al, 2006). Additionally, a CoP helps in reducing the gap between knowing what and knowing how, as advice is readily available from other teachers who have actually done what some may only have thought about. Having all these advantages, it can be understood that a CoP can minimise the resistance to change often demonstrated by teachers, who fear they will be unsupported in their CPD efforts. In the CoP teachers are assured of peer support, and not daunted by the prospect of external experts.

Teachers' practice is important in this respect, because it stands as the object of interest, thereby enabling the focus on situated learning, and as noted by Little (1993), this is particularly appropriate in the teaching situation since the best forms of professional development programme for teachers are those that involve them in exploring real-world questions that they meet in their own context. Such questions, as observed by McLaughlin (1991:70) are firmly "embedded in teaching contexts". Likewise, Garet et al

(2001) found that teachers were able to develop professionally through professional communication among themselves and the sharing of experiences relating to situated activity. And Schlager and Fusco (2004:124) confirmed that effective professional development for teachers resulted from activities that were “grounded in the teacher’s own work ... [and] ... tailored to the teacher’s stage of career development”. This kind of activity can occur whether the CoP operates on a face-to-face or online mode, since what is required is simply that participants can hold a dialogue on authentic problems that occur in their personal situation. Indeed, several researchers have established the value of online efforts in this respect, demonstrating the positive impacts upon local practice (Kiggins and Ferry, 1999; Hawkes and Romiszowski, 2001; McNair, 2004). Undoubtedly, advanced contemporary technologies offer a ground to facilitate the kind of interaction that characterises a CoP. Furthermore, they provide opportunities to involve large numbers of teachers who can contribute towards the development of a subject, since geographical location does not cause the same obstacle as in face-to-face communities.

It can, therefore, be appreciated that there are several benefits associated with the use of a CoP specifically for teacher CPD, which can be summarised as follows (see Gannon-Leary and Fontainha, 2007).

- CoPs provide enhanced learning environments in which learning from peer to peer can take place in an autonomous environment.
- CoPs have a range of capabilities allowing the development of higher level knowledge and skills, including sharing skills. The discussion and interaction, being based on authentic practices, widens the information available to all members, thereby promoting comprehensive knowledge sharing and learning.
- CoPs provide for the development of tacit knowledge as participants gain insights from each other that can be accommodated within their own professional conceptual frameworks.
- CoPs provide the opportunity for true continued learning since the different levels and expertise of members give rise to a cyclical form of knowledge development that is always in motion.

- CoPs provide members with a sense of connection given their social basis, in contrast to the isolation often experienced with traditional forms of professional development.
- CoPs allow for ongoing interactions since their dynamic nature means that members may leave and return to a community as and when they need advice.

3.6 The Potential for an OCoP

So far, whilst the existence of OCoPs has been alluded to in this chapter, there has been no exploration of whether a CoP can genuinely operate effectively in an electronic environment. This is certainly an important question, especially in the context of teacher CPD which is often undertaken in teachers' own time, away from school. In fact, from a technical viewpoint, the advanced technology offers numerous ways for communication among people through Computer-Mediated Communication (CMC) whether synchronous such as video conferencing, audio conferencing and Internet Relay Chat (IRC), or asynchronous such as email, newsgroups, and/or mailing lists. All these facilities have increased the number of CoPs around the world, as for instance, the Training Development Agency for Schools (TDA), National Institute of Adult and Continuing Education (NIACE), and the Senior Secondary Assessment Board of South Australia (SSABSA). Other successful CoPs are readily identified, like for example, Webheads in Action which is a community of language teachers and students whose aim is to explore the use of leading edge communication technology in their practice. Having begun in 1998, and being largely self-managed and open, the community works to support its members in testing, exploring, and using technology for teaching. It is observed that there is evidence of strong online collegiality and loyalty, promoting critical reflection upon practice (Stevens, 2005), despite the fact that many of the members have never actually met each other physically (Bean and Stevens, 2002). Likewise, several researchers (Babinski et al, 2001; DeWert et al, 2003; Fulton et al, 2005; Herrington and Oliver, 2000) have observed the value of online CoPs in teacher induction programmes, and in encouraging critical reflection upon practice, with the Lighthouse Project being one such community. Such testimonies confirm that the internet enables cognitive growth and reflection as long as the discussion in a forum or chat is facilitated.

Wellman and Gulia (1999) on the other hand, have argued that online CoPs can never achieve the same outcomes as physical ones due to the lack of interpersonal contact. Their belief is that technology does not provide the opportunity for the type of communication that is truly valuable in the sharing of experience. Nonetheless, many scholars disagree with this viewpoint, arguing that technology does support online CoPs because it provides many facilities for people to communicate with each other whether synchronously or asynchronously (Johnson, 2001; Gannon-Leary and Fontainha, 2007; Caldwell, 2008; Hibbert and Rich, 2006). Furthermore, Henri and Pudelko (2003) affirm that Wenger's theory of CoP implicitly includes online communities and that their potential for success is equally good as physical ones.

3.6.1 The Difference Between Online and Face-to-Face CoPs

A number of differences exist between virtual and physical CoPs. One obvious difference is that communication is mediated by technology in the online community, and supported with face-to-face meetings, whereas the balance is the other way around in the physical community, where most communication is face-to-face with some computer-mediated communication to supplement that physical interaction (Lai et al, 2006). Another difference is that in the online community it is necessary for technological infrastructures to be designed to enable communications (Barab et al, 2004), whereas physical CoPs mostly emerge from existing groupings and need little, if any intervention (Wenger et al, 2002). Clearly, given this difference, it follows that technical support remains essential for the smooth operation of the online CoP and indeed for its survival, so there is an absolute dependency on such support in that instance. Conversely, there is no need whatsoever for technical support in a physical community because the relationship between the members is sustained by face-to-face encounters. The membership of both types of community is also different at least initially, since participants in an online CoP do not necessarily know each other before joining the community. Indeed, where an online community is formed with the intention of uniting individuals from different geographical locations and perhaps even countries, and cultures, there is very little possibility that any member would be acquainted with any other at the start of such a CoP. On the other hand, the initial core members of a physical CoP do know each other, and in some instances, all members know each other (Lai et al, 2006).

There are also differences developmentally, which are important characteristics since these have implications for the problem-solving and the further identification of other aims of the community. In a physical CoP, as outlined by Wenger (1998), development occurs in a linear process which follows several key stages. Wenger (1998) identifies these as: potential, coalescing, active, dispersed, and memorable. Researchers observing online CoPs, however, such as Huberman (1995) and Daele (2006), have commented that development in these circumstances tends to occur in a cyclical manner.

A final difference is that an online CoP requires a facilitator for its effective operation, and the next section describes this role.

3.6.2 The Role of Facilitator in an Online CoP

Different names have been used in the literature to refer to the role of the tutor in online interaction, such as moderator (Salmon, 2003; Berge 1995), facilitator (Collison et al, 2000), coach (Murphy et al, 1998), and tutor (Gerrard, 2002). Whichever term is chosen, however, the role embodies the same responsibilities as follows:

1. The responsibility of "keeping discussions on track, contributing special knowledge and insights, weaving together various discussion threads and course components, and maintaining group harmony" (Rohfeld and Hiemstra, 1995:91).
2. The responsibility of creating a friendly and comfortable social environment in which members feel that learning is possible (McPherson and Nunes, 2004). In fact, McMann (1994) considered the social role to be one of the key critical success factors in online learning.
3. The responsibility of clarifying procedural rules and decision-making norms (Paulsen, 1995; Mason, 1991).
4. The responsibility of ensuring that the system runs smoothly from a technical viewpoint, and that members can navigate their way through it with ease. As noted by McPherson and Nunes (2004), it is essential for members to become familiar, comfortable and competent with the ICT systems and software that compose the e-learning environment, and for academics, this is often a daunting process.
5. The responsibility of ensuring that co-operation among members is forthcoming and sustained, although it is agreed by some scholars (Wenger, 1998; Wilson et al,

2004) that this is the main challenge for facilitators of online CoPs. Strategies available to facilitators in this respect are to encourage volunteering, ensure the aims of the CoP are clear, provide a variety of ways to participate such as live chatting and live e-conferencing, and request contributions from a variety of experiential bases. The adoption of such strategies should be done in the spirit of democratic operation which as noted by Bakardjieva and Feenberg (2002) is important in electronic forums.

3.7 Conclusion

From all the discussions presented in this chapter, it can be understood that implicit in the concept of a community of practice are several notions, these being the sharing of knowledge and experience according to a situated learning philosophy, voluntary participation with the aim of securing a common goal, and democratic operation of the community such that participation is encouraged in an atmosphere of trust and mutual respect. Additionally, the chapter has shown that CoPs are valuable tools in CPD and especially in teacher CPD since the model rejects the traditional top-down approaches that are known to discourage teachers. As a logical extension to physical CoPs, online communities have been highlighted as offering further opportunities and providing a means of increasing participation not only of local groups of teachers who would welcome the chance to engage in CPD from their homes and at times suitable for them, but also for more widely-dispersed groups of teachers who may never be able to exchange experience on a face-to-face basis because of geographical distance. The limitations of CoPs have also been mentioned. So too, the differences between physical and virtual CoPs have been discussed, together with the need for a facilitator in the online scenario, and the roles and responsibilities of that person. It is concluded that through the utilisation of the CoP model, teachers' pedagogy can be enhanced and their subject knowledge can be kept up to date.

Chapter Four: The Study Setting – The Kingdom of Saudi Arabia

4.1 Introduction

In the previous chapters, the literature relating to the concepts of CPD and CoPs has been presented. These chapters have provided the information concerning the theoretical underpinnings for the research. In order to contextualise the study, however, it is necessary to gain a detailed understanding of the location of the empirical research, and therefore, this chapter highlights the context of the study, which is Saudi Arabia (section 4.2). It then addresses the educational system in Saudi Arabia in section 4.3. In section 4.4, the policies and Aims of the Ministry of Education are highlighted, and in section 4.5 details concerning Teacher Training in Saudi Arabia are presented. Section 4.6 addresses the educational context of ICT, and section 4.7 highlights the use of online training courses in Saudi Arabia.

4.2 Saudi Arabia: Background

Saudi Arabia is located in the Arabian Peninsula. It has been a member of the League of Arab States since 1945/1364 H - Islamic Calendar - (Minister of Foreign Affairs), and also a member of the United Nations since the same year. It is the largest country in the Middle East, occupying approximately 2,149,690 square kilometres (1,335,755 square miles) of territory (UN data). The Kingdom is divided into five Main Regions, these being: the Central Region, Northern Region, Eastern Region, Southern Region, and Western Region; and these five regions are divided into thirteen administrative divisions, which are: Makkah, Madinah, Riyadh, Qasim, Al-Shargiyah, Asir, Tabouk, Hail, Northern Border, Jizan, Najran, Baha, and Al-Jouf (Ministry of Economy and Planning, 2012). The following map shows these thirteen divisions.



Figure 4.1: Saudi Arabia's Administrative Divisions

The most recent census, conducted in 2012 by the Central Department of Statistics and Information (CDSI), indicated the population of Saudi Arabia as 29,195,895. A comparison between the population as recorded in that census and the one undertaken in 1974 reveals a dramatic population growth since in 1974, the population was reported as only about 7,000,000.

In terms of its natural resources, Saudi Arabia is oil-rich, being considered the largest producer and exporter of total petroleum liquids in the world. A report issued by the US Energy Information Administration indicates the Kingdom as having reserves of up to 265 billion barrels of oil, equivalent to almost one-fifth of the world's proven oil reserves (Eia, 2013). Hence, the main economic resource of the country is petroleum and its derivatives, representing 90% of the total national income.

4.3 Educational System

The educational system in Saudi Arabia was established formally in 1954/1373 H, when the Ministry of Education was inaugurated (Al-Saloom, 1989). Now, two ministries are in charge of delivering the educational system, these being the Ministry of Education, which is responsible for general education, and the Ministry of Higher Education which is responsible for education beyond that stage. General education includes three phases - primary schools (ages 6-12), intermediate schools (ages 12-15), and secondary schools (ages 15-18). The educational system in public schools is subject to Ministry of

Education (MoE) control, and in this respect the purpose and general objectives of education, together with the main objectives for each of the three phases, is determined by the MoE. Additionally, the MoE designs the curriculum, textbooks to be used, and all teacher training. These processes are implemented throughout the country with no deviation.

The Ministry of Higher Education was established in 1975 to deliver education beyond the general phase, and currently there are 42 universities in the Kingdom, which provide many different departments and disciplines, such as education, engineering, medicine, etc. These universities offer places for Saudi students who have graduated from secondary school. Within the Education Department, students are required to study for four years before obtaining a Bachelor's Degree, after which they are qualified to work as teachers in Saudi public schools.

All education throughout the three phases of general education is free for all people in Saudi Arabia, whereas higher education is free only for Saudi citizens. The government funds and provides all educational requirements in schools, such as computers, internet access, and other educational facilities.

The latest educational statistics issued by the MoE show a dramatic growth in public education both in terms of the number of schools, students, and teachers in Saudi Arabia. Table 4.3 provides the current information in this respect.

Table 4.3 Number of Schools, Classes, Students, and Teachers in Public Education in Saudi Arabia 2010-2011 (NCEI, 2012)

Phase	Schools	Classes	Students	Teachers
Kindergarten	654	2,218	43,105	5,162
Primary	12,451	114,165	2,270,190	204,874
Intermediate	7,044	43,859	1,097,313	111,442
Secondary	4,463	36,704	356,604	94,774
Total	24022	196946	376,7212	416,252

As can be seen from Table 4.3, Saudi Arabia has a very large number of teachers, amounting to almost half a million. The professional development of this huge number of teachers cannot be delivered by traditional CPD methods because of the shortages both in the number of trainers available, and the number of training centres in existence

(Ajaji, 2008; Harpy, 2006). Therefore, the MoE needs to search for alternative methods of providing CPD initiatives in order to guarantee the continued professionalism of the Kingdom's large teaching population. The use of OCoPs is one method that can be considered since as shown in Chapter Three, these forums can operate irrespective of distance and can reach out to many members.

4.4 Policies and Aims of the Ministry of Education

The MoE is currently seeking to develop Saudi society by developing the nation's educational system to be in line with the improvements that have occurred throughout the industrialised countries such the UK, USA and Japan. Its mission is firmly stated in the strategic plan for the development of the educational system, as follows:

The graduating male and female students should be equipped with the appropriate knowledge and practice. These students will have acquired practical knowledge, skills, and attitudes; they will be able to positively react to and face modern changes; they will be able to apply advanced technologies with efficiency and flexibility and to deal with international competition in scientific and practical fields. Their positive participation in an efficient educational system will allow them to develop appropriate abilities and attitudes and to spread the positive spirit of work at school environments that encourage learning and social education. (Ministry of Education, 2005:12)

To achieve its objective, the Kingdom has made education compulsory for all citizens between the ages of six and eighteen – in other words, from the primary phase through to the end of the secondary phase. Primary schools take children from six to twelve years old, intermediate schools from thirteen to fifteen years old, and secondary schools are for students between sixteen and eighteen years old.

The educational policy of the MoE was originally formulated in 1970 and consequently, there is some urgency in re-writing the policy such that it becomes more specific to reflect the system as it has developed. In particular, the MoE has the following responsibilities:

- Enrolling all Saudi children old enough to attend primary school
- Increasing the number of enrolments by encouraging educational programmes to fulfil the aims of the Ministry and the needs of industry

- Implementing educational and training programmes for teachers' colleges and others to improve teachers' skills and enrich their experiences
- Implementing educational and training programmes for society as a whole through the Social Service Centres in the teachers' colleges
- Increasing the construction of libraries and museums
- 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 (MoE, 2009, cited by Albahiri, 2010).

The effective discharge of all these responsibilities is necessary in order to achieve the aim of the Saudi educational system, which essentially is to develop the educational standard and content, and the whole educational process, which in turn reduces the illiteracy rate. Additionally, the goal of the system is to enhance teacher education and the methodology of teaching, to improve the educational infrastructure, and to integrate ICT within the different school stages as part of the learning process (MoE, 2005).

4.4.1 Secondary Schools

Given that the current study focuses on teachers of ICT in secondary schools, this particular phase of education is now discussed in more detail.

As the last phase in compulsory public education, the secondary stage is considered the most important element of general education because it determines the specialism that students will pursue at universities. Students who obtain high marks in secondary school have the privilege to enrol in Departments of Science in universities, such as medical schools or mathematics schools, whereas those with low marks are mostly directed towards arts schools in universities.

Since adopting the King Abdullah Project for General Education Development (Tatweer, 2011), secondary schools have been divided into two types, these being the traditional secondary school, and the modern secondary school. However, this particular project is still in the experimental stages and has not yet spread to all secondary schools in Saudi Arabia (MoE, 2011). In the modern schools there are two sections - the sciences and the arts. The sciences section focuses on science, mathematics, physics, and chemistry, while the arts section concentrates on social science, Islamic studies, Arabic Language, and ICT (MoE, 2011).

The MoE is responsible for determining the objectives of secondary schools, and from these, curricula are designed for each stage, and textbooks produced, thus in the Saudi context teaching is 'textbook-driven'. The main aims for secondary schools are as follows:

- Looking after the students' gifts and various capabilities which unfold at this stage and directing them appropriately, thus achieving the objectives of education in its general sense.
- Developing the students' scientific thinking and instilling in them the spirit of research, systematic analysis, the use of reference sources and the practice of sound academic methods.
- Opening opportunities to competent students and enabling them to continue their studies in higher institutions and universities of all specialties.
- Imparting in the students the best and most useful reading habits, and the desire to broaden their scope of knowledge and use their leisure time in activities that improve their personality and the conditions of their community (UNESCO, 2011:11).

4.5 Teacher Training in Saudi Arabia

In order to meet these objectives, the Ministry of Education established a special Directorate General of Training and Scholarship. Moreover, each of the thirteen educational districts in Saudi Arabia has a special department of training. The main aims of this department is listed by the Department of Training and Scholarship, as being to:

- Update teachers' knowledge about educational skills, new educational theories and new educational technology.
- Empower trainees to implement the ideas, opinions and solutions that have been taken from new research in order to bridge the gap between theory and practical application.
- Increase the capacity of the trainees to think creatively, enabling them to adapt in their school or classroom and to employ these creative skills to solve future problems in their workforce.
- Train staff to use a new generation of technology in their workforce.
- Develop teachers' research skills in order to enable them to continue their professional development, and
- Encourage teachers to be independent learners in order to maximise and develop their abilities and potential (Department of Training and Scholarship, 2004:8).

The Directorate General of Training and Scholarship in the MoE is in charge of training staff, and consequently for providing training opportunities that develop skills and knowledge, whether for teachers, head teachers, or educational inspectors. Such training is provided by the Directorate General of Training and Scholarship in three ways – short, and long-term courses in Saudi Arabia, and education overseas.

In respect of training opportunities in Saudi Arabia, these are offered in designated training centres and universities. Such courses represent in-service training, and can range in length from one to five days (short course) to a full academic semester (long, three month course). The short courses take place in the training centres that exist in the various Districts of Saudi Arabia. Each educational District has a few training course centres, and educational inspectors are responsible for conducting the training activities within them. Courses run in the morning, and in the evening, and basically, when teachers want to attend a course in these centres, they make an application to do so (MoE, 2010).

In respect of long-term training courses, these are mounted by universities in co-operation with the MoE, and take a full academic semester, with a few actually

extending over the entire academic year. However, these types of course are very limited compared to the total number of teachers who could benefit from them. Their focus is on professional education, curriculum construction and design, and the philosophy of education, and they are delivered by expert staff of the universities involved.

The third way of providing training opportunities is by sending staff to study for higher degrees, whether at Master's level or PhD, to universities in developed countries such as the UK and USA. However, these opportunities are few in comparison to the number of teachers and head teachers employed within the country.

Clearly then, there is a strategy for ensuring the continuing education of teachers in Saudi Arabia so the question of why attention should be given to the online community of practice may be asked. In this respect, there are several good reasons. The first is that CPD is not effective throughout the Kingdom, and some alternative means of provision is essential. The enormity of the country means that the MoE is unable to deliver CPD to teachers in rural areas. The second reason is the dramatic increase in the number of teachers, from 271,811 (male and female) in 1995 (Department of Information Statistics, 1996) to 364,152 in 2012 (MoE, 2012). The third reason is that the conceptual basis for CPD is different in OCoPs from that in the training centres because a transformative method is used in the former whereas the transmission method is used in the latter. And the final reason is that the OCoP provides a basis for teachers to continue their professional development, encouraging them to become lifelong learners, which is vital in the educational field because of the rapid changes in teaching methods, educational assessment methods, and other educational matters.

4.6 The Educational Context of ICT

Given the MoE's aim to develop education within Saudi Arabia such that students leaving school are at a similar level to their counterparts in the advanced nations, ICT features as a compulsory subject within the secondary school curriculum, having been introduced and integrated with other subjects as long ago as 1991 (MoE, 2008). Students have two classes per week, and these take place in computer laboratories in an effort to emphasise the practical aspect of the subject and give the impression that the students are expected to develop skills in this area.

Resourcing is in line with the number of students in the schools so there are enough computers within the laboratories for all students to study in a technological environment. This empowers students to become self-learners who can search for knowledge independently. Essentially, the computer laboratories operate as educational tools that help students to solve problems (Al-Wakeel et al, 2005 cited by Oyaid, 2009).

In 1996 the MoE established a computer club in Riyadh (Al-Jazirah, 1999). This club offers short-term training courses for teachers, some of which are free, while others carry a charge. The courses are delivered in the evening when teachers are free, and their aim is to develop teachers' skills in different subjects related to the technology, for example, Photoshop, Word, Excel etc.

Another development concerned with integrating and implementing technology in schools, is an independent project (Watani, 2006), which seeks to promote the use of technology through the monitoring of a large budget (2 billion SAR). Part of the vision of the project is to develop the capacity of teachers to employ technology in the workforce. Additionally, it aims to develop teaching skills and facilitate communication between teachers, thereby allowing them to develop their professional relationships (Watani, 2006).

The project provides electronic curricula, educational encyclopaedias and references, it creates a network to link educational sites together, and encourages competitions and seminars between the different schools.

The main objectives of the project are:

- Developing the capacity of teachers through enabling them to create their own websites which enable them to create the basis of communication to develop their skills whether in technology or education.
- Developing students' learning skills and preparing them for the future through distance education and facilitating communication between students and their teachers electronically.

- Creating a learning environment that contains electronic items that are adequate for the needs of teachers and students.
- Creating electronic educational content that is adequate for the needs of teachers and students by providing bank questions, and publishing educational experiments and educational games for different levels of students.

In the last few years the MoE has received enormous support from the Saudi Government. For example, the Saudi government launched the King Abdullah Project for General Education Development (it is called: Tatweer), with a budget of 9 billion Saudi Riyals (equivalent to about £1.5 billion). Additionally, there are a few educational sub-projects that emerge from Tatweer such as the preparation of new teachers, training teachers of science and mathematics, the development of educational leaders, etc. The Tatweer project has many objectives, including:

1. Providing continuing professional development for those working in education, whether teachers or head teachers, by conducting training courses both inside and outside the Kingdom.
2. Developing curricula and learning materials through the inclusion of activities that encourage students to think more critically, become more creative, and become lifelong learners.
3. Designing a complete system for educational standards to bring the education process in line with modern theories.
4. Designing an evaluation system to ensure the learning objectives are achieved.
5. Establishing professional standards for teachers in various disciplines.
6. Adopting a new plan for the secondary stage by applying online learning, and building a vision for the curriculum in the light of the advanced vision for the development of education in Saudi Arabia (tatweer.edu.sa, 2012).

These objectives can clearly be seen to focus on development, and consequently, the application of an OCoP (which has the same goal) can be understood as making a contribution to the achievement of the national development project.

4.7 Using Online Training Courses

The MoE has recognised the potential of using online teacher training, and signed contracts with a private company specialising in using the internet in the educational sector (MoE, 2008). Consequently, a website called Tdareebi, was launched in 2008, and the main objectives for the project are as follows:

- Giving all teachers who work in public schools (primary/intermediate/secondary), the opportunity to attend training courses.
- Delivering training courses to teachers in their workplace wherever they are.
- Developing the quality of training in the MoE by adopting technologies.
- Building a national electronic library for distance training programmes.
- Solving problems encountered by the MoE in providing training for teachers, such as covering the huge number of teachers employed, and ensuring that the entire territory of the Kingdom of Saudi Arabia is catered for.

However, currently the website is closed and despite trying to establish the reasons for this, I have been unable to do so. One potential reason has been offered by Albahiri (2010), who pointed out that the level of participation in the online training courses was lower than expected. To determine whether this was true, I asked the teachers who attended the OCoP whether they had attended any online training courses provided by the Tdareebi, finding that most of them had no idea about their existence, and that those who did had never participated in any of them.

Prior to the launch of the Tdareebi project, the Saudi Arabian government created a national centre for distance education in 2006. Called the National Centre for E-learning and Distance Learning (NCEL), it seeks to implement a new type of learning, and to facilitate delivery of e-learning to Saudi students, as well as to overcome the shortage in university faculty members who also provide training courses for lecturers and educational courses for students in the universities (NCEL, 2006). The vision of the NECL is to provide the foundation for an integrated educational system which depends on benefiting from modern technologies. In order to achieve this vision, the National Centre for E-learning and Distance Learning established its aims as being to:

- Disseminate e-learning and distance education applications in university educational institutions in accordance with accepted quality standards.
- Spread technical awareness and the culture of e-learning and distance education, as steps on the road towards building an information society.
- Participate in the evaluation of e-learning and distance education projects and programmes.
- Support research and study in the fields of e-learning and distance education.
- Organise meetings, conferences and workshops to help to develop e-learning and distance education.
- Co-operate with organisations and institutions around the world that are active in the field of e-learning and distance education (NCEL, 2006:15).

The National Centre for E-learning and Distance Learning has taken some steps and initiatives to ensure the realisation of these aims, including the implementation of the Jusur System, educational portal, and Saudi digital library. The Jusur System was established to provide training for the manpower in institutions of university education, providing optimum solutions for e-learning applications (NCEL, 2006). The educational portal involves e-courses, an electronic forum, and educational content. And in 2006, the Saudi digital library contained more than 90 digital books, all available for university students and faculty members.

Chapter Five: Methodology

5.1 Introduction

An online Community of Practice (OCoP) is based on the ongoing interactions between those people who become members. Participants have access to the OCoP on a 24/7 basis, which means that their contributions vary both in respect of their volume (since it is a personal decision how much time to spend in the OCoP), and in their intellectual content. This particular characteristic of OCoPs naturally has an impact on the methodology employed in this study, and Section 5.2 highlights the methods used and justifies the choices as the means to answer the research questions presented in Chapter One. Section 5.3 then addresses the case study. In section 5.4 the method of analysis if presented, and this is followed by 5.5 which discusses the role of the researcher is highlighted. In section 5.6, ethical issues are discussed, and in section 5.7 the principles of validity and reliability are considered in relation to the study. Finally, in section 5.8, the limitations of the study are presented.

As a reminder, the research questions are repeated as follows:

- 1. How far does an OCoP contribute to improve teachers' practices?**
- 2. How far can an OCoP assist teachers to solve the problems they face in the real world?**
- 3. What do teachers see as the differences between CPD in Training Centres and CPD through an OCoP?**
- 4. What is the potential for an OCoP being used to strengthen the professional relationship among teachers?**

The literature indicates that there are three broad ways in which research can be conducted, and that each of these uses different types of instrument. Basically, these three methods are the quantitative, qualitative, and mixed methods approaches. The methods adopted in this study are now discussed.

5.2 Qualitative Method

5.2.1 Definition

There are many definitions of the qualitative method because this approach is adopted in different fields and subjects such as history, sociology, and psychology. Stake (1995:35) emphasises this diversity, stating that “there is no single wellspring of qualitative research”.

Merriam (2009:13) defines qualitative researchers as people who “are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world”. This particular definition concentrates on the research method and its objectives. Parkinson and Drislane (2011) on the other hand, focus on the instruments of qualitative methods and the source of data. They define qualitative methods as “research using methods such as participant observation or case studies which result in a narrative, descriptive account of a setting or practice. Sociologists using these methods typically reject positivism and adopt a form of interpretive sociology” (Online Dictionary of the Social Sciences).

Denzin and Lincoln (2011) try to provide a comprehensive definition that refers to the research method, the instruments used, and the source of data. Their definition is as follows:

Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them (2011:3).

These definitions indicate the nature of qualitative research, for example, they mention that it is applied in the natural environment, and that its main aim is to achieve a deeper understanding of the phenomenon being studied. More explanation of the features of qualitative research are mentioned in the next passages.

5.2.2 Features of the Qualitative Approach

Qualitative research is differentiated from quantitative research by several characteristics. These particular features have been pointed out by some scholars who are interested in social science research (see for example, Creswell, 2003; 2009; Cohen et al, 2011; Robson, 2002; Denzin and Lincoln, 2008; Marshall and Rossman, 2006). Several of these features are listed below:

1. Qualitative research is conducted in a natural context, which in turn enables the researcher to engage in an in-depth investigation of the phenomenon being studied. (Creswell, 2003; Marshall and Rossman, 2006).
2. Qualitative research derives its data by multiple methods, whether by traditional forms such as interviews and observations, or modern forms such as emails, documents, and audiovisual materials. The ability to use various forms empowers the researcher to construct a complete picture of the situation, and hence, to build credibility within a study (Creswell, 2003; Marshall and Rossman, 2006, Robson, 2002; Denzin and Lincoln, 2008).
3. In qualitative research, the researcher attempts to understand the phenomenon through the eyes of the participants, thereby being able to frame the behaviours of the participants within the actual social context instead of producing findings which are isolated from their social/cultural environment, or influenced by researcher prejudice, or ideas arising in the literature (Creswell, 2003; Robson, 2002).
4. Qualitative research is often applied when the researcher is seeking to gain a deeper understanding, or obtain a new perspective in respect of complex issues or problems, particularly when there is no adequate information about the social context in which they arise (Creswell, 2007).

5.2.3 Justification for Adopting the Predominantly Qualitative Methods

This study seeks to discover the impact of using an OCoP as a means of CPD for teachers in the Saudi context. This aim cannot be achieved by quantitative methods because it is necessary in this study for behaviour to be observed, although I can take advantage of some quantitative data that may support the data obtained by qualitative means. In fact,

this is what happened in this study as shown Tables 7.3 and 7.5 which present quantitative data that help me to understand the impact of the OCoP on its members.

Qualitative methods enable me to observe the changes and improvements as they occur in their natural environment and context.

Additionally, in the researcher's experience within the Saudi educational field (13 years, five years as a teacher, and eight years as an educational inspector), there has been no online community of practice, as also confirmed by the pilot study conducted by the researcher in Saudi Arabia with small sample of five teachers in 2011.

Furthermore, in order to observe the impact of the OCoP, it is necessary for the socio-cultural context to be preserved. Hence, it can be seen that most research about CoPs has been undertaken by using the qualitative method (see for example, Little, 2002; Stuckey, 2007; Mitchell and Sackney, 2011) since this empowers me to cover the social context to some extent through a longitudinal study.

Taking these various points into consideration (the natural community of practice, the type of questions that I attempt to answer, the features of the qualitative approach including its flexibility, the researchers' experience, and the results of the pilot study), I have concluded that the most appropriate method to use to meet the study's objectives is the qualitative one.

5.3 Case Study

The complexity and dynamism of interaction within the social environment of the OCoP is not something that can be easily observed. Observation of such a process requires time and a focus on the people who participate in this kind of interaction. Therefore, I considered that a case study would be the most suitable instrument to address the research questions. It is also important to note that as there is no literature relating to the use of OCoPs for CPD in Saudi Arabia, the case study is the best choice because it has the ability to explain what is happening and to explore reasons why that should be.

The case study has been defined in different ways. Yin (2009:18) for instance, focuses his definition on the strategy of the case study approach, defining it as "[a]n empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life

context, especially when the boundaries between phenomenon and context are not clearly evident”.

Creswell (2007:73) extends the definition to involve the strategies and description and sources, saying that:

Case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audio-visual material, and documents and reports), and reports a case description and case-based themes.

From the previous definition, the characteristics of the case study approach can be seen as follows:

- Case study seeks to investigate a complex situation.
- Case study attempts to gain deep and rich information about the subject being studied.
- Case study draws on multiple data collection methods.
- Case study adopts different forms of data collection based on the aim of research.

5.3.1 Justification for the Choice of Case Study via an OCoP

The exact methodological approach to use for any study should be decided according to the nature of the research and the kind of research questions that it aims to address (Creswell, 2003; Robson, 2002; Yin, 2012). In respect of this study, the justifications for choosing case study are:

Firstly, the study implements a Community of Practice in a real world context (i.e. it is established for real teachers in Saudi Arabia), thereby aiming to collect data in a natural setting, which predisposes the use of a case study.

Secondly, I seek to answer the exploratory question, of how this newly-implemented Community of Practice actually operates, and how the social interaction within it can support teachers in Saudi Arabia in their efforts to improve their professional practice

and reflection. Hence, the ability of the case study approach to provide explanations, means it is a good choice.

Thirdly, the study evaluates the potential of the OCoP to assist in the field of professional development, and to indicate how it can be adopted as a new form of CPD programmes. Again, the case study is a useful method since it enables a strong focus on several aspects of one main issue (professional development via online interaction).

5.3.2 Identifying the Research Case (OCoP)

Yin (2011) emphasises that in the case study approach, the cases themselves are not selected on the basis of any statistical method. Rather, they are chosen on the grounds that they are able to generate information that is of use to the researcher in his/her attempts to gain an in-depth understanding of the phenomenon.

Before starting the OCoP, I went to the educational department in Qassim Region to obtain an official letter to send to the secondary school to invite interested teachers to participate. From this invitation I was telephoned by 18 teachers who wished to take part but during the period of training, four teachers withdrew. One had been accepted for a Master’s degree which was going to take up his time, another withdrew because he had family matters to attend to, and the other two gave no reason. I called both of them to try to learn their reasons but was unable to obtain any response.

The 14 teachers who remained and comprised the case study sample, presented different teaching experience, different types of classification, and taught in different types of school, thus making it possible to gain information about varying classroom situations and predispositions among them to engage in CPD programmes. Table 5.1 provides demographic details about each participant.

Table 5.1: Demographic Information Concerning the Participants in the OCoP

Participant	Age of teacher (Years)	Teaching experience (Years)	School Location		Type of school
			City	Type of classification	
Ahmed	43	15	Bedae	Urban	Public school
Jara	32	8	Bura	Rural	Public school
Satam	31	6	Raas	Urban	Public school

Sama	37	11	Onez	Urban	Private school
Hamad	32	7	Bedae	Rural	Public school
Aman	40	2	Bura	Urban	Private school
Atta	30	3	Bura	Urban	Private school
Fahad	27	7	Aeeon	Rural	Public school
Fisal	34	8	Bura	Urban	Public school
Mahmoud	40	11	Bura	Urban	Private school
Eaad	35	10	Onez	Urban	Public school
Ayup	33	8	Bura	Urban	Public school
Adel	30	5	Raas	Urban	Public school
Enaz	32	6	Aeeon	Rural	Public school

From Table 5.1 it can be seen that the participants come from the main cities and provinces in Qassim Region, and hence, the experiences they bring to the OCoP can be said to reflect the situation there. Teachers' teaching experience can be grouped into three categories, the first group between 11-15 years, the second group between 6-8 years, and the third group between 3-5 years. Additionally, the teachers work in different types of classification, with ten teaching in urban areas and four teaching in rural areas. Furthermore, there are different types of schools represented, as ten teachers work in public schools, and four teachers work in private schools.

Qassim Region is selected as the example for the research for different reasons. Firstly, this region is considered one of the biggest in Saudi Arabia, and secondly, as such it has both urban and rural areas which would help to provide a detailed description and understanding of the situation being studied. Thirdly, I am familiar with the cities of the Qassim region and that was a factor in facilitating his visits to schools for the purposes of training and observation.

Teachers of ICT in secondary schools were chosen for two reasons. Firstly, teachers of ICT have the capability and skills to utilise technologies, and only required a few days' training on the use of Moodle as a new platform for interaction in the OCoP. Teachers of other subjects would not have found it easy to participate in the OCoP in a short period of time because their training on Moodle would have required much more input and eaten into the total time available for observation of CPD interaction. Having decided on

teachers of ICT, the choice of which stage of education naturally followed as being the secondary stage, as the ICT curriculum does not feature elsewhere in the system.

In order to foster the belief among teachers that the OCoP was in fact their community, I avoided making any suggestions regarding the subjects for discussion, thereby giving them the opportunity to decide what they needed in their educational environment. At the beginning of the OCoP, teachers suggested eight topics for discussion in the community, such as preparation of lesson plans, teaching strategies, solving problems, and using new technology

The process of interaction was clearly seen. For example, in the first week, one teacher (Aman) sent his lesson plan to the OCoP and colleagues offered their suggestions for improving it. The teacher then tried to develop his lesson plan and implement the revised plan in order to see whether it improved his practice. He then returned to the OCoP to report to his colleagues what difficulties he had faced. In the following week, another teacher sent his lesson plan to the OCoP, and the process was repeated. This procedure occurred for three weeks. Then, in the following week, another teacher (Ahmed) explained how co-operative learning works in the classroom, and some teachers tried to implement this strategy in their own classrooms, subsequently returning to the OCoP to tell members about their experience and to gain more suggestions about how to overcome any difficulties encountered. In terms of problem-solving, teachers were encouraged to post any problems they were faced with, to the OCoP so they could get the benefit of suggestions from members that might help them, whether in their classroom or in their computer laboratory.

5.3.3 Data Collection Techniques and Sources

As the study seeks to observe the effect of a CoP from different aspects – whether in comparison with CPD in the training centres, or in comparison with the online communities of which ICT teachers were already members – it was essential to consider the techniques for gathering data and the sources from which the data would come to address these issues. Table 5.2 presents the information in these respects.

Table 5.2: Data Collection Techniques and Sources

Techniques	Target
Pre-OCoP Interview	All teachers
Observation of interaction in the OCoP for three months	All teachers via the whole facilities provided in the OCoP e.g. live chatting, typing, downloading, uploading, documents
Observation	Three teachers observed in their classrooms on three different occasions (in the beginning of the OCoP, in the middle and at the end of the OCoP)
Post-OCoP Interview	All teachers

5.3.3.1 Interview

Interviews are a type of interaction between two people or more. The main aim of the interview is to help me to gain a deep understanding of the perceptions and/or attitudes of the participants in respect of the phenomenon being investigated. Interviews allow researchers to visit the inner worlds of interviewees whereas other methods of enquiry, for example questionnaires, are fixed and limited in their ability to truly explore what participants are thinking or believe. Patton (1990:278) stated that the interview aims to “find out what is in and on someone else’s mind”. Other researchers (see for example, Creswell, 2007; Cohen et al, 2011; Robson, 2002) have also mentioned the advantages of the interview, one being that it enables a researcher to explain ambiguities that might arise in different answers from an interviewee, and that it helps the researcher to correct any misunderstanding that might arise in respect of the questions asked. Thus, the interview allows a researcher to cover all his/her research questions. However, despite these advantages there are also some pitfalls associated with interviewing, the main one being that interviews are time-consuming thereby reducing the number of people prepared to participate. Another disadvantage is the danger of bias. Bell (2010:169) observed that “[t]here is always the danger of bias creeping into interviews”, and this may happen because the manner of interviewing might have an effect upon interviewees, or because participants may become restless if

the interview is taking too much time, and consequently, bring the interview to a premature close. In order to avoid the possibility of bias either during the interview or in the interpretation of the data obtained, certain procedures were followed in the study. For example, all interviews were recorded by MP3 after gaining the permission of each respondent (see Information Sheet, Appendix 1). Interviewees were contacted by mobile phone to arrange the interview and they had complete freedom to choose a time and place (the workplace, a public place such as a coffee shop, or elsewhere) suitable for themselves.

The main difficulty faced in the pre-OCoP and post-OCoP interviews was arranging an appropriate time and place for teachers who had two jobs, such as Mahmoud and Aman. Because of their busy schedules, they were given complete freedom to choose the time and place of their interviews and weekends were not excluded. In the event, the interviews with Mahmoud were held in his schools at the end of the school day, and those with Aman were conducted during the weekends, also in his school because his accommodation was next to his school.

Within the research methodology literature, three different types of interview are identified (e.g., Cohen et al, 2011; Robson, 2002; Patton, 2002). Robson categorised the style of interview according to its structure, noting that there is the structured interview, the semi-structured interview, and the unstructured interview. In the structured interview, the researcher asks specific questions with fixed wording and usually in a particular order. These questions are asked in a similar way to those on a questionnaire and there is no opportunity for any discussion in respect of any one of them, although the interviewee does have the opportunity to ask for clarification of any question. The unstructured interview on the other hand, operates in the complete opposite way, as the approach is very flexible and the interviewer simply has a general area that s/he wishes to investigate, and the actual questions are developed purely by the progression of conversation rather than being decided in advance. In the semi-structured interview, the researcher is guided by themes to be covered, and whilst having a set of questions to be asked, can amend these in wording and order, depending upon the flow of conversation. Essentially, the answers given by the interviewee in this type of interview create more questions that support the topic of discussion.

The flexibility of the semi-structured interview, and the possibility of covering the issues issued in the OCoP, led to the decision to adopt this style, both for the pre-OCOP interview, and the post-OCOP interview (see Appendix 4). These two interviews were conducted at the start and the end of the OCoP respectively. The following sub-sections give details about both of them.

5.3.3.2 The Pre-OCOP Interview

The aim of the pre-OCOP interview was to gain information about the interviewees' experiences with OCs (Appendix 3), and sought to determine:

- Interviewees' experiences of being a member of an online community e.g. how it was established (as a formal structure by the school, the Ministry of Education, or an informal structure by a self-motivated group of ICT teachers).
- Interviewees' opinions about the growing development of these online communities.
- Interviewees' feelings about the experience of being a member of online communities i.e. was it motivating/encouraging?
- Interviewees' beliefs about whether OCs met their professional needs, i.e. do they encourage them to share experience and knowledge?

These previous questions helped me at the end of the study, in making a comparison between these OCs and the trial OCoP, using information such as levels of interaction in the OCoP, and details given in the post-OCOP interviews.

5.3.3.3 The Post-OCOP Interview

The post-OCOP interview aimed to investigate the attitudes of teachers in respect of the usefulness of the OCoP as a method for CPD (Appendix 4). Essentially, the post-OCOP interview was designed to discover:

- Teachers' expectations before they joined the OCoP and whether they achieved these.
- Teachers' active participation in the OCoP and its contribution towards their professional development, e.g. lesson planning, pedagogy, teacher collaboration.
- Teachers' perceptions of whether the OCoP helped in solving their problems.
- Teachers' perceptions of the Impact of the OCoP in modifying their teaching practices.
- Teachers' perceptions of the difference between the OCoP and other OCs.
- Teachers' perceptions of the usefulness of the OCoP when compared with training courses in the training centres, e.g. teacher collaboration, strengthening of professional relationships, development of practices.

5.3.3.4 Classroom Observations

Observation was used to document any changes in teacher behaviour within the classroom, and enabled corroboration of what teachers had said in their interviews and/or what they had posted in the OCoP by allowing the opportunity to see whether new knowledge and skills had actually been implemented. Teachers' verbal responses about their pedagogy do not always reflect the reality in their classrooms, and consequently, the Observation Form was designed to see changes in three important areas (Teaching Strategies, implementation of the Lesson plan and Educational Resources) (Appendix 5).

The first part of the Observation Form concerned the teaching strategies adopted within the classroom, such as teaching by group work, using practical applications in the lesson, giving students the chance to discuss issues, etc. It was vital to observe the evolution of these practices to see changing practices in the classroom. The second part of the Observation Form concerned the implementation of the Lesson Plan since this plays an important role in organising the structure and content of the lesson. This section involves, for example, establishing whether the lesson plan is clear, whether there is an appropriate balance of time allocated to different parts of the lesson, and whether the content and activities are logically sequenced. The last part of the observation involved the use of educational resources since such use is important for ICT teachers because the subject is considered a practical one. So information was documented regarding whether teachers made use of such educational tools in their classrooms, for example, whether they used the internet to achieve the aim of the lesson, whether students participated in the use of such resources, and whether information and ideas were exchanged using technology, such as Email, or Wiki.

The item scoring in the Observation Form (Appendix 5) was categorised into two scales:

- The item was divided into five parts: Very often (when the teacher adopted this method during his teaching to cover the whole lesson subject); Often (when the teacher adopted the method in a part of the subject); Sometimes (when the teacher adopted it when doing certain activities); Rarely (when the teacher adopted it with only part of the group); and Very Rarely (when the teacher did not adopt it at all).
- The item-scoring scale was increased from 1 indicating the lowest score, to 5 indicating the highest score. This was based on observation of how the teacher

implemented his lesson plan in the classroom, the clarity of the lesson plan, and whether the students understood what was being taught.

Teachers of the OCoP were divided into three groups based on the years of their teaching experience, these groups being as follows: between 3-5 years - four teachers; between 6-10 years - seven teachers; between 11-20 years – three teachers, as shown in Table 7.6. One teacher from each group (three teachers) was chosen based on the similarities between them. They were told that they would be observed and asked to behave normally. This request was repeated on the day of the observation.

The Observation Form was used during the observations, and after each class, the teacher concerned was asked any questions that might have arisen either about the participation of students or the educational resources. In reality this took just a few minutes.

The observations were conducted at three different times in order to fully observe and understand changes. A total of three teachers were involved in this aspect of the study, giving me the opportunity to go into three different schools, on three different occasions (a total of nine observations).

5.3.3.5 Observation of Interaction within the OCoP

The last instrument used to gather data, was the content of the online interaction between teachers during the period of the OCoP. This includes the messages and educational materials that were exchanged among teachers in the OCoP. These messages offer raw data which can subsequently be used to answer the research questions. It is important to remember that as the OCoP was accessible for teachers regardless of the time and their location, their contributions were made at all hours of the day irrespective of whether they were at school or not.

The interaction via the OCoP continued for a three month period (17th February - 10th April 2012) and the posts made, and the log of all interaction, were recorded and kept within the computer file. The interaction throughout the period was observed and categorised based on the Practical Inquiry Model developed by Garrison et al (2001) as mentioned in the literature review.

5.4 Analysis of Data

As mentioned already, all interviews were recorded by MP3 in order to increase the internal reliability of data by capturing exactly what was said, and to allow the interviews to run smoothly, without having to stop to handwrite responses. The interviews were conducted in Arabic, the mother tongue of all interviewees. I transcribed the MP3 recordings myself and then saved them in a secure Word document. Thereafter, I translated all the Arabic transcriptions into English and subsequently sent these translations to a translator to ensure that my translations reflected what the interviewees actually said.

At the end of this process, a very large amount of data remained, which was subsequently coded in order to arrive at particular themes, and to understand the relationship between these.

For this task Atlas.ti Qualitative Analysis Software was used because it has some advantages which are important. For example, this software retains the raw data when comments are made upon it. Additionally, as noted by Creswell (2007), analysis software helps me to interpret and understand the meaning behind the data. Furthermore, this software helps in determining the relationships between different data and draws associations between themes (Creswell, 2007). Moreover, Atlas.ti supports Arabic, unlike other software such as Nvivo.

The aim of analysing data is to investigate the themes and relationships such that the particular research questions posed can be answered. Data analysis required systematic exploration to gain an in-depth understanding of the data, and as part of this systematic process, I read the data many times to determine the codes and themes. The process involved a thematic analysis of the semi-structured interview data, and this was chosen as an approach because this method is the most common way of analysing qualitative data (Bryman, 2012). Furthermore, thematic analysis is considered a foundational method for qualitative analysis that enables novice researchers to acquire skills that can be transferred when using other forms of qualitative analysis.

Interview transcripts usually produce large amounts of data, and thematic analysis is the most appropriate manner of dealing with this. Braun and Clarke (2006) have

identified a six-phase process that should be followed when using a thematic approach to analysing data, as shown in Table 5.3.

Table 5.3: Six-phase Guide to Conducting Thematic Analysis

Phase	Description of the process
1- Becoming Familiar with the data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2- Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3- Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4- Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic ‘map’ of the analysis.
5- Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6- Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Source: Braun and Clarke (2006:87)

In this paragraph an example of the use of thematic analysis in the interview transcripts is given.

Table 5.4 Demonstration of Coding - Theme: Practice

Data	Sub-theme or code	Theme
... collaborative learning is the better method that can be applied within the lesson - especially in the subject of computing ...	Using a different teaching method	Practice
... Teacher plays the role of the instructor and the manager [in collaborative learning]...	Changing the role of the teacher in the class	
My opinion is that you have nothing but your approach of the traditional, usual method, and the true or false questions and that is it ... It was excellent and motivated me to go back to using a new teaching method	A change from the traditional to use a new teaching method	
... Observing has no usefulness or benefit for professional development ...	No matter for professional development	
... We surf the internet, we expose a lot, but I look for experience, practice rather than theory	Looking for practical rather than theoretical advices.	
... Thus, I do not really recall that they [online communities] have contributed to changing my educational practices, although I may have benefited from them technically.	Benefits of other online communities	
I have noticed an increase in the students' self-confidence as they discuss and interact with each other. This has also enhanced the students' sense of responsibility and their understanding of the subject	Impact of changing teaching practice	

With regard to the interaction in the OCoP, it has been mentioned in the literature review that people in the OCoP learn through moving from the periphery to the centre.

So, in order to discover how the teachers can learn from each other by participating and interacting within the OCoP, three lenses are used.

The literature on Communities of Practice indicates that members of such communities learn by moving from the novice stage to the old-timer stage, as they switch from being participants at the periphery to becoming participants at the centre. Since this move involves learning the practices of the community, it indicates a form of teacher learning. It also demonstrates that the online community is indeed functioning as a CoP. I identified a set of indicators to explore how far an individual is moving through this process:

- The number of posts the individuals makes
- The levels of overall participation the individual has in the OCoP
- The difference between the individual's engagement in the OCoP compared with engagement in other online communities (OCs)
- The difference in the amount of time the individual spent in the OCoP compared the time spent in other OCs
- The amount of advice provided to other members

Most of this information was obtained using Moodle logs. Like many other pieces of educational software, Moodle provides the facility to enable continued interactions between community members, and to log interactions, providing statistical data such as the number of posts for each member. A copy of the Moodle log appears as Appendix 6.

Moving to the centre of the community cannot be determined simply by counting the number of messages posted in the OCoP, since it is the quality of the interactions that is important and hence, the interactions must be categorised. In order to do this, the Practical Inquiry model developed by Garrison et al (2001) was used. As explained in the literature review, this model has four phases: triggering, exploration, integration, and resolution.

Using this model, each message was categorised as illustrated in Tables 6.1, 6.2, 6.3, and 6.4. For example, the post: "Mr. Xxx Could you please send me the exercise that you

used with your students” was categorised as Information exchange (T.1). Another example, the post: “Thanks it is creative work” was categorised as an Appreciation message. A third example, the post “I taught my students by using collaborative learning method and I found it very useful but I met some difficulties such as ...” was categorised as vicarious application to real world (T.2).

Both of the first two elements of the framework are primarily concerned with how individuals and groups learn to practise differently. However, it is also necessary to discover how individuals learn to think differently about their practice, and particularly whether they learn to think in ways that are likely to support further professional development. In order to investigate this, the three ‘levels of reflection’ embodied in van Manen’s theoretical model are used. As indicated in the literature review, the first of these levels is Technical rationality, which involves simply recalling what others have said. The second level is seen when learners extend that recall and consider whether what others have said is applicable to their situation or whether some adjustments are needed. And the third level involves the learner reflecting in a critical way so that s/he can offer some justifications for accepting or refusing others’ ideas or practices.

5.5 The Role of the Researcher

Given the design of the research study, my role had two distinct features. At the start of the OCoP it was necessary for me researcher to act as trainer, since the participants were new to the Moodle Software which was to be used as the basis for discussion and sharing of educational resources. Once the participants had become familiar with Moodle and were able to use it competently, my role changed to that of administrator since accounts had to be created for all participants. Thereafter, I functioned as co-ordinator for the OCoP, having chosen not to undertake any role in the professional development of teachers. This choice was made for two reasons, the first being the wish to leave teachers free to determine their own discussions and negotiations, and the second being to retain the credibility of the experiment because it was believed that some teachers might participate merely to please me.

As moderator/co-ordinator, my role involved several responsibilities. Essentially, these were to:

- Design a timetable containing the contributions volunteered by a few teachers as items for discussion in the OCoP, such as lesson plans, teaching methods.
- Ensure the procedural rules were adhered to during the discussion.
- Remind the person (privately) who should send a first draft of lesson plans or teaching method via email, SMS, WhatsApp (platform mobile messaging application for iPhone, BlackBerry, Android).
- Make participants comfortable with the system and the software and make the technology transparent in order to allow teachers to concentrate on the CPD matters.
- Encourage teachers to introduce themselves in order to build a sense of belonging and community.
- Apply the feature offered by Moodle by sending a private message to all teachers when a new topic of discussion has been uploaded.
- Resolve any technical problems that teachers may face.

5.6 Ethics

Ethical issues are important in research, and must be given due consideration in order to guarantee that the research process has been undertaken correctly, and that the results are trustworthy, and generalisation might be made from them (Johnson and Christensen, 2008). Clearly, when ethical processes are used in research, the potential for tension among participants is reduced, and this in turn, increases the likelihood that contributions are more honest, and that more credible findings emerge. Bearing this in mind, I followed all recommended ethical procedures during the study, as explained in the following paragraphs.

First of all, the British Educational Research Association's (BERA) Ethical Guidelines for Educational Research (published 2004 and revised in 2011) were followed completely. These guidelines cover issues such as the persons who may be asked to participate in research, academic freedom, and knowledge. In conducting the study, the aims of the research were made very clear to all the respondents, all participants were assured that the data they provided would remain confidential, that their identity would not be disclosed, and that all the data collected would be used only for academic purposes (to meet the aim of the research), and would be destroyed at the end of the project. All of

these assurances were given in the Information Sheet (Appendix 1). Each participant was told that he had complete freedom to withdraw from the study at any time without giving a reason, and this was not only said verbally, but also included in the Information Sheet and on the Consent Form (Appendix 2).

Furthermore, the University of Manchester's own process requires all researchers to complete relevant documentation for approval by its Committee on the Ethics of Research on Human Beings, and prior to conducting the study, I complied with these regulations, providing details of the study sample, age, the intended way of communicating with the participants, the research instruments, the Information Sheet, and Consent Form. Consequently, approval was given to proceed.

During the interaction via the OCoP all steps were taken to protect the online community from the public in order to fulfil the promises that participants' interaction would remain private between themselves as members of the OCoP. Hence, no person from the general public had access to the community. To ensure this privacy of communication in the OCoP, before launching the community each member had a strong password in order to reduce the possibility of someone stealing the password.

5.7 Establishing Validity and Reliability

It is essential to ensure that all the data collected as part of a research project, and that the interpretation of that data can be trusted, and it is consequently important for researchers to show evidence that their research findings are indeed credible (Maxwell, 2005; Creswell, 2008; Merriam, 1998). In order to increase the credibility of the findings of this study, several steps were taken as follows:

5.7.1 Validity

According to Cohen et al (2011:179), "validity is an important key to effective research". Hence, processes such as triangulation, checking findings, and recording all data rather than simply parts of it, are essential.

Triangulation is a common procedure which is used to ensure the validity of research findings (Lincoln and Guba, 1985; Maxwell, 2005, Creswell, 2007). Creswell (2012:259) defines triangulation as

The process of corroborating evidence from different individuals (e.g., a principal and a student), types of data (e.g., observational field notes and interviews), or methods of data collection (e.g., documents and interviews) in descriptions and themes in qualitative research. The inquirer examines each information source and finds evidence to support a theme. This ensures that the study will be accurate because the information draws on multiple sources of information, individuals, or processes. In this way, it encourages the researcher to develop a report that is both accurate and credible.

In this study, the opportunity to corroborate evidence came from using three different types of instrument – semi-structured interviews, classroom observation of a sample of teachers on three different occasions, and observation/monitoring of the teachers' interaction within the OCoP for a period of three months. In addition, the fact that the teachers who participated came from different cities and different types of area (urban/rural) (Table 5.1), means that the data supplied by the teachers were coloured by the diversity of these teachers' backgrounds, and this increases the validity of the findings, and minimises any bias.

Another point supporting the argument for validity is the long duration of the study, since participants interacted with each other within the OCoP for a period of three months (February 2012 - April 2012) and as noted by Maxwell (2004), being able to observe interaction and negotiations over a sustained time period is a well-recognised strategy for maintaining validity. During these three months I was able to resolve any technical difficulties to ensure the smooth-running of the community, and my continual observations gave the opportunity to gain a detailed picture of the interaction and development of the community, which subsequently helped in interpreting the data.

5.7.2 Reliability

Joppe (2000:1) defines reliability as “[t]he extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable”. This definition shows that the result of research should reflect the society being studied as much as possible for it to be considered reliable. Yin (2009) makes the point that if a study is reliable, then the same results and conclusions will be obtained if that same study is repeated by another

researcher using the same procedure with a similar sample. Robson (2002) comments that attention to the reliability of a study seeks to minimise the errors and biases in qualitative research (Robson, 2002; Creswell, 2009), and this is a big challenge facing qualitative research since the data are not subjected to objective statistical testing as in the quantitative method, but rather subject to interpretation, being collected through interviews or observation. In this respect, Oppenheim (2000), Cohen et al (2011) and Creswell (2009) all emphasise that it is impossible to conduct research without any bias, and in order to minimise bias and increase the reliability in the current study, certain steps were taken. Firstly, all the data were recorded to ensure accuracy of recall - the interviews were recorded using the MP3 device, and all the teachers' interaction and contributions were documented on the computer in the OCoP. This enabled me to refer back to the data any time to check what had been said or written, thereby increasing the reliability.

Another technique adopted in the study (as mentioned in Chapter Seven) was the use of Arabic, the mother tongue of all interviews. This enabled all participants to communicate in their preferred manner. Moreover, the translations of the transcripts from Arabic to English which I made, were checked by an external expert (a PhD graduate in Linguistics, fluent in both Arabic and English). Hence, the accuracy of my translation was checked and guaranteed.

Most of the data – i.e. the interview data, and the OCoP participation/interaction, was recorded and saved electronically, thereby increasing and ensuring reliability in the different stages of data analysis.

Furthermore, in order to guard against researcher bias in the categorisation of the OCoP posts, a sample of these posts was sent to an independent reader, a postgraduate student (PhD) whose mother tongue is Arabic, to classify them according to the Practical Inquiry Model.

5.8 Limitations of the Study

Although CoPs have become popular and have been adopted by many authorities and organisations, there are some limitations associated with their use, one being the lack of shared identity that can result from a membership which is not specialised, and hence

has no body of knowledge and experience to contribute as a starting point. Low levels of knowledge and expertise among all members hinders knowledge transfer and the exchange of experience, thereby leading to disillusionment among participants whose expectations of self-development are not met. In such cases, members leave the CoP. Ultimately, a CoP suffering the withdrawal of members and a consequent lack of participation and overall activity would fail to achieve its aim (Hislop, 2004; Longworth, 2006). Therefore, there is a requirement for the CoP's facilitator, should one exist, to encourage interaction (Berge, 1995; Brook and Oliver, 2003; Kollock and Smith, 1996; Wenger et al, 2002). These actions include volunteering, clarity of aims of CoP, a variety of experience of participants, and various ways to participate such as live chatting and live e-conferencing. All of these actions are aimed at remedying this drawback.

The self-directed learning that occurs within a CoP can also be a weakness as well as a strength, since if the boundaries for the CoP objectives are not clear, such direction may detract from the aims of the community. Clearly, self-directed learning is beneficial in its ability to stimulate teacher participation and the sharing of knowledge and experience (Wenger, 1990), but when it clashes with CoP goals, it has a negative effect. Moreover, it might create negative results when participants work against each other or they do not respect each other. However, I was able to manage this drawback by issuing a very clear statement both readable and audible about the importance of respect among members. Furthermore, I had control - as the manager of the OCoP - over the debate, which enabled me to realise and prevent this kind of risk. Moreover, this drawback was less apparent in the OCoP because all members were adult educators – teachers – and at the same time each one, a specialist in one subject.

A third limitation is the difficulty of building trust among members of a CoP (Vasconcelos et al, 2004). This limitation was managed by holding a meeting, prior to the start of the OCoP, involving all members. Additionally, participants used their real names instead of nicknames, thereby building trust among them. Furthermore, the community was for members' use only, and closed to the public.

A fourth limitation in the use of OCoPs can be seen in asynchronous communities, in which there is the potential for communication among members to be slow, thus causing frustration and boredom, and resulting in negative attitudes towards the worth

of participation. At the same time, the dialogue via synchronous communication may not give sufficient time for members to reflect (Gray, 2004). In order to overcome this drawback SMS messages and emails were provided to keep members updated. Also, all the synchronous communication was recorded and provided to offer opportunities for members to consider its content or refer to within their appropriate time.

Some limitations are also associated with the context of the study, which was in itself an experiment, of the type never conducted before in Saudi Arabia. Specifically, the limitations can be summarised as follows:

The research was restricted to male teachers for cultural reasons. In the educational system in Saudi Arabia there are separate schools for girls and there are some cultural barriers to involving female teachers in research. Also, the OCoP required the training of teachers in how to use Moodle and I was unable to train female teachers; nor was I able to interview female teachers on an individual face-to-face basis. The cultural reasons preventing such interaction necessitated an all-male sample, and it may have been that an OCoP comprised of male and female members might have demonstrated a different dynamic.

The OCoP members came from just one of the eleven regions in Saudi Arabia because of the time restrictions imposed on the fieldwork and the budget limitations. In recognition of this limitation, I tried to create variety within the OCoP's membership by including teachers from both rural and urban cities, and public and private schools, and teachers with different types of experience (Table 6.8).

The OCoP members were necessarily from just one stage of general education, the secondary phase, because the subject of ICT is only taught at the secondary level. It may be that the attitudes towards CPD via an OCoP of teachers in the intermediate and primary phases might be different from those of teachers in secondary schools.

The study includes only 14 teachers because the adoption of Moodle as the software required me to train participants in its use. Furthermore, the inclusion of pre- and post-

OCOP interviews made it difficult to increase the number of teachers that could be involved given the time restrictions.

Chapter Six: Case Study

6.1 Introduction

After presenting the methodology adopted in the study, and discussing what ethical considerations were made throughout the whole research process, the thesis now introduces the individual cases relating to various individuals in the OCoP. This manner of presentation has been chosen because it helps to develop the story (case) for each teacher, presenting the teacher's behaviour in other online communities, to which he belonged. Although the context is for professional development as an online community, professional development itself is about how individuals change in terms of thinking and practice. I was interested in how these changes varied between individuals and why. Therefore, I present case studies of individual teachers in this chapter in order to explore these matters. In this respect it was important to establish teachers' viewpoints about the value of these OCs as methods of CPD. These opinions and indications of their behaviour can be obtained during the pre-OCoP interview, during the observation of the interactions of teachers within the OCoP, and during the post-OCoP interview when teachers were asked to reflect on their experience within the OCoP. Through these different mechanisms, the teacher's professional development can be observed. Additionally, the observation exercise undertaken in the classrooms of some teachers enabled me to see the professional development that had occurred as this was implemented in the real-life situation. This section presents five cases - Mahmoud, Atta, Ahmed, Aman, and Eaad - teachers chosen because they represented different geographical areas, different types of school, and different teaching experiences, thereby reflecting all the experience within the OCoP. Each case is presented in detail and includes four sections, these being: the teacher's background, analysis of the Pre-OCoP Interview, analysis of the interaction during the OCoP, and analysis of the Post-OCoP Interview. In the case of the teachers who were observed – Mahmoud and Atta – there is also another section which reports the analysis of the observation. Thus, section 6.1 illustrates the first case of Mahmoud, the second case is Atta (section 6.2), the third is Ahmed (section 6.3), the fourth is Aman (section 6.4), and the fifth is Eaad (section 6.5).

6.2 First Case: Mahmoud

6.2.1 Background

Mahmoud was 40 years old, his experience of teaching of ICT was 11 years, his teaching experience was in different Arab countries - two years in Egypt, two years in Libya, and seven years in Saudi Arabia. He studied at university for four years in Egypt and held a Bachelor's degree in ICT and Mathematics; this degree secured him a job as a teacher of ICT. Mahmoud had a relatively active membership with one online community (www.7asabco.org) and membership of an email group created by the Educational Department in Al-Qassim District to make connections between teachers of ICT in the district. He visited this ICT website two or three times per month. He attended 40 hours of training in official training centres but never attended discussion groups, or workshops or video conferences. Mahmoud taught in a private school in a rented building and he experienced few of the facilities in his classroom that he wanted to possess for the teaching of ICT. During the period of the OCoP he retained his membership from the fourth week and continued his membership and contribution until the end of field study. His contributions within the OCoP reached 20 messages, and he viewed and read the contents of the OCoP 216 times. His contributions and participation via the OCoP will be presented in the second section.

6.2.2 The Pre-OCOP Interview

During the last three years Mahmoud attended 10 hours of official training courses. He was questioned about his experiences with CPD in training centres and replied as follows:

Interviewee: Reasonably good, but I have two problems. It lacks variety because training is only around one subject. Also, in many cases it becomes an obstacle for curriculum completion. There is no mere benefit from such short courses as well.

Interviewer: what do you mean by short courses?

Interviewee: I mean courses that are two or three hours long. These are not sufficient, in that they ought to contain practical things, group workshops, and discussion sessions. In addition, the trainer is the major source of information in training centres. In case a trainer is not over qualified or the trainee is not satisfied, then the training session turns to be of totally no use. Due to all these reasons, I have lately become unwilling to enrol in any training session!!

In the previous quotation Mahmoud mentioned three issues considered very important in CPD. The first is the lack of diversity in the TCs. There is just one subject of discussion and one method to implement the subject. Diversity is, however, very important in educational training because all teachers have different backgrounds and teaching environments. The aim of any training course not only to increase teachers' knowledge about their subject, but also to reflect the diversity of their environment and help them appreciate the variety of teaching methods. Additionally, such diversity encountered in TCs will encourage teachers to accept the differences in teaching that might be apparent in fellow teachers. Likewise, diversity in TCs would motivate teachers to be more active and participate in CPD programmes. In Mahmoud's case, it is clear he has become unwilling to attend the TCs.

The second issue mentioned by Mahmoud is that training in TCs adopts a theoretical approach with no tangible examples of how to adopt new practice in his own environment. This is a main problem in current CPD initiatives that fail to offer practical guidance, and which therefore fail to create positive effects upon teachers, which is the main aim of professional courses.

The third point raised by Mahmoud is that TCs adopt a top-down approach where trainers talk and teachers listen. This transmission method cannot work with adults who already have experience and knowledge. The teacher is no longer the receiver of information or knowledge, but should rather, share his expertise and knowledge, and thus acquire more. Teachers should participate in CPR initiatives order to make sense of their experience otherwise such initiatives are wasted, as is indicated in the literature.

These three comments led Mahmoud to view TCs in a negative way, as noted in his statement: "I have lately become unwilling to enrol in any training session!!"

Mahmoud was a member of one online community and an email group created by the educational department aimed at facilitating communication between ICT teachers to allow for the exchange of experience and expertise among them. In respect of Mahmoud's relationship with both these groups, Mahmoud said:

Interviewee: Teachers of computer science are members of the Burayda Group which was established by the Department of Education. We communicate and exchange correspondence through this mail group. We share circulars and files for new information but there is no face-to-face interaction between us. I have a membership in OC (Hasibko). Through this OC I can download many previously prepared PowerPoint files on different topics. This helps me save my time since all I do before displaying them to my students is updating them by making necessary amendments such as date of lessons or any other marginal changes.

Interviewer: do you still have a membership in that forum?

Interviewee: Yes, I still have a valid membership in that forum. I logged in twice a month on average as needed.

Here Mahmoud mentioned two methods for obtaining knowledge. One being the email group involving ICT teachers only. Interaction consists of official letters, worksheets, etc., rather than communication between teachers, and hence it does not create a genuine opportunity for creating and sustaining teacher improvement. To do this it should allow for teachers to share information and experiences. The second method for obtaining knowledge is the online community of which Mahmoud was a member, which was (<http://www.7asabco.org>). When asked why he became a member of the OC he said:

This OC helps me save my time since all I do before displaying them to my students is updating them by making necessary amendments such as date of lessons or any other marginal changes.

Clearly, his reason was to download materials. When asked if he had tried to find solutions for problems he might face in his own classroom, he replied: “there is no active interaction among members”.

This quote also indicates that the existence of an online community does not ensure that its members are supported professionally. Indeed, an OC might have a negative effect upon teachers if it depends on the efforts of only a few teachers, as attempts to create diversity fail and there is no dynamism in the interaction. This type of negative situation is evident in Mahmoud’s statement that he simply found examples on the OC and then used them in his classroom, making only marginal changes. The result was that Mahmoud seldom visited the OC, doing so only when he needed something, and not to engage in constructive dialogue or interaction.

Mahmoud was asked about the development of this OC, to which he replied:

In fact there is nothing new in the OCs. The materials and contents are repeated every year in one style.

Interviewer: How can OCs be developed from your point of view?

The only way to develop is to improve the interaction between teachers in terms of topics for discussion, so that the teacher can take views and debate about certain things and not be entering just simply for downloading specific things. So, when you look at these OCs you don't find long discussion among members – they are only visited by members for to download the materials and end up when they get it!

It can be seen that this particular OC is not developing, but simply duplicating its efforts year in your out. The teacher refers to his natural needs as an adult learner, requiring discussion and dialogue between OC members rather than just downloading materials. Educational methodologies cannot be 'one size fit all'. Teachers should reflect critically about their own environment in order to justify their choices of teaching materials and how those choices fit with the situation. The OC should not simply be an information store.

From a different angle of questioning when Mahmoud was asked whether such OCs could contribute towards improving teachers professionally, he did not believe that possible given that they simply provided materials for downloading. In this respect, he said:

In fact I do not think so, because downloading materials does not mean significantly contributing to the development of experience since ready materials neither make experience nor properly develop it.

However, Mahmoud did consider that these OCs could be useful in supporting new teachers in terms of their provision of educational materials, saying:

The fact is, new teachers possibly benefit them because they are new and they have no experience so these OCs might be useful for them by downloading materials such as lesson plans or presentation sheets. While I do not think that OC would be useful professionally for the teachers who have large experience because they have the ability to design presentation and make different test sheets.

In the previous statement we have seen that Mahmoud concentrates only on downloading materials. This method of implementing OCs will not encourage teachers to become active participants in the learning process. Additionally, the simple downloading of materials will minimise reflection among teachers because the availability of materials will deter them from making any effort to devise and/or improve these themselves.

When Mahmoud was asked whether he posted any problem for resolution to the OC, he said:

I cannot say that I had difficulty because in fact I have never put any problem on the site, I enter, I download things and then go after that.....

Interviewer: Do you have any problem even through the material that you download – is it old, for example, or does it not fit with your students?

Interviewee: In fact our curriculum of ICT has not been developed for a long time so I do not think that the content of materials and activities in the OC have any difficulties to download

Here Mahmoud indicated that this particular website was not used to resolve problems because there was no interaction between the members for this to happen. There is no comparison between the number of items provided and the level of depth in their presentation and discussion. Professional Development as an activity requires that there be opportunities for discussion so despite the fact that a huge amount of educational material may be provided, this is no indication that any learning has occurred. As shown, the teacher was not persuaded to look for a solution to his problem despite the OC containing many educational materials.

Mahmoud also pointed previously to the lack of interaction between members, which occurs because of the absence of modernisation of the curriculum. This may have a negative effect upon attempts to create environments for interaction between teachers because continued modernization generates new challenges which force teachers to developing themselves professionally, thereby creating a dynamic atmosphere as they search for new teaching methods or engage in problem-based learning (PBL) by solving new problems that they have not faced before. None of this dynamism is present when the curriculum remains static.

With regards to his motivation to visit the OC, Mahmoud was asked how often he did this, and he replied that he visited once or twice per month as needed. From his previous comments about the OC, we can conclude that the website did not meet his needs. Furthermore, his membership of this OC created negative feelings about other OCs which discouraged him from trying to find an alternative that be better in respect of discussion. When asked why he continued his membership with the OC despite his dissatisfaction with it, he replied:

To be honest with you, I do not enter the OC unless I want a specific thing, my membership is free it does not cost me anything, why leave it.
Interviewer: if it was not free would you continue your membership?
Interviewee: I am really not because it does not worth it only has ready materials.

Mahmoud was asked if he thought OCs could be used by ICT teachers to share their experience and exchange knowledge, and said:

The fact is I cannot judge because I did not actually try such a thing, but maybe I do not expect that because I have an email group with specialised teachers like me, but the fact I did not get benefit from it.

Mahmoud was unable to give a clear view about the value of OCs in improving teachers professionally, and this shows the absence of any OCoP which involves teachers who share the same specialty and discuss issues in which they are interested, whether related to their teaching method or improving curriculum, etc.

6.2.3 During the OCoP

Generally, Mahmoud was not an active member despite showing a positive attitude towards the use of an OCoP as a method of CPD. He posted 20 messages and viewed and read the content of the OCoP 216 times. This level of contribution is considered moderate. Compared with other participants, half of his participations were considered to be advice and information from the internet. However, Mahmoud explained in the interview that he has two jobs, one in the morning and another in the evening, both of which are teaching jobs, and this must be taken into account when considering the level of his contribution.

In order to obtain a better understanding of Mahmoud’s contributions, they are divided according to the Practical Inquiry Model developed by Garrison et al (2001).

Table 6.3: Mahmoud’s Contributions based on the Practical Inquiry Model

Code	Name (Mahmoud)	No of messages
T.1	Recognising the problem	1
T.2	Sense of puzzlement	3
E2	Information exchange	9
E3	Suggestions for consideration	4
R.1	Vicarious application to real world	2
R.2	Testing solution	1
Total		20 messages

Source: Garrison et al (2001)

Table 6.3 shows that nearly half of Mahmoud’s posts were about information exchange (E.2), there being 9 of the 20 concerned with this. This number of messages indicated the level of his improvement of his learning via interaction in the OCoP. Exchange of information does not indicate deep learning. It does indicate the desire to learn but it does not reveal any movement to the higher level of learning by realising the difference between experiences or making any improvement to the information so that it is appropriate in his own circumstances. The following example reflects this:

Creating a page on the social network (Facebook) will enhance communication and update teachers and students with the latest school news as well as photos of events, educational festivals, and public activities held by the school. It will also enable parents to participate from any place. Hence, a school moves into a phase of an open electronic life which will contribute to the spreading of the culture of electronic connectivity and eliminate borders between the school and the outside community. Electronic communication with the community turns to be a necessity and no longer a luxury.

It can be seen that this contribution is very general. There is no indication that Mahmoud applies this method of communication, nor whether he realises the

drawbacks of using this type of technology with teenagers. He only wrote simplified information about its importance as a method to communicate.

Mahmoud asked questions in three of his 20 messages. Asking questions indicates the desire to learn, but upon analysis the messages reveal no indication of deep learning. The following posting highlights this:

Dear brother Mr. XXX

I did not use the Interactive Whiteboard before but I would like to. Please send me a filmed file on how to use the Interactive Whiteboard and thank you very much

Here, Mahmoud asked a colleague for information about using an Interactive Whiteboard but he was not specific as to whether he wanted to do this to share ideas among students which might create collaborative learning in the classroom. When Mahmoud was asked if he adopted the Whiteboard in his classroom, he replied negatively because he did not have this type of advanced equipment currently, and it transpired that his was just a general inquiry made because his school was planning to move to an official building where all these educational tools would be provided.

Also Mahmoud did not design any type of new technology generation (Web 2.0) in order to interact with the students and encourage a culture of collaborative attainment among them. This does not require any additional tools, being only a connection with the internet. Mahmoud justified this approach on the basis of his lack of time because of needing two jobs to cover his living expenses, which in itself results from the monthly salary of foreign teachers being less than that of Saudi teachers.

Despite all the previous comments on Mahmoud's' participation, he did show a good contribution to the OCoP, showing that he benefited from it. The following example, posted after experimenting with the collaborative learning method in his class, shows the deep learning Mahmoud acquired via interaction with his peers:

This is a good way to teach the practical part and I also find it beneficial for the student to master the practical part of the lesson. I would like to suggest a group work technique to train students on a certain thing because this will improve the team spirits among students and enable weak and intermediate

achievers to learn from high achievers as some students may feel more relaxed to ask their peers rather than their teachers. Moreover, a student may be filled with desire to know and hence apply what the teacher gives for another group. To sum up, group work enhances the sense of collaboration among students.

In the previous section, Mahmoud showed how his use of a new method encouraged students to be independent and lifelong learners, which is considered the main aim of education.

During the OCoP, Mahmoud posted the second lesson plan, the first one having been sent by Aman. Mahmoud requested his peers to suggest ways to further develop the lesson plan, and more than seven suggestions and comments were posted. Mahmoud's post was as follows:

Respected brothers and colleagues, I attached to this email a plan for the next lesson bearing in mind that I have tried to take advantage of the points that have been suggested in the past week to develop Mr Aman's LP. Being well-equipped with scientific and practical experience in the field, kindly read the plan and shed light on the positive aspects and shortcomings of it, so that I can develop it.

In this comment, Mahmoud clearly reveals that he benefited from comments that had been sent in order to develop Mr Aman's lesson plan, thus demonstrating that the discussion among OCoP members followed a constructivist dialogue approach.

The main advantage of debating in the online community is that all discussions and contributions can be saved and stored for a long time, thereby facilitating the building of a body of professional knowledge for members. Here we have seen all the comments that had been mentioned in Aman's lesson plan were not replicated in the second lesson when the second lesson plan had been posted to the OCoP. Therefore, saving the comments and suggestions in the OCoP enabled teachers to take the previous comments into consideration when they prepared their lesson plan, which created some improvement and helped them restructure their knowledge and increase their experience in this matter. This was evident in the second new lesson plan sent by Mahmoud.

As mentioned, the lesson plan attracted more than seven suggestions and comments, of which two were:

Mr Mahmoud, how about varying the methods of learning as some will prefer a practical way, others go for individual reading, or methods of raising questions and looking for an answer. What I want to say is that having a variety of learning methods helps to profit a bigger number of students.

Thank you, Mr Mahmoud, the plan design is good, but I think the subject is known to the majority of students, and whenever it is the case - in all subjects, not just in computer -, the lesson becomes boring for students, which may give them a reason to have a sense of futility in the classroom and mess with the teacher. I think, in addition to what was mentioned in the lesson plan, a student should be asked to create a blog during their practical part and create hyperlinks, and then each student should exploit his/her skills in the work of these links

The first comment suggested to Mahmoud that he should adopt a different teaching method due to differences among the students. Some students might be auditory learners who would profit more by listening and participating in group discussion, some might be visual learners who would do better by seeing images and written material, some might be kinesthetic learners who would prefer to be involved in active work, and some might learn better by writing and reading. This variety of learning styles should be considered during the preparation of lesson plans to ensure that knowledge can be delivered to the largest possible number of students. However, Mahmoud did not agree with the first comment and he said the use of different strategies would require more than one teacher as the class would have to be properly controlled, and there was no prospect of having more than one teacher. He also said that he had a number of students in a small place without any assistant teacher. However, it was established that Mahmoud had only 18 students in the classroom.

The second comment suggested that the lesson plan should motivate students to learn in a competitive environment. This was considered to stimulate enthusiasm by increasing their knowledge and experiences, whereas repeating what students already know is demotivating. In the view of Mr.xx who sent this comment, learning should follow a constructive manner, building on previous experiences, and this element seemed to have been omitted in Mahmoud's lesson plan. In fact, Mahmoud also

disagreed with this comment, saying that students do not know many aspects of the basic technologies that are taught in the ICT curriculum, and this made it difficult to create a challenging atmosphere. He also mentioned that he was forced to follow the textbook which did not allow for any deviation.

6.2.4 Observation of the Lesson

Mahmoud was observed in his classroom twice. Therefore, it is appropriate to present what was observed, especially as the major aim of observation is to confirm the validity and reliability of the data gathered from the teachers' interviews and online discussions on applying different teaching methods, and using new technologies and lesson plans in their classrooms. These three major parts were observed because the main discussion in the OCoP was about them.

Table 6.4: Initial Details of the Observation Event

Teachers (Code)	Mah	Subject being taught	10.00
Date	Fifth week in 2nd semester 2012	Time of day	3rd year
Number of students in the classroom	18	Year- level	40 minutes

First Observation

First section: Teaching Strategies

Table 6.5: Teaching Strategies Used by Mahmoud (First Observation)

I. Teaching Strategies							
N	Observed Behaviour	Degree					Note
		VO	O	S	R	VR	
1.	Using group work in the lesson					√	
2.	Using lecturing in the lesson		√				
3.	Using practical applications in the lesson					√	
4.	Using investigational or research work in the lesson				√		
5.	Giving students chance to discuss issues					√	
6.	Giving students enough time to solve technology tasks						The lesson was theory subject as teacher said.
7.	Making connections between the current lesson and The previous lesson	√					By question about the lesson
8.	Assessing students' understanding of the lesson				√		At the end of lesson

Key: VO: Very often (when the teacher adopted this method during his teaching to cover the whole subject); V: Often (When the teacher adopted it in a part of subject); S: Sometimes (When the teacher adopted it in doing activities); R: Rarely (When the teacher adopted it with part of the group of students) and VR: Very rarely (When the teacher did not adopt it at all)

It is observable that Mahmoud did not apply any type of group work with the dialogue group or learning group. In contrast, he tended to use the Top-Down lecture approach. When asked after the observation why he had used this method, he replied that he thought it was better for teenage students, particularly in a private school because he thought that most students had not come to learn but to obtain the secondary certificate. So, the observation revealed that Mahmoud used neither a practical or investigational approach with the students under his supervision. His declared impression of private school students suggested that these students cannot benefit from collaborative learning or indeed from the application of any new teaching method.

However, Table 6.5 does show that Mahmoud attempted to make a connection between the current lesson and the previous one by recalling information presented to students on that occasions. This does not imply that he could know whether students had absorbed what they had been taught but that they could simply recall it, and as the aim of education is not simply to teach students to memorise knowledge the goals of education cannot have been met. Especially in terms of the ICT curriculum students should be able to demonstrate that they know what they have been taught.

This also reveals that in evaluating students' achievements, Mahmoud used the summative rather than the formative approach which would have enabled to realise the level of understanding reached by his students during the lesson, and therefore, highlighted any weak points in his lesson that needed more clarification. However, he used a summative approach because this made it easier to control and manage his class, as he simply asked some questions at the end of the lesson to be sure that the students had memorised the information he gave them.

In the following table will highlight the result of the second observation for Mahmoud that related to the first part (teaching strategies)

Second Observation

First section: Teaching Strategies

Table 6.6: Teaching Strategies Used by Mahmoud (Second Observation)

I. Teaching Strategies							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
1.	Using group work in the lesson		√				
2.	Using lecturing in the lesson			√			
3.	Using practical applications in the lesson					√	
4.	Using investigational or research work in the lesson				√		
5.	Giving students chance to discuss issues		√				
6.	Giving students enough time to solve technology tasks					√	
7.	Making connections between the current lesson and the previous lesson		√				
8.	Assessing students' understanding of the lesson		√				

Table 6.6 reveals that Mahmoud applied a collaborative method in his classroom, as he had mentioned during his discussion with his colleague in the OCoP. Using this strategy was seen to diminish his use of the second element (lecturing) as it involved students in discussion with their peers rather than them remaining passive. It can be seen that he often gave students the chance to discuss issues. When asked why he had used the collaborative method when the number of students had remained the same, Mahmoud said that he had seen his colleague who also worked in a private school doing this.

The interesting point to note in Table 6.6 is that Mahmoud did not use the practical pattern of learning to encourage learners to achieve deep learning; nor did he give students adequate time to resolve technology tasks (no. 6), but after the observation he indicated to me that most of the technical equipment was out of date. In fact, it would have been possible for him to apply the practical pattern with only an internet connection regardless of the state of the technical equipment.

Using collaborative learning often helps the teacher to evaluate students' understanding during their discussions with classmates, and it can be seen from Table 6.6 that Mahmoud was often assessing his students during that second observation using formative methods instead of the summative methods he used in his first observation.

First Observation

Second section: Implementation of the Lesson plan

Table 6.7: Lesson Plan Used by Mahmoud (First Observation)

II. Lesson plan							
N	Observed Behaviour	Degree					Note
		1	2	3	4	5	
9.	Is the aim of the lesson plan clear?					√	
10.	Is the balance of time appropriate?		√				
11.	Is the sequencing of the lesson logical and appropriate?					√	
12.	Is the classroom layout appropriate considering the aim of the lesson?	√					
13.	Is there sufficient focus on the idea of the lesson?					√	
14.	Is the lesson completed in the allocated time?		√				
15.	Does the lesson plan motivate the students for the next lesson?	√					

1= Lowest; 5= Highest.

Table 6.7 shows that Mahmoud's implementation of the lesson plan was organised and clear but the balance of time was an inappropriate. This happened because the lesson did not involve activities and practical challenges that would have required Mahmoud to be more organised in lesson planning. Also, as there were no interruptions to his lecture style, the lesson ran smoothly and logically (element 11). When Mahmoud was asked about the absence within the lesson plan of challenging questioning or practice, which might motivate students to be creative learners, he said that he had to follow the curriculum and if he were to add anything from outside the curriculum to create a more stimulating learning environment, students would complain, as they had done in the past. He was not, therefore, asked to include some new topics, but he was asked to develop his methods to present the lesson in a more creative manner as other members of the OCoP, all teaching the same curriculum, had done in order to motivate students to be more active and involved in the learning process.

Due to the simplicity of the lesson, Mahmoud actually finished his prepared plan 15 minutes early, and the students were permitted to browse the internet until the formal end of the lesson time (40 minutes). In these circumstances, the students were not motivated to ask questions. Now let us move to see what the second observation shows if there are any improvement in terms of lesson plan as a consequence of interaction in the OCoP.

Second Observation:

Second section: Implementation of the Lesson Plan

Table 6.8: Lesson Plan Used by Mahmoud (Second Observation)

II. Lesson plan							
N	Observed Behaviour	Degree					Note
		1	2	3	4	5	
9.	Is the aim of the lesson plan clear?					√	
10.	Is the balance of time appropriate?			√			
11.	Is the sequencing of the lesson logical and appropriate?					√	
12.	Is the classroom layout appropriate considering the aim of the lesson?				√		
13.	Is there sufficient focus on the idea of the lesson?					√	
14.	Is the lesson completed in the allocated time?		√				
15.	Does the lesson plan motivate the students for the next lesson?		√				

1= Lowest; 5= Highest.

From Table 6.8 it is seen that the main change in Mahmoud's practice was in respect of element 12 concerning the layout of the classroom, which was different as Mahmoud was using group work with his students. However, the lesson was not an inspiring one and students were not really motivated to interact with their classmates. Essentially, they worked collaboratively to collect data from the internet but their environment was not creative enough to influence them to talk with other groups in the class and provide a variety solutions or ideas to enrich the lesson topic. As is also seen from Table 6.8, there was no observable difference in the other elements.

First Observation

Third Section: Resources

The third part was concerned with observing the educational resources used to support the lesson being delivered, since resources play a vital role in the classroom particularly with the teachers of ICT who work in a computer laboratory and have open access to the internet, assuring the basis for stimulus and diversity in the learning process if those resources are employed effectively. Table 6.9 shows the situation regarding Mahmoud's lesson.

Table 6.9: Educational Resources Used by Mahmoud (First Observation)

II. Resources							
N	Observed Behaviour	Degree					Note
		VO	O	S	R	VR	
16.	Use of the internet to achieve the aim of lesson					√	
17.	Variety in the use of technology				√		
18.	Use of new generation of technology for example Wiki, Facebook					√	
19.	Participation of students in learning resources					√	
20.	Use of Whiteboard	He did not have WB					
21.	Exchange of information and ideas with students in a variety of ways, including using Email, Wiki for example					√	
22.	Assessment of students' use of resources in their work in order to encourage them to reflect critically				√		

It is clear from Table 6.9 that Mahmoud hardly used the resources at his disposal, whether to help achieve the aim or the lesson or to encourage students to participate more. When asked after the observation why he did not use the resources, Mahmoud replied that he would lose control of his students if he did this. He also mentioned that he had a slow computer system in the classroom which wasted time for the students, but given that he actually finished his lesson 15 minutes early, a slow computer system would not have mattered. Additionally, even if the technology was slow, students could still have embarked on the process of information exchange within the classroom and continued outside. It is shown from element 21 that Mahmoud did not exchange information and ideas with students at all. The excuses provided by Mahmoud for not encouraging a participative environment, showed that he had a personal need for professional development.

Second Observation

Third section: Resources

Table 6.10: Mahmoud's Use of Educational Resources (Second Observation)

II. Resources							
N	Observed Behaviour	Degree					Note
		VO	O	S	R	VR	
16.	Use of the internet to achieve the aim of lesson					√	
17.	Variety in the use of technology				√		
18.	Use of new generation of technology for example Wiki, Facebook					√	
19.	Participation of students in learning resources			√			
20.	Use of Whiteboard	He did not have WB					
21.	Exchange of information and ideas with students in a variety of ways, including using Email, Wiki for example					√	
22.	Assessment of students' use of resources in their work in order to encourage them to reflect critically				√		

Table 6.10 reveals no significant change in Mahmoud's practice. When asked why he did not use technology to support him in the classroom, he said that it was not appropriate for the subject being taught, but in fact the lesson was about software, and it would have been very easy to take an interactive approach as there are many internet applications that would have made the lesson more interesting and participative. Mahmoud did add that the behavior of his students was also inappropriate for using a generation of technology (Web 2.0), and when asked to explain this, he referred again to his inability to control their use of open sources which might contain material that was deemed unsuitable for them. He preferred to be safe, thereby indicating his preference to operate in a teacher-centred environment. Clearly, Mahmoud lacked the motivation to explore opportunities for change.

Overall the outcome of two observation events demonstrated no essential changes in Mahmoud's preparation of his lesson plan or in his use of resources that would have made the learning experience more participative and possibly, challenging. He did attempt to justify his actions, however.

6.2.5 The Post-OCoP Interview

In the post-OCoP interview Mahmoud was asked about his experience of the OCoP as a method of CPD, to determine whether he recognised any benefit from participating. The following dialogue relates to his reason for joining the OCoP:

Interviewee: Getting to know colleagues, this is a significant advantage of the forum.

Interviewer: What are the benefits of such a thing?

Interviewee: In fact, such a thing breaks the barrier between teachers because it gives us a chance to exchange school visits without being astonished as long as we know each other.

Interviewer: Have you contacted anyone outside the forum?

Interviewee: I haven't indeed.

This comment confirms what was observed in Mahmoud's earlier interview, that he wanted to develop his own professional network because this "gives us a chance to exchange school visits". For him, this is an important benefit. Clearly, relationships among teachers are important in improving their sense of professionalism as the

outcomes of such relationship are problem-sharing and hence, increases in experience. The professional goals supersede any social goals. This is what marks the difference between the OCoP and other online communities. However, despite Mahmoud's declared goal, he did not actually contact any teacher, thereby emphasising his general proactivity as seen during the observation events and in the level and the type of his interaction via the OCoP.

When asked if he had achieved his aim in joining the OCoP, Mahmoud said that he had. He was asked to mention what he achieved and replied:

Mr. X has raised the idea of communicating with students outside the classroom environment and I will do this when given the opportunity at the beginning of the next academic year. Also computing tests programme: I used to employ a programme that was somewhat old but in fact, I found that Mr. X, through his applications on the computing tests programmes, uses a programme that is far better than the one I use now. Also, I hold close relationships with professional colleagues of the same subject interests, so that I can refer to them for any inquiry in the future

In fact, the first benefit reveals only a low level of learning which could easily result from communicating with students, and the second was concerned with updating knowledge of educational software which should be integral to all ICT teachers since they are at the forefront of technological advances. Also, when he spoke of his professional relationships he mentioned that he would gain benefit in the future, although he had not contacted any OCoP member. The general impression gained reinforces Mahmoud's low level of concern with professional development as seen in his participation in the OCoP.

When asked specifically, if he had received any professional benefit from the online interaction with his colleagues, he replied:

For instance, there are some points mentioned by colleagues regarding my lesson plan such as lesson plan organisation, how to handle scientific lessons through the practical lessons' collaborative groups, communicating with students outside the classroom, which, I believe, is a professional achievement because it creates an interactive environment, that will subsequently encourage the student to continue his/her learning process.

Here, Mahmoud was clearly able to identify a particular professional benefit he received, that being help with lesson plan organisation and improved communication with his students outside the classroom. Nonetheless, neither of these benefits represented any deep learning. They are considered as embodying explicit knowledge that can be readily obtained and transmitted among members, and do not incorporate any improvements in reflection to improve practice.

In an effort to probe this matter, I asked Mahmoud whether the OCoP had assisted him to resolve any problems that he might face in his own environment. The following dialogue refers to this:

Interviewee: Well, I can't say that there are difficulties but I would say that it could improve my skills such as things they added to me. I am going to adopt these things in future

Interviewer: Like what?

Interviewee: Computerisation of tests.

Interviewer: Do not you think that you need solutions for the problems raised by some colleagues? Just like them.

Interviewee: We are different, it's a private school

Interviewer: What do you mean?

Interviewee: To be honest with you, those who register in private schools just wanting to pass school tests, that's why they never care about the course/subject. They only care about getting high scores, regardless of subject understandability or comprehension. As a result, we do not face difficulties because students would not bother to ask about things other than grades.

There were certain presentations uploaded by some colleagues, such as the one that was uploaded by Mr. X, which I found useful to know new things.

This dialogue reveals again that Mahmoud felt his own situation as a teacher in a private school set him apart from other teachers and consequently, the OCoP did not provide him with any deep learning as he did not experience the same problems as they did. He showed complacency in this response, believing that his students were interested only in gaining certification, and using this as a reason for avoiding any challenge to himself which an attempt to make changes to his methods would bring. In fact, the OCoP had three members who taught in private schools, and one of these teachers (Aman) showed some significant changes in terms of his reflection and practices, which confirms that the nature of the students should not be used as an excuse for retaining the status quo.

Continuing with the issue of the value of the OCoP for Mahmoud, I asked him whether his participation had done anything to motivate him as a teacher of ICT. The dialogue was as follows:

Interviewee: Sure

Interviewer: What do you like the most in the OCoP?

Interviewee: Its availability, being able to contact with specialised teachers like me, and also the fact that there are teachers who are more experienced than me, so that I can look for new things and raise any problem I face.

Interviewer: Have you found any new thing?

Interviewee: Communicating with students through new channels.

Here, Mahmoud fails to pick up on the word 'motivate' and continues to speak of the advantages of the OCoP, referring again to the ability to find materials and gain advice from fellow specialists. However, he does not show any genuine motivation in these respects as he does not reflect on his participation. The core aim of any CoP is to ensure support for members by their commitment to each other to share knowledge, and encourage reflection about enterprise and experience. And again, Mahmoud mentions that he likes the ability to contact more experienced colleagues, but as mentioned earlier, he did not make any effort to get in touch with any other members outside of the OCoP.

When Mahmoud was asked about new knowledge that he had gained from the OCoP he mentioned knowledge which he should already have possessed given his position as an ICT teacher with 11 years' experience. So, when he was asked in this interview about the good experience he had obtained from the OCoP, and mentioned the use of YouTube and Facebook with students also that collaborative learning should be attempted with groups of three students rather than five or six, he was referring to low level benefits. Basically, it can be understood that Mahmoud's sole motive for membership in the OCoP was the same as with other OCs, i.e., just to download materials.

Mahmoud was asked to reflect and indicate, on a wider scale, whether he had found any differences between the OCoP and other websites that he was already involved with (such as 7asabco.org). The following dialogue occurred:

Interviewee: In fact yes, there are differences between our OCoP and other OCs such as getting to know colleagues; this is not an option in other OCs.

Also, the OCoP opens channels for face-to-face meetings, as colleagues know each other's personalities and careers, which is not attainable in other OCs

Interviewer: What do you benefit from such a thing?

Interviewee: We can share files and hand-outs.

In this comment, Mahmoud highlights the main difference as being that he has come to know other ICT teachers in his region and that this enables him to exchange files and worksheets that are specific to his subject. This does not, however, mark any huge difference between the experimental OCoP and other OCs. Of course, in the current OCoP he can be more confident about the content of the materials given the closer relationship with other members, but there is no guarantee that his personal reflection or practice is improved by this. Moreover, a teacher in Mahmoud's situation might not attempt to amend others' materials to make them appropriate for his class. Indeed, Mahmoud did not indicate having any discussions with his colleagues about aspects of teaching and learning, nor discuss any problems with them, since he did not encounter any problems with his teaching method.

The following dialogue refers to the issue of the difference between the OCoP and the training in TCs:

Interviewee: Live conversation and communication whether by video or chat in the OCoP.

Interviewer: What are the benefits of that from your point of view?

Interviewee: I won't need to go to training centres which will save my money ... Also the OCoP presents various topics at one time while in training centres they train one specific topic. The coaches in training centres sometimes are unqualified or bumptious, they see themselves as inspectors while others are teachers, so we did not get the benefit of training session. However in the OCoP all of us are colleagues which encourages us to talk openly. I am sure if the OCoP offers a certification training for members after CPD courses there is no need for the training in training centres. To be honest with you I need these certificates in my CV, it is important in career life.

Here, Mahmoud indicates the main difference between the OCoP and TCs, as being "live conversation and communication", and he saw this as saving him money rather than as presenting any other advantages like obtaining a quick response to a problem, or talking about authentic issues. Also at the end of his comment he indicated the need to

become certificated, which may explain the weak level of participation in the OCoP, as essentially he seemed only to want a paper qualification to enhance his career changes. Mahmoud, clearly referred to the external motivation driving him to become involved in the OCoP but the OCoP philosophy requires members to have internal motivation – to want to interact and exchange experiences with colleagues – for the intrinsic value of education.

6.3 Second Case: Atta

6.3.1 Background

Atta was 30 years old with only three years' experience of teaching ICT. His Bachelor's degree in Computer Science was gained in Egypt, and this qualified him as an ICT teacher. Atta had a relatively active membership with one online community (www.7asabco.org) and this had been ongoing for three years. He became a member of that community in order to become familiar with the Saudi curriculum and context and help him to achieve the aims of his subject. He visited this website on a weekly basis, but had attended only two hours of training in official TCs, purely to learn about administrative issues regarding his school. He had never attended discussion groups, workshops or video conferences.

Like Mahmoud, Atta also taught in a private school, and he too complained that there were insufficient facilities in his school. He sustained his membership of the OCoP until the end of the experiment, contributed with 27 messages, and viewed and read the contents of the OCoP 725 times.

6.3.2 The Pre-OCoP Interview

When Atta was asked about the online communities that he regularly visited, the following dialogue occurred:

Interviewee: In fact I have got a membership since I came to Saudi Arabia.

Interviewer: What do you mean by 'when you came to Saudi Arabia?'

Interviewee: I mean I came to SA three years ago and I wanted to know the Saudi curriculum because it was new to me.

Interviewer: Did you find it equipped with what you wanted?

Interviewee: Honestly, it is rich in terms of content which contains a bit many ready materials.

Interviewer: What do you think of its professional development?

Interviewee: In fact, the content may be wealthy, but in terms of discussion, it is not. You can double check yourself by looking at its content. I have not found any motivation to look for other OCs because most of them are like the OC that I have already membership with. That is why I found it enough to have a membership in one forum only.

Here, Atta reveals his main aim for joining the OC (www.7abco.org) as being to familiarise him with the Saudi curriculum, and confirmed that his membership was still in force. However, he disclosed that whilst there were many materials available, there was no real discussion, and believed this was the nature of all OCs. Hence, he saw no reason to join another one. This indicates a problem with these OCs in that they provide quantity rather than quality. Knowledge is provided only by materials and not through reflection and discussion, and exchange of ideas.

Through his expression of dissatisfaction, Atta indicated his readiness to learn and desire for a source that would provide the opportunity to discuss issues with others sharing the same interest. It also demonstrates that as an adult learner, Atta has adequate experience to follow the constructivist approach to CPD and was searching for this so he could build on the experience of others instead of following the 'take and show' approach which does not encourage creativity or reflection in teachers.

When asked about the difficulties he might face in the OC as a method of CPD, Atta replied:

Frankly speaking, there are no difficulties encountered. These difficulties arise when there is a debate. Concerning the current OCs, they are used to download materials and preparing lesson plans. That's all.

Here Atta pointed out that difficulties do not arise when using the OC as a library, but are rather encountered in discussions when ideas are challenged and negotiation is required as teachers have experience of different classroom situations and need to probe each other's reasons for adopting certain strategies. On checking the OC of which Atta was a member, I found that some subjects had been uploaded for one year and had attracted more than a hundred posts in thanks. Not one of these had engaged the

originator in any kind of discussion since the date of posting on 13-09-2011 (<http://www.7asabco.org/showthread.php?t=13624>). This reveals the nature of the OC as a library rather than a developmental community.

Atta was asked whether the OC was an effective means of CPD, and replied:

Interviewee: Yes if you are talking about the contents, to some extent .

Interviewer: Why, to what extent?

Interviewee: Because these contents are a personal point of view but if you are talking about quality, I think it is not there because there is no motivation to interact due to dealing with unknown people and a content that you may not trust, as well as poor discussions. So, on what basis we assume that it significantly helps in development? In my point of view, these OCs should be established by a responsible body such as the Ministry of Education that has trained people and can offer incentives that motivate teachers, and at the same time it has the potential to develop it. Otherwise, I do not think it will succeed.

Clearly, Atta was able to differentiate between the content and quality of material provided by such OCs. He admitted that the content could contribute towards teachers' professional development but not to any great extent, thereby recognising that adult learners need the chance to debate their interests through discussion groups if CPD initiatives are to achieve their aims. It has been noted earlier that Atta had never had such opportunities in his professional life.

The response also reveals the importance of trust among members of OCs and the fact that when the contributors are not known, this can be difficult to provide. Indeed, the lack of interaction in the OC failed to create the basis for trust which ultimately did not generate any real sense of community.

When Atta was asked how many messages he sent in the OC, the conversation went as follows:

Interviewee: Honestly, my contribution was very limited in the past three years.

Interviewer: How could you judge these OCs before then that there is no interaction though your contribution was limited?

Interviewee: When you logged in, you easily notice this and I remember that on one occasion a member sent a message and asked for contributions, but the message remained almost three months without a response! Such a thing made me think that there is no interactivity in this OC but I kept my membership to download the materials contained therein.

Here it is seen that Atta gained an impression after seeing the general level of interaction in the OC and was dissatisfied by this. This highlights the effect of a dynamic learning environment on teachers and its consequent importance. Online communities that only really exist to provide materials for downloading are limited in their dynamism as they do not provide any supportive dialogue or constructive professional development process. In other words, in order to participate in these OCs, all that is required is an email address and one's experience or other status is irrelevant.

6.3.3 During the OCoP

The main complaint that Atta made about the OC in which he had been a member for three years, was the lack of discussion and interaction among its members. In the experimental OCoP, Atta posted 26 messages and viewed and read the contents of the OCoP 725 times. This level of contribution is reasonable in comparison with other participants, particularly when considering that Atta, like most Egyptian teachers, had two jobs - one during the daytime another during the night.

The amount of his contribution during about three months gives the first indication of his satisfaction with the OCoP in its ability to allow communication with colleagues who shared the same specialism. For Atta, this was extremely developmental since he had only attended two training courses in the TCs and had only been a member of one OC, and again only for three years.

As with all cases, the Practical Inquiry Model developed by Garrison et al (2001) was used to analyse Atta's contributions.

Table 6.11: Atta's Contributions based on the Practical Inquiry Model

Code	Name	No of messages
T.2	Sense of puzzlement	4
E3	Suggestions for consideration	2
E4	Brainstorming	11
I.1	Convergence	2
R.1	Vicarious application to real world	4
R.2	Testing solution	4
Total		27 messages

Table 6.11 shows the nature of Atta's contributions from which it is seen that his highest contribution related to brainstorming, thus demonstrating his appreciation of the ability of other members to produce ideas, and that he had confidence in their contributions. For example, in one message Atta addressed the issue of handling teenage students, saying:

Dear colleagues, let us think about how to deal with student behaviour in adolescence. I hope all colleagues participate and provide us with suggestions from their experiences with students.

This comment shows that Atta was looking for information concerning authentic and practical experiences that might offer a variety of ideas to improve his understanding of the issue. He confirmed his wish to share tacit experience in another post which read:

Dear colleague each time I will raise a question that I believe it is very important in my point of view of course, so that we can think of answers together. The question requires clear answers from all brothers from their experience if we surf the internet, we expose a lot but I look for experience, practice rather than theory.

Atta's comment reflected his dissatisfaction with the performance of other OCs, commenting on the general nature of postings within them, and discarding these on the grounds of lack of genuine experience on the part of those offering advice. Atta confirmed in this remark that he did not believe OCs were appropriate for CPD because they were too theoretical. His search was for a different learning approach that would allow him to increase his experience and knowledge, and for him some kind of experiential learning was the answer.

The second point draws attention to his implementation of the new ideas that have been suggested by other peers. Furthermore, Atta returned to the OCoP to mention his reflection on the first implementation in his own real situation (Testing solution section = 4). Interestingly, Atta was not a member of the OCoP from the beginning, and this demonstrates that CPD benefits accrue to people from social interaction when they have a genuine intention to learn and develop their practice.

In considering Atta's development, one particular instance can be observed when another teacher suggested applying a more student-centred teaching approach, which

involved a change in the role of the teacher from being at the centre of knowledge, to being a facilitator of the learning process. Atta decided to experiment with this particular method (as will be seen in the Observation section of his case) and although he faced some difficulties in doing this and decided not to continue with it, the fact that he used the experimental approach showed his eagerness to progress.

His creativity was seen in the fact that he devised a new learning channel on the internet in order to give students an opportunity to discuss ideas outside of their classroom, and to develop their understanding of the subject concerned. This represents a move from learning from theory to learning from practice. Atta did not stop at the second level of learning, but progressed to discuss the outcome of the approach he adopted with his subject with his colleagues in order to resolve some problems he had encountered in the implementation. His post was as follows:

I created a learning channel for students. I have noticed their attention on the lesson, number of views, and positive and negative responses to the lesson, which has left an impact on the learning process. Also, it allowed me to know the students' understanding of the material explained through their comments and interaction with each other, but there is a problem encountered: the follow up rate in the beginning was quite large and then began to gradually decline. I did not find rich replies from students, what can be done to have this interactive way of a maximum benefit for both students and me too?

In response, Mr. X suggested:

The learning channel is a good idea, especially when we know that there are types of learners who prefer learning through viewing to learning through listening to the teacher, especially when subject are of a practical nature like ICT. The reason may be that the students did not contribute to the content the lack of motivation.

Another teacher responded:

It is a good idea my teacher. It is quite natural that the motivation will be declined if there was nothing new or regenerated. Why do not students take responsibility by the assistance of you, in that each lesson is explained by a student instead of you?

Another different teacher:

If so, it is better to send each student a section with points of discussion/questions and urge them to view and send their answers to the questions being raised to be corrected and graded. I also think that the length of each section should be shorter and ranges from 5- 8 minutes or even shorter.

A different teacher

Probably students should take part in building these sections. That is to say, a teacher can do the filming of the material and leave the editing process and amendment to be done by the students - of course without affecting the content - with the addition of names posted at the end of the section to be an incentive to students to compete. On the other hand, such a thing encourages the participating students to watch the section because it bears their names

Another different teacher:

It will be a good idea to have a questionnaire or discussion held in the classroom about the reasons why students do not see the section. This might add new things to the debate.

A different teacher:

To make sure that all students take part in this, students should be encouraged to write a comment after viewing the section, such as an inquiry about a certain point and thus a teacher will be able to determine whether there was any deficiency and thus amendment and modification will be done for the excellence of the next display.

Another different teacher:

The learning channel is an excellent idea, but I also have an idea that may work with them, which proposes that the teacher puts some questions to evaluate the lesson as well as giving the students the option to add a comment on the channel, which makes it easy to find out the reasons behind poor interaction and involvement.

This variety of responses essentially raises four important points to improve students' involvement.

The first refers to different learning styles that should be taken into account, the second is to try to discover students' internal motivation and use this to encourage their participation, the third is to involve students in assessing the content such that they become partners in designing materials that are compatible with their needs, and the fourth is to use formative evaluation to allow for student feedback about the channel. All these suggestions were offered in the spirit of developing a more student-centred

approach which is what Atta was hoping to do. Hence, the benefit which Atta realised from the OCoP came in the form of the many suggestions posted by other OCoP members. Responding to these, Atta posted:

These ideas are fruitful and in fact what caught my attention was the subject of having different patterns of learners. Mr. X, is it possible to recall some of the qualities by which we examine patterns of students? I will try to get students to take responsibility in the management of the channel and to come back to you here – OCoP - with the results.

I really tried the co-operative learning, but I found that it does not fit with some of the students due to individual differences and some of them are shy to participate. Also, sometimes it is difficult to control the students in the class. Therefore, self-learning might be a good way through which differences between students become clear.

From these posts, it is clear that Atta has come to recognise that students learn in different ways, that he has attempted to implement a new technique, and that that this particular technique was not appropriate for his class. He was also able to analyse the reasons for this, mentioning three factors: the first was concerned with achieving the correct balance of power between the different groups in the class, the second was that the freedom to talk reduced the effectiveness of the discussion among students, and the third was the reluctance of some students to speak because of their shyness. Considering Atta’s own learning process, it is clear that he took an idea provided by one member, modified it to suit his environment, evaluated the outcome and then decided against it. However, he did not return to his original top-down teacher-centred approach, but moved to another learning method that had been posted by Mr. X, that relating to self-learning.

6.3.4 Observation of the Lesson

Atta was observed on three occasions.

Table 6.12: Initial Details of the Observation Event

Teachers (Code)	AT	Subject being taught	The jobs of computer
Date	Fifth week	Time of day	Second lesson (9.00- 9.40)
Number of students in the classroom	21 Students	Year- level	1 st Year

First Observation

First section: Teaching Strategies

Table 6.13: Teaching Strategies Used by Atta (First Observation)

I. Teaching Strategies							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
1.	Using group work in the lesson						He did not apply any group work during the whole lesson
2.	Using lecturing in the lesson	√					The main teaching method that had been applied during the lesson.
3.	Using practical applications in the lesson				√		
4.	Using investigational or research work in the lesson					√	He did not ask investigational questions.
5.	Giving students chance to discuss issues					√	He did not give students chances to talk about subject.
6.	Giving students enough time to solve technology tasks					√	The lesson was theoretical lesson
7.	Making connections between the current lesson and The previous lesson	√					
8.	Assessing students' understanding of the lesson					√	At the end of lesson he asked some questions.

Table 6.13 shows that Atta used a lecture approach, did not use any form of collaborative learning. After the observation he justified that decision by saying that collaborative learning did not work with students in private schools. The table also indicates that Atta rarely introduced any practical applications during his lesson, and that his students very rarely had the chance to do investigational work. Nor did Atta give students the chance to learn by doing. In fact, there was nothing for them to do because the subject was delivered in a purely theoretical way. And in evaluation terms, Atta did not assess his students' understanding well as he very rarely asked questions. However, at the start of the lesson, he did make a link between that lesson and the previous one by asking students some questions and explaining the logical link between them.

Second observation:

First section: Teaching Strategies

The second observation session was in the eighth week of the OCoP.

Table 6.14: Teaching Strategies Used by Atta (Second Observation)

I. Teaching Strategies							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
1.	Using group work in the lesson	√					
2.	Using lecturing in the lesson					√	The main teaching method that had been applied during the lesson.
3.	Using practical applications in the lesson			√			
4.	Using investigational or research work in the lesson					√	He did not ask investigational questions.
5.	Giving students chance to discuss issues	√					He did not give students chances to talk about subject.
6.	Giving students enough time to solve technology tasks					√	The lesson was theoretical lesson
7.	Making connections between the current lesson and The previous lesson	√					
8.	Assessing students' understanding of the lesson	√					At the end of lesson he asked some questions.

The second observation reveals some changes in Atta's teaching methods as a result of his development within the OCoP. Evidence of a move towards collaborative learning is shown in his use of group work rather than the lecture approach, greater use of practical applications, and greater opportunities for discussion among students. On the other hand, Atta did not provide the opportunity for students to solve technological problems, since as he said after the observation, this would require time and the lesson duration was only 40 minutes. The use of collaborative learning helped Atta to make a formative evaluation of students' learning rather than a summative evaluation, as he assessed their progress through their group discussions. Hence, it can be seen that in his second observation, Atta demonstrated a move to a more student-centred teaching approach, thus also showing his own professional development through the OCoP.

Third observation

First section: Teaching Strategies

Atta's third observation took place in the eleventh week of the OCoP.

Table 6.15: Teaching Strategies used by Atta (Third Observation)

II. Teaching Strategies							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
1.	Using group work in the lesson						The teacher adopted self- learning, every single student work alone with his own PC.
2.	Using lecturing in the lesson					√	
3.	Using practical applications in the lesson	√					
4.	Using investigational or research work in the lesson			√			
5.	Giving students chance to discuss issues			√			
6.	Giving students enough time to solve technology tasks	√					
7.	Making connections between the current lesson and The previous lesson	√					
8.	Assessing students' understanding of the lesson	√					

Atta's third observation revealed that he had switched his teaching strategy to a self-learning method. This was done because he had found collaborative learning not to be appropriate for his situation as already mentioned. He indicated that he found the self-learning method better for his particular students in that it overcame the drawbacks he had experienced with group working, yet reduced the teacher-centredness, and still allowed students to discuss issues and use investigative research as shown in element 5. Likewise, students had the opportunity to solve technological problems as each one was working individually for most of their time.

First Observation

Second section: Implementation of the Lesson plan

Table 6.16: Lesson Plan Used by Atta (First Observation)

II. Lesson plan							
N	Observed Behaviour	Degree					Note
		1	2	3	4	5	
9.	Is the aim of the lesson plan clear?					√	
10.	Is the balance of time appropriate?			√			
11.	Is the sequencing of the lesson logical and appropriate?				√		
12.	Is the classroom layout appropriate considering the aim of the lesson?	√					
13.	Is there sufficient focus on the idea of the lesson?			√			
14.	Is the lesson completed in the allocated time?		√				The teacher finished the lesson before the end of time. Then they read the curriculum till the end!
15.	Does the lesson plan motivate the students for the next lesson?	√					

1= lowest; 5= highest.

Table 6.16 shows in elements 12, 14 and 15, Atta scored low, demonstrating a top-down approach to teaching, in which students remained at their desks listening to him, whereas ICT is a practical subject. Atta was involved in the transmission method of teaching, dealing with students negatively in the sense that they are receivers of information. Using this approach, Atta finished his lesson before the official end as shown in element 14. Given the overall strategy, it was clear that the lesson had not motivated students to attend the next lesson.

Second Observation

Second section: Implementation of the Lesson plan

Table 6.17: Lesson Plan Used by Atta (Second Observation)

II. Lesson plan							
N	Observed Behaviour	Degree					Note
		1	2	3	4	5	
9.	Is the aim of the lesson plan clear?					√	
10.	Is the balance of time appropriate?				√		
11.	Is the sequencing of the lesson logical and appropriate?				√		
12.	Is the classroom layout appropriate considering the aim of the lesson?				√		
13.	Is there sufficient focus on the idea of the lesson?				√		
14.	Is the lesson completed in the allocated time?					√	
15.	Does the lesson plan motivate the students for the next lesson?				√		

The second observation showed a different picture, in which the effectiveness of adopting a collaborative learning approach emerged in the lesson planning, as shown in elements 12, 14 and 15. Atta grouped the students accordingly, gave them more opportunities for discussion and explanation, and consequently, the full amount of time allocated to the lesson was used. Additionally, the students were motivated towards the next lesson.

First Observation

Third section: Resources

The use of resources in ICT plays a vital role in motivating students to be innovative, and allowing teachers to create attractive learning environments that encourage students to be more active in the educational process. Furthermore, ICT is a practical subject which requires teachers to use a variety of resources to enhance students' performance (i.e., Smart Whiteboard, new generation of technology – Web 2.0 – etc.).

Table 6.18: Educational Resources Used by Atta (First Observation)

III. Resources							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
16.	Use of the internet to achieve the aim of lesson					√	
17.	Variety in the use of technology				√		The teacher used PowerPoint to present the lesson.
18.	Use of new generation of technology for example Wiki, Facebook					√	
19.	Participation of students in learning resources					√	
20.	Use of White board						He had not got WB in the class.
21.	Exchange of information and ideas with students in a variety of ways, including using Email, Wiki for example					√	
22.	Assessment of students' use of resources in their work in order to encourage them to reflect critically					√	

Table 6.18 indicates that Atta hardly used any resources to support students' understanding or creativity in his first observation. He only used PowerPoint during his presentation, confirming his top-down approach. Consequently, as shown in element 19, the students themselves did not use any educational resources. After the observation, Atta explained his decision saying that he felt he might lose control of the students, particularly that he was in a private school, and that he actually lacked some of the technological resources that were necessary for certain applications like the Smart Whiteboard, new version of software such Dreamwaver software.

Second Observation

Third section: Resources

Table 6.19: Educational Resources Used by Atta (Second Observation)

VI. Resources							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
16.	Use of the internet to achieve the aim of lesson			√			
17.	Variety in the use of technology			√			
18.	Use of new generation of technology for example Wiki, Facebook					√	
19.	Participation of students in learning resources					√	
20.	Use of White board						He did not have WB in the class.
21.	Exchange of information and ideas with students in a variety of ways, including using Email, Wiki for example					√	
22.	Assessment of students' use of resources in their work in order to encourage them to reflect critically		√				

Some changes were evident in Atta's second observation, largely because of the different teaching methods employed. Using collaborative learning, Atta provided

students with an extensive range of resources to facilitate their interaction and debate. For example, it can be seen (16) that students increase their internet use to research so they could achieve the aim of the lesson. However, there was no change in terms of using a new generation of technology (18), and students' participation in learning resources (19). Atta explained that in terms of his inability to manage the websites to which students might gain access, and in terms of students' lack of willingness to accept responsibility with resources. Nonetheless, the greater use of the internet enabled improvements in terms of students' assessment as shown in 22.

Third Observation

Third section: Resources

Table 6.20: Educational Resources Used by Atta (Third Observation)

VI. Resources							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
16.	Use of the internet to achieve the aim of lesson	√					
17.	Variety in the use of technology	√					
18.	Use of new generation of technology for example Wiki, Facebook					√	
19.	Participation of students in learning resources					√	
20.	Use of White board						He did not have WB in the class.
21.	Exchange of information and ideas with students in a variety of ways, including using Email, Wiki for example						
22.	Assessment of students' use of resources in their work in order to encourage them to reflect critically	√					

Table 6.20 shows that by his third observation Atta was increasingly allowing students to use the internet to achieve the aim of his lessons. Additionally, he increased the variety in the use of technology, which he explained as the result of changing from the collaborative approach to the self-learning strategy. In elements 18 and 21, no changes were seen because of the constant worries about controlling student behaviour. When asked if he would try again to encourage students to create some learning resources, Atta still said he would not do this because his experience of such students over three years had convinced that that the private school environment did not produce students who could do this. His use of self-learning gave him more opportunity to evaluate the students' learning and their understanding so it can be seen that Atta increased the assessment of students (22) in comparison with the second observation.

6.3.5 The Post-OCoP Interview

When asked what had encouraged him to participate in the OCoP, Atta responded:

Interviewee: Updating information, having a contact with some specialised people in SA because I have been working in the SA for three years and I do not know the curriculum well so discussion with them will enable me to know much about certain points. Also, there is a state of carelessness to the learning process here, which worried me. Is it a common phenomenon in all schools or just in our school, and also how to overcome it. I think my discussion with some colleagues may be useful in this respect.

Interviewer: But you haven't tried to register in other OCs?

Interviewee: The case is different in this site

Interviewer: Can you provide an example please?

Interviewee: Indeed, I know all the colleagues here and I have the right to raise issues for discussion. Participants here have the desire and commitment through their approval to take part, which can't happen in other OCs.

Clearly, Atta considered social interaction as a CPD mechanism, believing the OCoP would increase and update his curriculum knowledge, and simultaneously provide him with understanding about some curriculum areas rather than simply information, as is the case in other OCs. Atta was also internally motivated towards his own professional development which encouraged him to commit to the other OCoP members, and participate by raising six subjects for discussion to the forum. Moreover, it was seen that Atta had only one membership with another OC because he felt the need for constructive dialogue with peers rather than a bank of material that he could download.

When Atta was asked if he had achieved his aims in joining the OCoP, he replied positively, mentioning some benefits as follows:

Interviewee: The method and comprehensiveness of the lesson plan so that it can be measured, the issue of controlling the behaviour of students, some of suggestions which I can motivate students to do the explanation for their classmate, colleagues mentioned in the OCoP some of the points by which they can create a sense of self-reliance among the students and encourage them to do the explanation for their classmates ... In fact, from my experience of applying two methods of teaching I feel that it is not necessary that the collaborative learning is the best. It seems that every educational environment has its own way of teaching that best fits it.

Interviewer: Did not you do it from before?

Interviewee: In fact I did not, because I think students do not possess the ability to do so because I am new to the Saudi learning environment.

Atta's lack of experience in the Saudi educational context meant that the OCoP had brought several benefits, specifically ideas that could not be obtained from books because every educational environment has its own social nature and features, including ways to motivate students and manage their behavior, which was a great concern of Atta's. Additionally, the OCoP experience had taught him that no one teaching method can suit every circumstance, so he was coming to understand that in lesson preparation, a variety of methods should be considered.

In terms of the value of the OCoP to his students, Atta responded to a question, saying:

Interviewer: Did you find it had an effect on students?

Interviewee: Yes because students have become more eager to understand because they know that they may explain part of the subject for their colleagues and that they are leading the learning process itself, but definitely we cannot say that this happened to all students. In addition, how to deal with students' behaviour at this stage is very complicated, especially as I have said I am new to the educational environment in SA. After discussion with some colleagues, they told me some mechanisms to deal with students to correct the wrong behaviour.

Here, Atta highlights the benefits of giving students a chance to direct their own learning, as being greater independency.

When asked whether the OCoP had helped him to overcome any problems, Atta said:

In fact, I had no problem with the Net Support as Mr. X made it clear through his practical application on it, though I read about it from before. The subject of computerisation of tests was also of a big success. Mr. X was very innovated and I knew from a colleague that he was doing training courses on it. His explanation was very practical and we are left with an impression that he understands what he is doing, unlike theoretical subjects, which one can find in different resources. Also I raised the issue of dealing with the student in this sensitive age group? I really had a problem in dealing with this age group as I have a relatively short personal experience I also created a learning channel. However, I have a problem with the lack of students' interaction. My colleagues, as a result, offered some proposals that may be the cause of the lack of attention. These ideas were good and practical from my point of view.

This comment demonstrates that Atta did find the OCoP valuable in providing solutions to some problems, thereby providing evidence that it was more useful to him than the OC which he had been a member of for the previous three years. Clearly, it is important

for CoPs to provide practical solutions otherwise they are no different from other communities of interest. Moreover, the comment indicates the possibility of using the OCoP as a method for problem-based learning (PBL), which in itself is suitable for teacher CPD

When Atta was asked if the OCoP has benefited him with regard to sharing experiences with other teachers of ICT, he said:

Interviewee: I have had a limited contact with some of the teachers of ICT subject in one of the training course, which was about a technological content and relatively short. It was also of a limited advantage with no discussions; we just attended and went back to our schools after. In our OCoP, there are experience and expertise. Mr. X has a working experience that exceeds 15 years I guess, Mr. X also has a wide experience as a trainer and I benefited from him.

Interviewer: Can you give me an example?

For example Mr. X expertise in teaching methods was very excellent through the use of collaborative learning method. Mr. X experience in tests computerisation and Net Support was so distinct and I really hope that the OCoP remains for a longer period because of the difficulties that I faced in that some ideas should be applied from the beginning of the year, which was not attainable for us. The best thing about these experiences is that they were the output of the practical implementation of what they say, such that the colleague writes out of personal experience which is, in fact, missing in many other training workplaces. Indeed, one can apply things mentioned and refer to the colleague who applied them for long periods to overcome the mistakes and problems that one may face.

This comment confirms that training courses do not embody discussion or collaborative work of any kind and are hence, inappropriate since they do not provide any opportunities for teacher interaction, even on a one-off basis. The OCoP, on the other hand, lays the foundation for sustained professional relationships, thereby bringing together individuals with different experience and expanding opportunities for continued knowledge-sharing. This recognition prompted Atta to say “I really hope that the OCoP remains for a longer period”, supporting other teachers whose attitudes could be seen to change through the amount of time they devoted to the OCoP. Indeed, Atta believed:

Providing that the OCoP continues for a longer period, I will continue to have its membership because it is really the only way that I communicate with someone who is more experienced than me

It is clear from this comment that Atta perceives the need for dynamic interaction among teachers to increase his professionalism. This was not present in the other OC of which he was a member, as he indicated:

We [in the experimental OCoP] belong to the same community (Al-Qaseem) which makes solutions more practical because students differ according to their geographical areas. Being part of the same community makes us closer to each other. Moreover, the content of our OCoP is practical, unlike other OCs. Also, one important characteristic of our community is that we know each other which helps build mutual trust and enable us to talk liberally, the case will be different if we do not know each other or talk to a supervisor, since talking to a colleague is mostly more intimate and open to discussion and conversations as we all share the same situation.

When asked about the difference between online CPD and CPD in the TCs, Atta repeated some points that he had already mentioned, but raised another interesting one:

My feeling is about morale because it makes a partner in development and the content of the group which is a really good feeling in my view.

So, Atta saw the value in the social element, and in the autonomous nature of the OCoP, recognising these ingredients as motivators that inspire teachers to become active contributors to their own CPD. He cited other benefits of the OCoP over the TCs as:

One of the deficiencies of the training centres is that people do not know each other, so they attend and then immediately leave, while in our site, we know each other well .

Interviewer: What is the benefit of such a thing in your opinion?

In fact, getting to know colleagues are breaking the psychological barriers between them and opens a channel of discussion about shared and common worries.

This relationship between OCoP members was seen by Atta as promoting professional identity, which is an intrinsic aim of CPD.

6.4 Third Case: Ahmed

6.4.1 Background

Ahmed was 43 years old, had been teaching for 15 years, and had studied at university for four years obtaining a Bachelor's degree in ICT. This had secured him a job in a secondary school in the government sector. Ahmed had a relatively inactive membership with three online communities (My computer, Official MoE website, and Forum of teachers) although he did sometimes visit these. He had attended 90 hours of training in official TCs, three discussion groups, and one workshop. Ahmed taught in a government building and his school possessed all the facilities that he needed as an ICT teacher. His school was in an urban area. During the period of the OCoP he retained his membership from the beginning until the end. His contributions within the OCoP reached 114 messages, and he viewed and read the contents of the OCoP 1,214 times. During the discussion of his contribution the type of his participation is considered.

6.4.2 The Pre-OCoP Interview

During the three years before the OCoP, Ahmed underwent 90 hours of official training. When asked about his experience with CPD in training centres. He replied as follows:

Ahmed: Courses are void of any impact assessment. For instance, if a teacher takes courses in networking, Smart Board or teaching methodologies, then there should be sort of an assessment to ensure the effectiveness of the training course. Mr. XXX has once given us a course on the usages of the Smart Board and to be honest with you, he just gave us only headnotes, as he cannot give us everything in one training course. After the course, I started to review what we have studied in the course and then I tried to scrutinise all the other aspects that we did not cover. I searched in some websites and followed the explanations I found and tried to connect them to what we studied in the course. Then, I started applying what I learnt in the first semester. However, I do know that some of the teachers who attended the course on the Smart Board have not yet applied what they learnt.

Interviewer: Can you specify their exact number?

Ahmed: A lot, but I cannot count them now. Another problem is that there are few training courses. Thus, I believe that the number of courses should be increased and they should focus on topics that are of interest to the teacher instead of being so general.

Moreover, there is the problem related to those responsible for training centres: as the trainer has a lot of administrative work to do, which indeed affects his fulfilment, as he does not have enough time to do all of that – he has to visit schools, supervise teachers and at the same time train them. As he cannot fulfil all these duties effectively, you find that the number of

courses is very little and very general as well, as they do not touch upon the actual needs of the teacher due to the fact that the trainer is busy with these administrative works.

Interviewer: But do you think that the educational supervisors have sufficient competence in training?

Ahmed: In fact, yes. But the problem lies in the other administrative duties that they have to fulfil and not their competence.

Here the teacher raised some important issues about the lack of assessment of training courses, caused by the fact that many teachers have not actually started to implement what they had been taught, and are unable to make a judgment. Another problem concerning the lack of training and its generality was also raised, making the point that what is offered does not match teachers' needs. However, Ahmed was understanding of the problems, mentioning several reasons, such that "the trainer has a lot of administrative work to do ... the trainer is busy with these administrative works".

When Ahmed was asked about the online communities that he regularly visited, the following dialogue occurred:

Ahmed: Well, my appraisal is that it offers some good things.

Interviewer: What do you think about the forum's discussions?

Ahmed: In fact, the majority of them only offer materials to download and that is it. However, there is benefit but limited, as the discussions are very few – most of the times you can only download explanatory lessons and materials but no discussions. Thus, my viewpoint is that it does not develop in terms of the discussion but it does develop through the quantity of materials offered in it.

Here, Ahmed showed satisfaction in terms of the training content although he considered the discussion on the website to be weak. In fact, this is true, since I visited the forum of teachers of which Ahmed was a member and found that the reader can only download items that are related to his subject, and that there is no interaction or debate about the content. It deals with the items and activities that are on a 'fit for all' basis and, therefore, different environments and situations are left with no solutions. Also, the website ignores the experience of the teacher, which might be helpful in improving the activities and content. This type of online community includes numerous activities because it follows a 'take and show' policy, but it is not able to improve the creativity of teachers and their reflection on the learning process because interaction is

essential in this respect. When asked for his views about how to improve these OCs, Ahmed said:

My point of view is that it does not develop in a steady manner in terms of discussion and interaction, but it does develop through the quantity of explanation materials and lesson preparations offered in it. ... Indeed it needs development to accommodate the discussions and proposals between colleagues. ... Therefore, if there is an active discussion in these electronic communities, then the website would have been developed for having such rich discussions, as it is the members of the online community who develop websites through their fruitful discussions.

Clearly, Ahmed feels the need for such OCs to develop by involving more debate and discussion, which is in line with the suggestions of researchers in the field of adult learning such as Knowles (1990), and Merriam et al (2012), who believe that adult learners such as teachers need freedom to discuss and debate their interests if the CPD initiative is to accomplish its aims.

When Ahmed was asked if he believed that OCs could be used by ICT teachers to share their experience and exchange knowledge, the following dialogue occurred:

Ahmed: Yes, it can be employed in the professional development of teachers. But today's teachers tend to explain the lesson to students and leave.

Interviewer: From your point of view, what is the reason behind that?

Ahmed: The reason is that the teacher does not have the incentive to apply any new teaching method or to increase his knowledge. Thus you find that teachers do not care about renewing the way they apply co-operative learning, or introducing an innovative idea while preparing the lesson for students, or diversifying their teaching methods. What they really care about is to deliver the lessons to students, finish the curriculum in time, so that if a supervisor comes, they have done their duty, and that is it!

Interviewer: Is finishing the curriculum the only thing that the supervisor evaluates?

Ahmed: Yes, and the supervision visits are often done by the end of the academic year and sometimes during semesters.

Ahmed believed that OCs could be used to improve teachers professionally but that teachers themselves lacked the will to improve themselves. He highlighted one reason for this demotivation as being the method of evaluation by the educational supervisor (called the inspector in the KSA) which consists only of establishing whether the teacher

has completed the curriculum. This is a very simplified evaluation process, and if indeed this is what really happens, then there is a need to consider this, since the main aim of an inspector is to improve quality (Ofsted, 2007) and this cannot be achieved by visiting once just to ensure that teachers complete the curriculum. It is clear that almost all countries consider the main aims of educational evaluation as being to enhance the quality of schools (Eurydice, 2004), and that evaluation should not be simply at the end of the academic year when there is no chance to correct problems before the next academic year.

When Ahmed was asked about the difficulties that teachers might face when using OCs as a method for CPD, he replied as follows:

Ahmed: Among the problems and difficulties that the teacher should pay attention to is the fact that the materials he has downloaded from the website must be relevant to what he is doing and he should discuss them with colleagues, otherwise he will find himself imitating others and will face problems that cannot be sorted out just by downloading these materials. In fact, discussing what you are going to teach is of great importance as not all content fits all teachers or all conditions. There are also multiple methods of teaching, and simply because one teacher has applied a method does not necessarily mean that it can fit another teacher's needs and that teacher may need to apply another teaching method. Likewise, the websites often have a mix of teachers in different disciplines, which reduce the depth of discussions between colleagues on the topics that are of interest to them.

Interviewer: Would you please cite an example of that?

Ahmed: Collaborative learning, for instance, can be applied in several ways, so teachers need to think which way fits their class and their topic, and, and where is the best place to apply it. You consider these things only through discussions with colleagues not through the materials that you download from websites.

Here Ahmed mentioned the weakness of OCs as being that they only provide materials rather than enabling teachers to understand the difference between quality and waste of the materials as teachers and their environment. Then he indicated a variety of teaching methods – co-operative learning as an example. He mentioned that the discussion might be hindered by having contributions from teachers from different subjects since this might cause over-simplification of issues.

Ahmed was then asked for his view about CPD as delivered through training courses, and in this respect, he said there needed to be more focus. Although he had attended 90 training hours, he said:

After the [training] course, I started to review what we had studied in the course and then I tried to scrutinise all the other aspects that we did not cover. I searched in some websites and followed the explanations ... Then, I started applying what I have learnt in the first semester.

Here also it can be seen that Ahmed is internally motivated, as he clearly wants the instructor to provide more than just headnotes, and he takes it upon himself to research and try the technique in his class even though he knows that nobody is going to ask him about the outcome of a training course. This is confirmed by what he said in another context “Benefiting the student is of more importance to me than my personal comfort: all what I care about is to explain the lesson to my students even if this means more effort and less comfort on my side”.

Furthermore, his internal motivation goes beyond his efforts, since he believed the ICT curriculum to be weak and took steps to remedy this, as explained in the following dialogue:

Ahmed: There are some old things in the curriculum, and when I find them, I go through them briefly.
Interviewer: But do you leave it out?
Ahmed: No, in fact I do not leave them out as I am officially required to complete the curriculum, so I must explain them – even if briefly.

This quotation shows Ahmed’s character, and how this plays an important role in terms of his self-improvement as a professional teacher. He did not agree with some aspects of the training courses and also had a strong opinion in respect of the curriculum, but he attempted to gain some benefits from the training, and then find or create some ways of dealing with the weaknesses. His advice was clearly given to his colleagues in the OCoP, that being “Take care of your students and advise them and you will find someone who will do the same with your kids when they grow up and go to school”.

It is clear that Ahmed was genuinely concerned about the responsibilities of a teacher; for him this means trying to understand his students. In his comments, Ahmed showed readiness for development professionally, as an adult learner.

When Ahmed was asked if the OCs might be used as a source of problem-solving, he did not believe that to be possible since most of the content of OCs is presented as materials which do not apply to all teachers in all situations. He continued to say that problem-solving required dialogue and discussion among teachers which was not part of the OCs that he had visited.

At this point, Ahmed was asked how he resolved problems that he faced, and he replied as follows:

Ahmed: In fact, I communicate with the inspector through mobile calls or emails. In addition to that, I know a number of outstanding teachers that I communicate with through phone calls to discuss the problems that face them.

Interviewer: Did you know them through the electronic websites?

Ahmed: Not really. I have known them through some workshops and training courses that I have attended.

Here Ahmed indicated the need to build a professional relationship in order to help him to resolve problems but that he did not find the opportunity for this in the OCs in which he had participated, and the reason for this was the absence of discussion among members of these OCs. So, he overcame this shortcoming by making use of existing relationships. This shows the importance of CoPs in enhancing teachers' professionalism.

When asked about the potential for OCs to change practice, Ahmed said he did not consider this was possible, saying:

We cannot believe the idea that these websites may change the practical applications because in fact they are void of discussions between colleagues through which teachers can build on their experiences by having conversations with other teachers. It is true that they may contain educational materials but this does not really solve the problem; but it may make the teacher lazy if he only depends on downloading ready-prepared educational materials and present them without either modifying or adding to them. Thus, I do not really recall that they have contributed to changing

my educational practices, although I may have benefited from them technically.

It is clear that Ahmed did not consider OCs to contribute towards improving practice due to the absence of interaction among members. In fact, he highlighted a possible negative effect caused by teachers simply using the materials from the OCs and presenting these uncritically, thereby making them lazy or simply becoming unable to develop their own practice and remaining unaware of the differences between teachers and environments.

Furthermore, he referred to the constructivist theory of learning when he said “Teachers can build on their experiences by having conversations with other teachers”. Clearly, he believes that through such interaction he himself can build on what has already been done by others instead of purely repeating it.

In terms of motivation in respect of the OCs, it has been shown that Ahmed has an inactive membership of three such communities, and from this we can draw two conclusions. The first is that Ahmed is a person who prefers to discuss educational issues with others in order to develop his knowledge, which means that he considers learners evolve in their professionalism when they interact but unfortunately, there is no discussion in these OCs, and as Ahmed complained: “most of what is there – OCs - is to download some topics and that is it”.

In terms of the contribution of OCs towards creating continuing and lifelong learning, Ahmed believed that if they continued to operate as they were doing, they would not help in creating an atmosphere for lifelong learning. Indeed, he thought the outcome might be negative if teachers began to depend on others’ efforts, saying “It may make the teacher lazy if he only depends on downloading ready-prepared educational materials and presents them without either modifying or adding to them”. Improving the reflection on their pedagogy among members of these OCs is what Ahmed considered to be the key requirement to enhance the ultimate outcome of the educational process, that being to improve students’ understanding of their subject. In answer to a question precisely about whether OCs helped to enhance teachers’ reflection, Ahmed said:

How can we say that they develop the thinking when they are void of any active discussion between members? It is true that it offers ready-prepared educational materials but this does not necessarily mean that it improves thinking.

6.4.3 During the OCoP

Ahmed's main criticism of the OCs was the lack of discussion and interaction among its members. In the OCoP Ahmed personally contributed 114 messages and viewed and read the contents of the OCoP 1,216 times. This amount of contribution gives an indication of the level of satisfaction with CPD programmes (Phillips and Stone, 2002; Kirkpatrick and Kirkpatrick, 2007). In Ahmed's case it is known that he held membership of three OCs but that in the seven years of those memberships, he had not been a frequent visitor, whereas in the current OCoP he voluntarily viewed the site 1,216 times in around three months. His contributions were analysed according to the Practical Inquiry Model developed by Garrison et al (2001).

Table 6.21: Ahmed's Contributions based on the Practical Inquiry Model

Code	Name	No of messages
T.1	Recognising the problem	4
T.2	Sense of puzzlement	2
E2	Information exchange	30
E3	Suggestions for consideration	22
E5	Leaps to conclusions	1
I.1	Convergence	3
I.3	Creating solutions	8
R.1	Vicarious application to real world	13
R.2	Testing solution	8
R.3	Defending solutions	2
	Social message	21
Total		114 messages

Source: Garrison et al (2001)

Ahmed was the most experienced teacher among the participants. When asked why he accepted the invitation to take part in the OCoP, he said:

In fact, I thought that I may get to know something new, although I have taken a large number of training courses. Also, getting to know the needs of my colleagues so as to be able to serve them. And, getting to know new colleagues. Also, I want to benefit from the information and the teaching methods, as when you hear about something that you already know from your colleagues, this reminds you back of it; and when you hear about something that you did not know about before, this makes you develop and improve your knowledge and yourself.

From Table 6.21 it is clear that Ahmed's exchanges of information with other members of the OCoP reached 30 messages (out of 114 messages), equalling 26.31%. Also, he posted 22 suggestions for consideration (19.29%). This level of activity confirms his stated aims in joining the OCoP. For example, in respect of exchanging information, he posted:

I have prepared a scientific subject containing workshops, and ideas on some teaching methods that I have applied with my students, which I expect would be enriching and useful to you.

And in terms of ideas for consideration, he posted:

Mr. X has suggested that we should ensure diversifying our teaching methods as much as possible. While explaining some parts of the curriculum in the practical part, the teacher should mention the method mentioned in the student book and then try other methods other than that of the book. As for outstanding students, they shall train their less distinguished colleagues.

Give outstanding students exercises that suit their capabilities, and then ask them to try to work them out as the students' skills differ.

In the above two postings, it is clear that the teacher is offering his experience to his colleagues. This is an authentic rather than a theoretical approach, and the effect of these suggestions is seen from some participants (Satam, Aman and Atta for example) when discussing the benefits of the OCoP, and also from Fahad during his classroom observation.

Additionally, in respect of a few messages concerning the recognition of problems, Ahmed said:

I am the most experienced among my colleagues as I have attended several courses and I have taken courses in almost all topics of discussion.

This comment provides practical evidence of the internal motivation possessed by Ahmed. He showed the greatest interaction and contribution of all teachers in the OCoP, and through this, and his huge experience, he was able to motivate several members to remain in the OCoP as they said in their post-OCOP interviews.

The OCoP offers members a chance to see what others have done. Hence, they can either modify past practice or confirm its applicability in their situation if it is actually useful. This is what happened to Ahmed when he read what Mr. X said after applying ideas that had been sent by Ahmed before. In this respect, Mr. X wrote:

I have noticed an increase in the students' self-confidence as they discuss and interact with each other. This has also enhanced the students' sense of responsibility and their understanding of the subject.

And Ahmed replied, saying:

Many thanks for this. This indeed confirms the conviction that it is important to employ the theoretical parts to be applied in practice on the ground, and not only to cover the theoretical part in a subject where the practical application is the main thing.

From this interchange, Ahmed was sure that his idea could be applied elsewhere. Furthermore, the fact of offering a practical activity like this made interaction between the members more productive and motivated at least one teacher to experiment with his colleague's idea. Ahmed's comment in the interview in this respect was:

When I send a suggestion to a colleague, I would love to know its impact on the environment that he applied it to. I would also love to know whether the suggestion has been useful or not, and whether there is anything that can be taken into consideration in the future or not.

This point leads to another, which is the application of a constructivist approach to learning which Ahmed demonstrated, as he wanted to know from his colleague whether

his ideas should be amended; and this is one reason why Ahmed joined the OCoP, as noted later.

One teacher described how he applied a self-learning method in his class in a specific subject in the ICT curriculum. Ahmed tried to do the same and then returned to the OCoP to mention his experience about that, writing:

In fact, I have applied this method and found it useful for students as they understood more by using it. Among its benefits is that the students get used to participate and explain in front of their colleagues and it also makes the student more confident as he takes the responsibility of finding the information alone and I just assist him in finding the scientific material.

Here it is apparent that Ahmed tried a new teaching method with his students and found some benefit in doing that. In fact, it was because of his long experience that he trusted the OCoP to provide such a practical example that could be applied in the real classroom.

The OCoP gave Ahmed the chance to offer his experience to his colleagues. After confirming the usefulness of what he found in the OCoP in terms of enhancing the level of understanding of his own students, Ahmed then spread the detail of this benefit as can be seen in the following dialogue between Ahmed and other members:

Ahmed: I used the Interactive Whiteboard in the class and I found that students are happy with it. I also found that it has an impact on their understanding of the subject itself and it motivates them to the subject of the lesson as well. I have given my colleagues, teachers of the other subjects in the school, a training course in it and explained to them how they would employ it effectively in their classrooms and in explaining the subjects of their lessons.

Another teacher: Dear Mr Ahmed, Peace be upon you [a kind of greeting] Would it be possible for you to train us in how to use the Interactive Board? If so, we would love to discuss with you how can we put this idea into action.

A different teacher: Dear teacher, we would love to know more on the Interactive Whiteboard so as to apply it, God willing, and make use of it instead of the traditional one that we all suffer from.

Another different teacher: I have never used the Interactive Board before but I would love to. Please send a video of a lesson that was delivered by using the smart board.

Another different teacher: I have taken a course once on how to use the Interactive board but we did not touch on the problems that face its users. Personally, I have faced a problem ...

Ahmed replied to these messages, saying:

I do not mind giving you a training course on how to use the Interactive Board, which I have talked about briefly. If you wish to organise it through the Department of Education, then we need to co-ordinate with the educational supervisor in the Department of Education, Mr XXX. If you wish to have the course online, I do not mind doing that as well – we just need to agree on a suitable time for all of those who would love to discuss about this course.

This dialogue demonstrates that the OCoP opened the door for Ahmed to exchange his experience and expertise. Additionally, it motivated teachers to experiment with this new technology in their own classrooms, consequently improving their teaching. Using the interactive whiteboard removes students' total reliance on the teacher, and enables them to share their own ideas with their classmates as well as expanding their learning. This conversation between Ahmed and another colleague showed that he had changed his attitude towards using certain educational resources in his classroom: "I have never used the Interactive Board before but I would love to ..." This shows that he might pursue this in the future because by using the Interactive Board he might find solutions for the difficulties encountered in his teaching.

Through the community discussion of the Interactive Whiteboard, the real function of the OCoP as a forum for real world situated learning rather than purely for theoretical discussion, is highlighted, leading teachers to attempt to apply this technology in their classroom. Hence, the CPD needs of teachers are met by the OCoP which creates a forum for consideration of such practical issues.

Additionally, the dialogue indicates teachers' readiness to learn when CPD is seen to meet their needs, a fact which echoes Knowles' comments in relation to adult learning

that “adults are ready to learn those things they need to know in order to cope effectively with life situations” (Knowles et al, 1998:67).

Having analysed Ahmed’s contributions, the benefits he gained from the OCoP can be established, but it is also clear that the benefit might be reduced by the limited number of OCoP participants and/or by the fact that Ahmed had substantial experience unlike the other members of the community. In order to determine the true effect of the OCoP upon Ahmed and to learn whether his opinion towards the use of OCoPs in CPD initiatives remained the same after time, the post-OCOP interview is now considered.

6.4.4 The Post-OCOP Interview

The post-OCOP interview attempted to gain Ahmed’s reflections on the value of the OCoP as a CPD mechanism, and was held three months after the OCoP finished. Additionally, it aimed to learn whether there had been any differences between that OCoP and the other OCs of which Ahmed was a member. Specifically, when asked about his reason for joining the OCoP, Ahmed said as quoted earlier:

In fact, I thought that I may get to know something new, although I have taken a large number of training courses, getting to know the needs of my colleagues so as to be able to serve them, getting to know new colleagues, and, I want to benefit from the information and the teaching methods, as when you hear about something that you already know from your colleagues, this reminds you back of it; and when you hear about something that you did not know about before, this makes you develop and improve your knowledge and yourself.

From this comment, it is understood that Ahmed joined the OCoP to learn even though he had already attended many CPD programmes. At the same time, he sought to help colleagues teaching the same subject. This comment supports what he said both in the pre-OCOP interview and in his actual contributions within the OCoP. He showed an intrinsic motivation towards CPD in general and a keen wish to benefit others and help them professionally through his 15 years’ teaching experience. Indeed, some teachers said he was the best teacher in the region. When Ahmed was asked whether he achieved his aims, he said:

Yes, achieved.
I was experiencing a problem with the art of managing the laboratory and Mr. X mentioned it. I had a problem with transferring a word file from one computer to another and he solved the problem for me.

Mr. X mentioned the Kont device [software], which is new developed information for me with regards to the Interactive Whiteboard.

How to deal with the student outside the school, as my colleagues have mentioned some methods that I have never tried before.

The idea of using the iPad in preparing the lesson plan.

Moreover, among the things that I have benefited is the process of developing the plan with the developments of students. Setting the goals must be influenced by the extent of students' understanding of the subject. When students are distinguished in something you cannot put it as a goal as it is known to them already; however, maybe it was not known to the students of last year and thus, goals should be changed every year according to the cognitive and scientific level of students.

I also feel a sort of satisfaction as I have given what I could to my colleagues, and this means a lot to me. I have also met some new colleagues and provided them with my mobile phone number, in case they or I would need some opinions or so.

The previous points do not demonstrate a fundamental change in Ahmed, but indicate a general improvement in teaching: Ahmed only used the way of preparing a lesson plan that meet students' needs and their capabilities. Distinguished students should not be given plans like those for other students who have fewer skills and less experience, although Ahmed said in the interview that he had adopted this method in his class but his colleague strengthened his belief in this matter. Ahmed also indicated his feeling of pleasure in the fact that the OCoP had created a basis for helping others; the amount of time that he spent contributing confirmed his wish to make the OCoP a success.

When Ahmed was asked if he had received any professional benefit from the online interaction with his colleagues, he was clear that this had been small, saying: "In fact, by virtue of my long educational experience, there was nothing new to me and thus the benefit was not that much". Knowing already that Ahmed had attended 90 training hours in the previous three years, in addition to his long experience in teaching ICT, this is understandable.

When asked about the teaching issues discussed in the OCoP, Ahmed said:

Ahmed: In fact, I have attended some training courses before on the educational topics that we discussed.

Interviewer: Would you please mention an example?

Ahmed: Lesson plans and co-operative learning. In fact, I have tried to benefit my colleagues by passing what I have learnt in these training courses to them, as some of them have not attended them.

In an effort to probe this matter, I asked Ahmed whether the OCoP had helped him to resolve any particular problem, either related to the professional or technical aspects, and in response, Ahmed said:

The computing tests programme was new to me and I was hoping to be able to apply it, but I could not because of some problems. Moreover, as I have mentioned previously, Mr X solved some lab management feature art problems.

It can be seen that there was no tremendous benefit for Ahmed but given the circumstances that he was the most experienced member of the community, and the other members were also limited in number, this is not surprising. What emerges from this, however, is the importance of a diverse and sizeable membership in online programmes so that the interaction generates richness of content. Obviously, the amount of benefit Ahmed gained was small but that obtained by other teachers was great, since they remained in the OCoP because of Ahmed's long and valuable experience in the teaching of ICT.

When asked whether the OCoP had motivated him to engage in further personal professional development, Ahmed said:

Practical application of what we learn in the OCoP in the real world is what motivated me, most of our discussion is about practical issues, not a theoretical example, for example, computing tests programme, took in TCs, but the application of it that as done by Mr. X was a greater incentive than a theoretical explanation in TCs .

Here, it is seen that the OCoP provides the opportunity to learn by doing in realistic circumstances. This sharing of real practice is considered an example of situated learning. Clearly, the OCoP motivated Ahmed to improve himself professionally, even though there were obstacles to that in the current case. Essentially, as indicated in the literature (Guskey, 2002; Lloyd and Cochrane, 2006), PD should be in authentic circumstances and close to teachers' practices in their classrooms.

Ahmed was then asked whether there were any differences between the experimental OCoP and other OCs of which he was a member, and replied, saying:

Personally, the OCoP is better because it involves discussions with specialists in ICT. Also, there are many subjects for discussion which allows members to move between these different subjects. And it gives us a margin for discussion and dialogue with our peers.

In this comment, Ahmed referred to the importance of having a coherent group of members, since this encourages more appropriate and in-depth discussion. Other OCs do not necessarily have specialist groups of teachers, and discussion among members is simplified, and often there is no educational debate.

Ahmed also pointed to the diversity of subjects in the OCoP, which gave the opportunity to focus on a subject in which he was interested. Additionally, it gave him a chance to direct his learning instead of the specific subject being chosen by someone else as in the TCs. As adults, teachers need to be responsible for their own learning (Knowles et al, 1998).

Furthermore, Ahmed indicated that the OCoP gave teachers a forum for discussion and dialogue with their peers, which could enable them to improve their reflection and knowledge, and in turn enhance their professionalism. This is raised within the literature, where several scholars (Guskey and Huberman, 1995; Darling-Hammond and McLaughlin, 1995) insist on the need for debate and discussion among teachers.

When asked about the difference between CPD via online and CPD in training centres, Ahmed said:

In the OCoP there is an encouragement because the goal is for all of us, so everyone seeks to enrich the topic and then can add to what other colleagues offer ... From my point of view the OCoP is deeper than courses in TCs because in the OCoP we build our experience because you cannot repeat what your colleague said before while in the courses in TCs some courses repeated.

In this comment, Ahmed clearly indicated his belief in the value of adopting a constructivist approach in CPD which enables teachers to build on the experience of others.

6.5 Fourth Case: Aman

6.5.1 Background

Aman, aged 40 years old, had been a teacher of ICT for two years, having studied for four years in Egypt and holding a Bachelor's degree in ICT. Aman was a member of three online communities (7asabco, the official website for the MoE, Forum of teachers), and had attended 42 hours of training in TCs, but he had not attended any other type of CPD programme, such as discussion groups, workshops or online training. Aman taught in a private secondary school in an urban area, in a rented building. Sometimes such buildings lack the necessary facilities and equipment required by ICT teachers to effectively teach their subject in their classrooms or computer laboratories. Aman remained a member of the OCoP from the beginning of the programme until the end, and his contributions within it amounted to 35 posts. In addition, he viewed and read the content of the OCoP 1,067 times.

6.5.2 The Pre OCoP Interview

During the two years prior to the OCoP, Aman had attended 42 hours of training in TCs, and when asked for his opinions of training courses conducted in TCs, he replied as follows:

Aman: It is OK, one problem that I have with training in TCs, it takes time, and I have administrative work that I have to do in the school.

Interviewer: Some teachers view that CPD in TCs as outdated and as not suitable for the curriculum.

Aman: In my point of view, it is good and it is updated, but as I said before, my time is full with other administrative work so the head teacher sometimes refuses to allow me to go on some training courses.

Interviewer: What about the qualification of the trainers?

Aman: In fact, in my point of view I see them as very competent.

Here, Aman revealed a positive attitude and an appreciation for the CPD programmes in TCs. Additionally, he perceived the trainers involved to be qualified, which contrasts

with the views of other teachers (Satam, Fahad, Eaad) who complained of unqualified trainers.

When asked about the advantages of CPD via training courses, Aman responded:

The best thing in CPD programmes is that you get answers to your questions immediately while in the OCs you may need to wait for a long time to get the answer for your question.

Aman talked about the potential for developing relationships with colleagues during CPD programmes in TCs, saying:

While training in training centres there is no building of relations between colleagues. Through participating in the training, I have not been associated with any person from those who trained with me in the training centres.

From this comment, it is clear that Aman did not form any professional relationships with other teachers. Furthermore, he said in another context that his educational supervisor only visited him to improve his practice and professionalism once a year, and that was for a just few minutes to point out his mistakes in the classroom. The visit did not include any discussion or conversation about relevant professional issues. This method of PD does not give a teacher the chance to establish mutual ties with peers (most educational inspectors are former teachers) who have different experiences, by having long discussions and explaining new ideas to each other.

Aman was then asked about his experiences in the three OCs of which he was a member. The exchange was as follows:

Aman: OCs have advantages because I will find what I need which is enough for me. OCs encourage me to continue my membership for that with regard to solving problems. I did not ask my educational problem most of my need is for materials.

Interviewer: Why do you not try to solve your educational problems?

Aman: Actually when solving educational problems you need to know who you asked in order to trust his answer, also you need to know his qualification, but for administrative issues it is not important to know who answered you.

Clearly, Aman considered that OCs were useful to him but for certain things only. He did not believe that educational problems could be solved in these communities because

problem-solving requires teachers who have sufficient experience in the educational field whereas the anonymity of members in OCs makes it difficult to trust their solutions and suggestions. Specifically in this respect, Aman said:

One of the difficulties that I faced sometimes with OCs when I sent a question was that I did not receive a proper answer because the respondent was not a specialist in ICT. This drawback has an effect on the level of my participation in OCs.

Further, Aman said that during his participation in OCs, he had to wait a long time to get answers to his questions. In this respect, he said “According to my experience in the OC belonging to the MoE I sent a question and I waited for the answer for a long time – nearly one month – but still I have been waiting for a month and the answer still hasn’t come”.

In this overall discussion, Aman indicated the importance of building trust among teachers who share the same specialty, and of getting to know each other well.

When Aman was asked whether he believed that OCs could be used by ICT teachers to share their experience and exchange knowledge, he said the following:

Yes it can be but there needs to be interaction among its members through teachers’ contributions and the sharing of their experiences, so it is not just about designing an online community, and that is not enough.

Clearly, Aman believed that OCs can only be useful if they allow members to interact with each other, and do not function simply as information sites. The importance of discussion with his peers was raised. Such discussion provides the opportunity for Aman to take charge of his learning and to help him to identify his real classroom needs. Discussion with peers allows for deeper learning because it presents the opportunity for reflection.

As already reported, Aman was an Egyptian teacher who had been in Saudi Arabia for two years, during which time he had been a member of three different OCs. When he

was asked whether these particular OCs had developed him, professionally, the following conversation occurred:

Aman: Yes if you are talking about the materials.

Interviewer: What about the debates and discussions among members?

Aman: I do not think so because in fact it is most useful for materials but in the discussion and interaction I cannot say that there is development or improvement in these OCs.

Aman showed agreement with some of his colleagues when commenting about the development of the OCs of which he was a member, in that he believed that whilst there was development in terms of content, there was no development in respect of providing fruitful debate. This may be a result of the lack of identity within these OCs since without this, there is no opportunity for relationships to occur and/or the commitment of members. Participants visit such forums purely to download materials which are of use to them. Indeed, this is exactly what Aman himself did, and he found the OCs very useful for this purpose. Likewise some other teachers within the OCoP did the same thing; Eaad for example, was a member of several different OCs for precisely this reason.

6.5.3 During the OCoP

In general, Aman displayed a positive attitude towards CPD whether in TCs or online. As already indicated, he had attended 42 hours of training during the previous two years and held a positive attitude towards this, which affected his participation in the OCoP. Overall, he made 35 posts and viewed and read the content of the OCoP 1,067 times. This level of contribution is good in comparison with other participants, particularly considering that Aman has two different teaching positions (one in the morning and one in the evening).

Nevertheless, the amount of his contribution to the OCoP cannot indicate the level of his learning and development, although it gives a first indication of his satisfaction in being a member of the OCoP and sharing ideas and experiences with his colleagues, bearing in mind the little amount of free time that he had. Thus, in order to gain more understanding of Aman's contributions in the OCoP, these are analysed according to the Practical Inquiry Model developed by Garrison et al (2001).

Table 6.22: Aman’s Contributions based on the Practical Inquiry Model

Code	Name	No of messages
T.2	Sense of puzzlement	7
E.1	Divergence – within the online community	2
E.2	Information exchange	5
E.3	Suggestions for consideration	2
E.4	Brainstorming	2
R.1	Vicarious application to real world	4
R.2	Testing solution	4
R.3	Defending solutions	3
	Appreciation message	6
Total		35

Source: Garrison et al (2001)

Table 6.22 shows the variety of Aman’s contributions from which it is obvious that the most frequent contributions were related to information exchange. Aman had two years’ teaching experience so his need to ask colleagues some educational questions is understandable.

The interesting aspect of Table 6.22 is that it reveals Aman’s enthusiasm to apply the ideas that were discussed in the OCoP. Moreover, he returned to the OCoP when he faced some difficulties in this new implementation:

In fact, I had problems implementing collaborate learning as the groups were large. But a colleague suggested that I reduce the number of groups and distribute worksheets to students. Mr. X also provided me with some worksheets that he tried in his classroom. These suggestions have been indeed very useful for me, and as I said earlier, I had a problem in implementing collaborative learning in the classroom due to the lack of students’ interaction. However, after reducing the number of groups and using the worksheets, students became more interactive.

Here Aman referred to a common problem with collaborative learning, that being how to generate students' enthusiasm for collaboration with colleagues and how to ensure they are doing their job. Additionally, there is the problem of how to ensure students understand the

subject being studied? Mr. X demonstrated his experience in this respect and provided solutions for these difficulties. In raising these difficulties Aman showed his real intention to change his teaching method, particularly as one OCoP participant had mentioned the benefit of this method and its effect on the performance and understanding of students.

The result of this interaction and discussion with a colleague in the OCoP was that Aman changed his view about the role of the educational supervisor, since in the pre-OCoP interview he said that:

The educational supervisor visits you to provide you with information on the most recent experiments and corrects your pitfalls.

6.5.4 The Post-OCoP Interview

In the post-OCoP interview Aman was asked about his experience in the OCoP in order to identify any benefit that he had obtained. When asked about his reason for joining the OCoP he said:

This is the first time for me to register in an online community where all its members are specialists in one subject (ICT). I really dealt with our online community like an inspector who came to share ideas and discussion and it helped me to overcome problems that I face. Honestly, the educational supervisor visits me to improve my practice and professionalism only once per year, just for a few minutes to point out my mistakes in the classroom and then goes! There is no sort of discussion, or conversation about professional issues that need to be discussed. However, here in our website we can take a long time for discussion about any subject that we want.

This comment confirms what was seen before - that Aman had a positive attitude towards CPD in general, and it was this favourable outlook that led him to participate in the OCoP because it was a new experiment for him. Another conclusion that can be drawn from this comment is that Aman considered that discussion and interaction could be used a method for professional development programmes.

Also in this comment, Aman indicates the importance of self-directed learning for adults, saying: we can take a long time for discussion about any subject that we want. Knowles et al (1998) pointed out that Andragogy theory proposes that adult learners should be given a chance to practise self-directed learning since this gives them responsibility for their own learning, and results in creativity and reflective practice.

When asked if he had achieved his aims in joining the OCoP, Aman said that he had, although with more teachers in the community it would have been better. Specifically, he identified that he had acquired new knowledge and applications, such as how to use the interactive whiteboard, and how to implement collaborative learning in the classroom.

The issue of the value of the online community was raised when Aman was asked whether his participation had done anything to motivate him as a teacher of ICT, and in response he said:

Aman: It actually motivated me.

Interviewer: Can you mention an example of this motivation please?

Aman: I really intend to learn some programmes that we discussed on the OCoP. Also I am going to learn more about the interactive smart board ... and I am going to apply collaborative learning with some subject.

At the end of the interview, Aman was asked to indicate whether he had found any differences between the OCoP and other websites that he was already involved with (such as (7asabco, teacher forums). In answer, Aman said that he did find a difference between them as is shown by his comment:

In our OCoP I discussed with people who are specialist in one subject. Therefore, you are sure about their confidence and trust their answer because they are specialist while in the other OCs the answers might be general or incorrect because these online communities open for the public so any person can register in this website.

The main disadvantage in our OCoP is the limited number of members while the members of other OCs are unlimited.

The materials in our OCoP are limited unlike other OCs.

In our OCoP all previous experiences and efforts can be saved while in training courses everything is finished by the end of training sessions.

Our professional relationship in our OCoP is as peer to peer while in training courses it is between trainer and trainee.

The formation of professional relationships among learners is important to support them professionally and emotionally. Such relationships can create a sense of

community, which gives teachers a feeling of ownership and belonging. Aman was asked if he had made new relationships with other teachers during interaction within the OCoP, and responded as follows:

The site strengthens the ties between colleagues; however, in training in TCs there is no building of relations between colleagues. Through participating in such training, I have not been associated with any person from among those who trained with me in the training centres. However, here in the website, I became acquainted with people that I did not know before and our relationship continued for nearly three months, and I really intend to continue these relationships, if the site will continue to work, as it will be useful for the process of building more closer relationships.

Clearly, Aman valued the opportunity to establish mutual ties with his peers, who had different experiences. This enabled long discussions and the ability to explain new ideas to each other. This seems to be a necessity for Aman since his educational supervisor visits him only once per year, and this visit does not appear to be very useful from a professional standpoint. And in another context, Aman considered his membership of the OCoP to give him access to experts: "I can discuss ... any educational aspect at any point of time". It was also clear that Aman fully hoped to carry on his new relationships, and that the site would continue to be operational so he could strengthen these ties with peers.

Obviously, Aman's lifelong learning is involved with frequent discussion with other peers, which he would like to see on a regular and even daily basis. This is in contrast to 'one-shot' approaches to development, which do not provide teachers with a basis for continual growth. Indeed, contemporary educational life requires providing continuous PD so that teachers can reach high standards and there is a high quality outcome of the educational process.

Aman was also asked about practical benefits that he had realised from his interaction within the OCoP, in which respect, he cited that the discussions about collaborative learning in the classroom, and using the interactive whiteboard, were particularly useful to him.

In terms of collaborative learning, he said:

In my view, collaborative learning is the better method that can be applied within the lesson – especially in the computer subject; as its projects may need participation between several individuals – because the student becomes the pivot of the educational process and the teacher plays the role of the instructor and the manager of the educational process. It also teaches the students the process of search and participation and teaches them how to co-operate with their colleagues, as well as self-reliance.

From this comment, it is apparent that Aman had changed his teaching style from a top-down approach to one involving collaborative learning. It was not the first time that Aman had read about collaborative learning, but as he said, the OCoP had given him the opportunity for the first time to interact with teachers of ICT who implemented collaborative learning in their classrooms. This emphasises the importance of having professional discussions in the real world and of learning about authentic experimentation among teachers.

Additionally, the comment reveals that Aman's discussions and interaction with his colleagues in the OCoP led him to engage in some deep reflection, which is apparent through his criticism of his previous practices. He had also changed his point of view about the role of students in the classroom, and recognised the need to work collaboratively in order to effectively achieve the aims of the curriculum.

Aman was also able to identify the effect of collaborative learning upon his students, pointing out that this influenced how they learned, how they searched, and that it taught them some self-learning skills and self-reliance. These personal tools are very important for students because they enable them to find knowledge for themselves. Aman commented upon these benefits, emphasising what he had already said earlier:

Aman: I have found sort of breadth in their knowledge, not much though.

Interviewer: How did you know?"

Aman: The quality of their answers was better and also they were more self-confident. However, as I have said earlier, this was not the case with all the students, but some of them.

Further, Aman had changed his view about the role of the educational supervisor, since in the pre-OCOP interview he said that:

The educational supervisor visits you to provide you with information on the most recent experiments and corrects your pitfalls.

Aman said about the interaction in the OCoP:

...but here we can talk for extended periods of time and can discuss and help each other. I also came across new things that I did not deal with before – like the interactive whiteboard and collaborative learning that I have recently applied and faced some problems with; however, my colleagues gave me some suggestions, which I have really benefited from.

When Aman was talking about the interaction via the OCoP he indicated that it provides suggestions from others which he might accept or reject. This action of deciding whether to accept or otherwise can be considered as reflection, since whereas the job of the educational supervisor was to correct pitfalls, the discussion in the OCoP enabled teacher participation in arriving at a solution to a problem, and that participation involves reflecting in and deciding upon alternatives rather than simply following the one route prescribed by the educational supervisor.

6.6 Fifth Case Eaad

6.6.1 Background

Eaad, aged 35 years old, had been an ICT teacher for ten years, having studied at university for four years and obtaining a Bachelor's degree in ICT, which had secured him a job in a public school in the government sector. Eaad was a member of one online community (7asabco, my computer in Arabic Language: www.7asabco.org). He had attended five hours of training courses in TCs, and additionally, had attended two hours discussion groups and one workshop. Eaad taught in a government building, and most such buildings possess all the required facilities for urban secondary schools. Eaad sustained his membership of the OCoP from the beginning to the end. His contributions within the OCoP amounted to 19 messages, and he viewed and read the contents of the OCoP 161 times.

6.6.2 The Pre-OCOP Interview

During the three years prior to the OCoP, Eaad had attended five hours of training. When asked why there was a low take up of CPD in the TCs, he replied as follows:

Eaad: There is no great benefit in terms of impact.

Interviewer: Why?

Eaad: Well, the topics that have been raised are not good enough for what we want. Moreover, the efficiency of trainers is not probably distinct. One other reason is that there are no incentives obtained, and thus the best part about it is getting out of school and breaking the daily routine.

Here, there is a clear reference to the common drawback of CPD courses conducted by external trainers that the subjects covered in the courses might be unrelated to what the teacher needs to learn. This causes teachers to be unwilling to attend such courses. Indeed, the literature demonstrates that CPD courses that are conducted by external experts are less effective in terms of developing teachers professionally (Corcoran, 1995; Goodall et al, 2005).

Another point raised by Eaad is that of low motivation to join this type of PD. In this respect, Eaad indicated that it is extrinsic motivation that plays the main role in his decision to participate in CPD programmes, whether in training centres or online (as will be discussed later). This is shown by his comment that the best aspect of such training is that it allows him to be out of school, and breaks the daily routine. From this it is clear that extrinsic motivation is important in the field of education, and despite the argument presented by Knowles (1990) that adult learners are internally motivated to learn, Eaad's comments suggest that he has no internal motivation for attending CPD programmes. Clearly, this teacher's motivation was weak, and when asked what might motivate him to take part in CPD in the TCs he said frankly:

I can develop myself, so what is the benefit and what are the incentives that I will obtain? I really want to do something new, but there are no incentives, such as certificates, neither in school nor at work. I am like any other person that does not work so why to make myself tired then?

Here the teacher introduced the idea that the school culture was a strong force in preventing participation in CPD initiatives, indicating that there was no real support

within the educational environment for teachers to take part. Day and Sachs (2004) consider this point, stating that school culture can support teachers both negatively as well as positively. These researchers define school culture as “the ways in which values, beliefs, prejudices and behaviour are played out within the micro political processes of school life” (p78). Eaad made the point that he did not receive any encouragement from his school that might persuade him to continue his professional development. Therefore, in order to support teachers in this respect, schools should develop a clear reward system that creates a competitive environment among teachers.

Eaad had been a member of one particular OC for six years, yet when he was asked about the level of this OC, whether it had grown professionally, and what his personal aim was when he joined it, he replied as follows:

Eaad: There is development in the OC but it is growing weakly: you can find new lesson preparation and new questions.

Interviewer: What is the cause of weakness?

Eaad: The cause is the teachers’ lack of attention or the lack of communication and co-operation between them. And to be honest, I am one of those teachers as I do not care about helping/offering a service to others; I never enter a forum except when I need something specific.

Interviewer: Like what?

Eaad: Such as Questions or a new lesson preparation – and I leave the OC after that.

Interviewer: But what if you know something that is not there, like an answer for a question for instance?

Eaad: Well, yes, in this respect I try to help others but if I do not know the answer I do not search as I mainly register in forums to get a specific service.

In this dialogue, the teacher revealed the level of the OC as being poor, so to gain more information, I visited the online community (www.7asabco.org) which is a specialist ICT website. Most members of the OCoP had membership of this OC. In exploring the OC, I chose a subject which is very important for teachers (lesson planning for the first, second, and third phases in secondary school). The posting involved a lesson plan for a full year for each of the three phases, and was made to the OC on 9th May 2011. It had attracted 185 postings by 30th Oct 2012, but when these messages were analysed it emerged that 184 of these were simply messages of appreciation (Thanks, well done, excellent, etc.), and only one made a suggestion, that being that the lesson plan should

contain some educational materials and work sheets. There was no feedback other than this, no indication of the variety of teaching method or of the effect of the type of students, or educational environment.

Eaad was clear in indicating his aim in joining the OC, saying:

I never enter the OC except when I need something specific ... such as questions or a new lesson preparation – and I leave the OC after that.

So, he perceived the OC in a purely instrumental manner, leaving when he had managed to obtain what he needed and reached his goal. Moreover, in saying "I do not care about helping/offering a service to others", Eaad demonstrated his selfish approach to knowledge-sharing since whilst he had achieved some benefit from the ideas donated by others, he had no intention of making a contribution himself. In this respect, the main point to stress is that in order for OCs to grow professionally, there must be commitment among members to a process of knowledge and experience. If there is no commitment, there is little opportunity for learning. Despite the importance of online community members' commitment, however, most OCs have not gained this (Gupta and Kim, 2007), and the reason is suggested by Kim et al (2004) as being the fact that membership of virtual communities is based on voluntary behaviour. Additionally, in OCs most members remain anonymous and there is no social interaction that might encourage the commitment of members. Indeed, previous studies have shown that social interaction among members of OCs has a positive influence on members' commitment (Gupta and Kim, 2007; Doney et al, 2007).

In his comment, Eaad highlighted one problem associated with collaborative learning, that being the Free-Rider problem. This is the most common difficulty experienced in collaborative learning (Joyce, 1999) since whilst many learners are genuinely willing to exchange experience and to reflect with others, there are those who are only involved to gain benefit without making any contribution. For this reason, Shimazoe and Aldrich (2010) suggest that roles should be assigned and a clear division of work made in order to minimise the 'free rider' problem in collaborative learning. In a public OC, however, it is not possible to provide every participant with a role and teachers can register without being prepared to offer any commitment to the OC. Consequently, teachers

(including Eaad) do not feel obliged to help other members of the OC and hence, there is an overall low level of contribution within this type of professional development for teachers.

When Eaad was asked about the main benefit that he derived from the OC, he said the following:

Interviewee: Ready teaching methods, some questions and some preparation lesson plan, and ... how to do specific activities and so on.

Interviewer: But what about having a discussion around these issues?

Interviewee: In fact, I never participated in discussions around these issues because what I care about is preparation of lesson plans and writing questions for exams.

In this respect, Eaad described the OC as being 'good' although he did recognise that the act of simply taking information from others and applying it in one's own classroom did not necessarily enhance the ability to reflect or improve teaching experience. Hence, it is clear that he had reservations about the ability of the OC to improve teachers professionally.

When asked if he believed that OCs could be used by ICT teachers to share their experience and exchange knowledge, he said the following:

Eaad: Well, only if there is attention and incentives to make you visit the site.

Interviewer: Like what?

Eaad: Presenting awards for the visitors of the site as this may motivate teachers to visit it. These awards can be cash or certificates to be presented as an incentive for everyone to participate.

Here Eaad again mentioned the importance of extrinsic motivation in his decision to become active in this type of learning. This sentiment may highlight the cause of his low participation in the current OCoP since it did not offer any type of reward for participation, and there was no opportunity to award certificates. As already indicated, teachers commit themselves to lifelong professional learning via OCoPs or other initiatives, only if their internal motivation is high (Downey, 2011). However, despite the fact that Eaad mentioned only external motivation as a driving force to attend CPD courses, it should be taken into account that motivation is related to teachers being able to identify their needs and concerns (Huberman, 1985).

In this connection, another consideration was raised when Eaad said:

But there are things that force you to participate, like when something is certified by/supported by the Education Department and you are obliged to participate.

Clearly, this comment reveals Eaad’s feeling that his participation was compelled in some cases, but as the literature recognises, collaborative learning cannot occur in an atmosphere of coercion. Adult learners must have personal motivation to genuinely learn, and this response from Eaad suggests the likelihood that CPD courses may be attended simply because the Education Department requires confirmation that teachers have engaged in CPD, and not because teachers sincerely want to advance.

6.6.3 During the OCoP

The negative attitude displayed by Eaad towards CPD in general, whether in collaborative learning or online, was seen to affect his level of participation during the OCoP. Overall, he made 19 postings, more than half of which (11 messages) were messages of appreciation for what others did or sent to him (e.g. Thanks for your message; Cheers, I am going to download it; well done, etc). The remaining messages fell into the categories identified by Garrison (2001) as follows:

Table 6.23: Eaad’s Contributions based on the Practical Inquiry Model

Code	Name	No of messages
T.1	Recognising the problem	0
T.2	Asking question	0
E.1	Divergence – within the online community	0
E.2	Information exchange	5
E.3	Suggestions for consideration	3
E.4	Brain storming	0
I.1	Convergence	0
I.2	Connecting ideas, synthesis	0
I.3	Creating solutions	0
R.1	Vicarious application to real world	0
R.2	Testing solution	0
	Appreciation message	11
Total messages		19

Source: Garrison et al (2001)

Table 6.23 shows that most of Eaad's posts were about information exchange (E.2), since five of the 19 were concerned with this. These do not indicate any deep learning during his interaction in the OCoP, as indeed Eaad himself admitted during the post-OCoP interview. One of his postings, for instance, was a general exchange of opinion in response to a question from a colleague about how to deal with a large number of questions from students. In this posting Eaad wrote:

Questions are one of the keys to learning and they enrich the lesson. Through their smart lesson preparation, some teachers compel students to ask questions, which is basically one of the rights of the student in class. However, there are some questions that the teacher may not be able to answer. In this case I suggest that you say that you do not know the answer and that you will search for an answer and tell them in the next class.

Another example:

If you notice any interest from a student and you see that you can be a catalyst for this student, there are a lot of ways to modify his scientific status either administratively or from your side as a teacher.

The above quotation shows the type of contribution made by Eaad within the OCoP, revealing that the information given is both general in nature, and free from any personal experience that might help members in respect of the matter being discussed. In the last paragraph Eaad sent his comments about discussion among students but did not support these by giving any specific advantages of this teaching method that he might have found through his own use.

Another type of contribution made by Eaad fell in the category 'suggestions for consideration' (E.3) which accounted for three of his messages. The following are two examples:

The conversational way is distinct in teaching some lessons, like when explaining the internet to students, you can present the lesson to them through questions and finally add any information you want according to what you have planned or answering students' questions.

... the best thing to do is to assign a machine to every two students so that they can co-operate in applying the lesson and understanding it. Increasing the number of students per machine may lead to non-application of the lesson even with observing them.

An examination of these contributions shows that they are also general since Eaad does not support his comments with concrete evidence, but merely gives his impression. In fact, no action can be considered as 'the best thing' in this context because of the diversity that exists within the ICT curriculum and the various environments in which it is taught.

Observation of Eaad's interaction in the OCoP also reveals that Eaad did not initiate any discussion topic. When asked about that in the post-OCOP interview, he said the following:

Interviewer: You did not post any question to colleagues during your the OCoP interaction.

Eaad: True!

Interviewer: Can you please mention the reasons for this?

Eaad: In fact, there is no reason for this except the lack of desire and laziness in addition to observing no usefulness or benefit of professional development.

Interviewer: How do you know that there will be no benefit?

Eaad: The curricula did not change for nearly ten years, so why do I need to develop! Development should begin first with the curriculum and then the teachers will probably feel obliged to develop themselves to adapt and be in line with the new curriculum. But that the book did not change for ten years, I believe that there is no need for development or training then."

Interviewer: Is not there anyone from your colleagues who is worthy to associate and interact with?

Eaad: Without doubt there is, like Mr. X and Mr. X. However, as I have mentioned before, I only participate when I need something, otherwise I do not: this is my point of view and this is how I deal with all the forums in general.

From this dialogue, another reason emerges for Eaad's lack of contribution since it is clear that Eaad was not satisfied with the state of the curriculum which has not been developed for a long time, and therefore, sees no need to develop himself as there is no new challenge within the curriculum. Moreover, he makes the point that even if teachers do develop themselves, they are not viewed any differently by the Ministry. In

this respect, he says "... when you develop, what is the difference between you and others – nothing!" And then, he makes reference to the dated curriculum content, which deters teachers from innovating. Clearly, teachers respond to curriculum content that encourages them to be creative and engage with new ideas and opinions, in both technological and educational aspects. In the case of the Saudi Arabian system, however, the curriculum is designed by the MoE and teachers must follow what is stipulated. This contrasts with the recommendations in the literature to the effect that when teachers participate in curriculum design, they improve their teaching practice, and students perform better (Darling-Hammond, 1999). Furthermore, studies have shown that teachers and schools in general deal negatively with curriculum reform that is designed by policy-makers without teacher participation (Walker and Cheong, 1996; Villegas-Reimers, 2003). This is borne out by the discussion with Eaad who was alienated by his lack of involvement.

In fact, Eaad did suggest in one posting that the entire ICT curriculum in secondary schools should be changed, and when asked why, he said:

Technology is constantly evolving which means that no subject can remain without change for more than two years – so what about ten years in which the curriculum was not developed? From my point of view, developing the curriculum should precede developing the teacher.

Without doubt, when the curriculum is imposed upon teachers who must implement it regardless of their expertise, which could allow for improvements, teachers find that their tendencies to innovate and develop are diminished.

Having examined all the postings connected with Eaad, it is clear that the online community presented no observable benefit for this teacher, a fact that seems to agree with the views he expressed generally about CPD. In the following section, the outcomes of the post-OCOP interview are discussed in order to discover whether his views in retrospect remained the same or had changed.

6.6.4 The Post-OCoP Interview

In the post-OCoP interview Eaad was asked to reflect upon his experience in the OCoP and to identify any benefit that he felt he had obtained. When asked about his reason for joining the OCoP he said:

Eaad: Honestly speaking, driving the site to success happens only through increasing the number of its participants – and if I were to help my colleagues in whatever way, I would have done that.

Interviewer: But do not you think that you need professional development?

Eaad: In fact, not to a great extent: there is nothing new and there will be no development, from my point of view, before updating the curriculum.

Interviewer: But do not you think that teaching methods develop from time to time?

Eaad: Well, to be honest with you, and what will change if I develop? Are there any incentives or rewards? In fact, there is no difference between you and any other teacher – nether in terms of your monthly salary, nor in appreciation.

From this comment, it is understood that Eaad took part in the OCoP in order to help the initiative achieve success, although he did not actually post any creative message or make any other such contribution as explained earlier. And this may be a result of the fact that Eaad has a negative attitude towards professional development in general. He refers to the outdated nature of the ICT curriculum, blaming this for the disillusionment of teachers, and believing that the curriculum should be reformed before teachers are asked to develop. However, in a rapidly advancing area such as ICT, curriculum development and teacher training should go hand in hand in order to give teachers the opportunity to implement what they themselves are learning whether in TCs or via online community, and catch any problems before they have chance to set in.

Clearly, Eaad's motivation to contribute towards the OCoP was associated with external rather than internal factors, one of these being the lack of encouragement and support provided for teachers in their efforts to develop themselves. In this respect he referred to the importance of the school culture in persuading teachers to become involved in CPD, saying that if a school wants to improve its teachers by these measures, then it should give appreciation to those teachers and there should be fairness in this matter so that teachers who attend CPD courses should be given more encouragement.

When Eaad was asked if he had received any professional benefit from the online interaction with his colleagues, he was positive, saying:

From the things that I have achieved is that Mr. X has provided me with a CD, and this is helpful when you take the lessons out of it and apply them to students. I have also been introduced to Mr. X, who is a true expert in learning and teaching through his practical experience. However, my flaw is that I did not benefit from him.

Well, computing tests is a new and wonderful topic but difficult to apply in our current reality because the machines (PCs) are very weak and more than two months ago we asked to get them repaired but nothing happened until this moment that we are having the interview.

Here, Eaad was clearly able to identify a particular benefit he received, that being that one contributor had given him a teaching aid – a CD "... and this is helpful when you take the lessons out of it and apply them to students". However, in this respect, Eaad is acknowledging that he is simply using that CD as a resource rather than attempting to develop it, and that means that his own reflection and experience is unlikely to be improved. Furthermore, he made no reference to the difference between the educational environment in which the teacher who provided the CD worked, and his own school situation. In fact, he received the CD from a person who teaches in a different city, which means that Eaad should consider any potential variations and adjust the process described on the CD, rather than simply copying without giving any thought to his own classroom situation. In all professional courses, the emphasis is on teachers taking what has been developed through the experience of others and then developing this so that after modification it becomes appropriate for his/her own educational environment.

In an effort to probe this matter, I asked Eaad whether the OCoP had helped him to resolve any problems, either professional or technical. The conversation in this respect was as follows:

Eaad: In fact, the site did not help me in solving some of the problems.

Interviewer: Was there something systematic or technological?

Eaad: In fact, No.

Interviewer: What prevented you?

Eaad: It does not matter for anyone whether we develop or not. There is no difference between who develops and who does not. I have attended courses in TCs then what? Really nothing!

These comments are the same as others already made by Eaad who emphasises his lack of motivation to explore the possibility of making changes and improvements to his teaching practice. Indeed, I read the MoE policy relating to CPD initiatives within the KSA, and was unable to find anything that would motivate teachers to take part in CPD courses.

Still on the issue of the value of the online community, I asked Eaad whether his participation had done anything to motivate him as a teacher. Again he found it difficult to be positive, as shown in the following dialogue:

Eaad: There are things that I read but in fact I cannot say that they have motivated me!

Interviewer: So can I say that they did not persuade you?

Eaad: No, they are right.

Interviewer: Like?

Eaad: "Computing – but, even if I learn and I can develop myself, what would be the benefit? What would be the incentives that I will achieve? I hope to do something new but there are no incentives, neither in school nor at work. You are like anyone who does not work, simply no difference.

Eaad: Indeed computing tests' skills were very good.

Interviewer: Did you apply them?

Eaad: In fact, I have downloaded them but did not try them yet.

Eaad: In fact, one wants to develop himself but feels like it is normal for others if you get trained or not – it is perfectly normal. The curriculum is known and the subject is known and did not change for quite a long time.

Interviewer: But are not there any new teaching methods or any other approach that can benefit you?

Eaad: Please do not think that I am against development but in fact all the administration needs courses that can work as an incentive and I do hope that we will have a worthy curriculum.

Interviewer: From your point of view, do you think that the current curriculum is not worthy?

Eaad: As you see, the curriculum is the same and did not change for ten years! Nothing really changes: all the subjects and questions are the same! What shall I develop myself then! Even the developed system, which is the new educational system, did not change anything. They have just changed the names of the books of First Secondary stage to book Number 1, Second Secondary stage to book Number 2, and that of Third Secondary stage to book Number 3!

Interviewer: What is the curriculum that deserves that a teacher would develop himself/herself for it?

Eaad: Well, it is the curriculum that gives the teacher a space to innovate and motivates him/her to search and develop. For instance, through setting objectives that teachers would try to reach through the curriculum. All these reasons preclude development. But development itself is good and important.

It is clear from Eaad's responses that he completely lacked any internal motivation as he perceived no reason for him to make any change to his current situation. He considered the curriculum to be dissatisfying, outdated and oppressive, allowing no any opportunity for teachers to be creative. He believed the curriculum should drive teacher development, as was clear when he said "it is the curriculum that gives the teacher a space to innovate and motivates him/her to search and develop. For instance, through setting objectives that teachers would try to reach through the curriculum".

This discussion reveals that Eaad wants autonomy in the delivery of his subject, feeling stifled by the rigidity of the curriculum, and unable to innovate. With more empowerment, teachers might well be encouraged to be more proactive in their classrooms.

Also indicated in the discussion, is the fact that Eaad believed there to be a lack of respect for teachers generally, since those who are conscientious are considered as no better than those who are not "... You are like anyone who does not work, simply no difference". In these circumstances, there is no motivation to devote personal time to professional development. And against this negative background, it is difficult for a teacher to identify any benefit from CPD. Indeed, when asked whether he obtained any benefit from joining the OCoP, with regard to sharing experience with other ICT teachers, Eaad replied:

Eaad: In fact, I believe that it did not benefit me in anything, although I believe that we have colleagues in the site who are worthy to associate with and get benefit from.

Interviewer: Can you give me an example please?

Eaad: "Mr. X and Mr. X.

Interviewer: Why did not you benefit from them then?

Eaad: As I said before, I find myself frustrated for professional development as the circumstances do not help and the environment does not encourage.

This lack of appreciation of teachers who try to develop their teaching practice, is again stressed by Eaad, thus highlighting the overall lack of professionalism accorded to teaching. The whole environment is not characterised by professionalism since teachers who are interested in advancing do not attract any more respect than those who remain static. In such a situation, there is little encouragement to give time to this kind of professional programme, and even less to make effective contributions, as can be seen by the volume and content of the postings made by Eaad. Indeed, having taken some advice, Eaad had still not actually experimented with this by the time of the interview.

Towards the end of the interview, Eaad was asked to reflect on a wider scale, and indicate whether he had found any differences between the OCoP and other websites that he was already involved with (such as 7asabco.org etc). In answer, Eaad said that he did not find a big difference between them as is shown by his comment:

No, I did not notice that there is a big difference between both of them. Both of them include expertise and information that members can benefit from. For instance, there is a lesson preparation of one of the teachers in a site entitled 'Lesson preparation' by Mr. X and it is widespread in all the KSA. It is well organised and co-ordinated and this is what has made me enter his personal website ... I do not see any difference between the two OCs ... But the good thing about the site is that members talk to each other with respect and we all know each other.

In this comment, Eaad confirmed his reason for joining the online community as being connected with lesson planning: "The lesson plan, in the OC, this lesson plan is well organised and co-ordinated and this is what has made me enter his personal website". This justification serves as a good reason for visiting the site, which he perceives as being of value to him. His intention was simply to find a good lesson plan, and not to engage in philosophical discussion about aspects of teaching and learning. Indeed, when he was asked whether he had ever encountered any problem with teaching methods, and whether there was any such discussion in the OC ('www. 7asabco.org'), Eaad said:

In fact, I have never tried to ask about teaching methods or educational issues as I cannot really judge the OC from this side! But the questions, preparation and the aims of the lesson are all there.

It is clear that Eaad's intention regarding the OC was to use it simply as a basic resource. He found a lesson plan for copying and downloading together with solutions to some technical problems that ICT teachers face, but no pedagogical discussions that might result in improvements to teaching practice. This confirms that the role of the OC was narrow and had not expanded to become a professional association with the potential to enhance the outcome of education.

Chapter Seven: Common Themes

7.1 Introduction

The aim of this chapter is to establish the common themes emerging from the 14 case studies of which five were reported in detail in the previous chapter. Each theme is explained and discussed in order to create a full appreciation of the usefulness of the OCoP as a method of CPD, and therefore, to answer the research questions posed at the start of the study.

It can be seen from the 14 case studies, that nine different themes emerged after each case study was read in depth and similarities and differences were documented. These themes appear in the following sections: changing practice – section 7.2; solving problems - section 7.3; the impact of trust on teacher participation – section 7.4; the OCoP as a community for discussion of authentic issues – section 7.5; the impact of ownership and belonging on teacher participation – section 7.6; the impact of the OCoP in continuing professional development - section 7.7; the impact of the OCoP in building professional relationships - section 7.8 section; the preferred method of CPD – section 7.9; and the impact of the OCoP in the development of reflection – section 7.10.

7.2 Changing Practice

Changing teacher practice requires sustained professional development rather than ‘one-shot’ events that do not usually cause any profound alteration either in teachers’ practice or attitudes. Indeed, such short events might actually have a negative impact on the motivation of teachers to attend CPD programmes. The OCoP, however, represents a continuing professional development approach that seeks to build a foundation that will allow a change in teachers’ practice. It does this by providing a basis for teachers to discuss and negotiate issues of interest to them, and that sustained forum for debate may contribute towards changing teachers’ practice and pedagogy.

That said, although most teachers perceived the OCoP as a good mechanism for sharing experiences, practice, and suggestions, there were different opinions regarding the potential for making changes to their practice, and this section begins with a discussion

of teachers who did make some practical alterations to what they actually did in the classroom, as already highlighted in the case studies.

Aman (case No. 4), for instance, when asked whether he had gained any practical benefits from his interaction within the OCoP, explained that he had changed his teaching methods from a top-down approach, to another method that involved collaborative learning in the classroom. Describing his position, he said:

In my view, collaborative learning is the better method that can be applied within the lesson – especially in the computer subject; as its projects may need participation between several individuals – because the student becomes the pivot of the educational process and the teacher plays the role of the instructor and the manager of the educational process. It also teaches the students the process of search and participation and teaches them how to co-operate with their colleagues, as well as self-reliance.

Aman shows the changed role of teacher from an individual who represents the exclusive source of knowledge, to one who co-ordinates the learning process. This shift requires applying a new method of teaching which enables students to collaborate with their classmates in the learning process. This comment from Aman demonstrates his movement from his legitimate peripheral participation in which he functioned as a newcomer to the subject of discussion, to that of becoming experienced in implementing the new practice and observing the extent of its usefulness in a new situation. The interaction in the OCoP led Aman to understand the main role of the teacher in promoting learning, which should be that of a manager of knowledge and an individual who encourages students to be independent learners. When students have become more independent in this respect, there are more possibilities for them to achieve a high level of reflection.

In another context, Aman reinforced his appreciation of collaborative learning, saying that it was not the first time he heard about this, but he did emphasise that the OCoP had provided him with the first opportunity to interact with teachers of ICT who implement this method in their classrooms. This point indicates the importance of facilitating discussions using real examples and allowing authentic experimentation among teachers rather than having only theoretical discussions. It is quite inadequate to feed teachers with knowledge and information about particular pedagogical styles. Rather, it is important to show teachers a good example of certain pedagogies, and this

can be achieved by using peers teaching the same subject to the same curriculum as examples.

Another example of changing practice, as a result of interaction within the OCoP, was seen with Fahad, who read a comment provided by Mr. X and found it useful. From this, Fahad learned about the potential for using collaborative learning, which prior to joining the OCoP he was unaware of. He said as follows:

My opinion is that you have nothing but your approach of the traditional, usual method, and the true or false questions and that is it. Therefore, there is no need for any new method to explain a new idea, as there is nothing new, and all the issues involve very usual explanations. I deliver the lesson, students listen and there is an evaluation at the end of the year and that is all. ... I have noticed that Mr. X, who teaches in a tribal area [like Fahad] has raised a subject about the projects. It was excellent and motivated me to go back to using a new teaching method. Thus, I used the collaborative learning method that I had previously known about. Furthermore, when I saw my colleagues putting forward what they know about collaborative learning, I found that my knowledge was the same; so I started to ask myself: 'Why not do as they do and innovate as they innovate? Why not try this teaching method in my own environment?'

In this comment, Fahad also indicates the impact of knowing what his peers do in their classrooms. Clearly, he reviewed not only the teaching method itself, but he also analysed the appropriateness of collaborative learning for his situation. In fact, Fahad taught in a rural area, like the teacher who sent the comment to the OCoP. This point confirms that seeing a good example can be useful for teachers' professional enhancement. One main advantage to be gained from OCoPs is that all messages and materials can be saved for a long time, and this in itself can create a rich repository that teachers can draw on when they are searching for good practical examples of a particular teaching approach. One member of the OCoP said that the core benefit of the OCoP was that "a good example can be stored, enabling him to return and look".

In Fahad's case it was also possible to observe that before he changed his practice he changed his attitude as a teacher. Prior to the OCoP, Fahad considered his job as merely to ensure that he taught everything on the curriculum, irrespective of the method he used or whether students properly understood what he was teaching. He spoke of this as being a passive teaching role, in which teachers only used "the traditional, usual

method". Through the development made possible within the OCoP, however, Fahad's ideas were changed such that he became a teacher who was active with his students, which indicates the movement from legitimate peripheral participations towards the centre by sending the new teaching method that he adopted in his classes supported by some activities. Fahad adopted this new teaching method because he realised that some of his peers in the community had implemented the method successfully, and they served as good examples to him that it was possible to adopt the strategy in his classroom environment.

On the other hand, Eaad, Anezy, and Adel remain at the periphery of the OCoP because they did not show any indication of moving towards the centre, simply using the OCoP as a resource for obtaining educational material and/or exchanging information. Eaad (case No. 5) for example, did not send any questions to the OCoP, saying that there was:

No reason for this except the lack of desire and laziness ... In addition observing ... the curricula did not change for nearly ten years, so why do I need to develop? ... but since the book did not change for ten years, I believe that there is no need for development or training then.

In these remarks Eaad indicated the role of educational policy in inspiring teachers to improve themselves professionally. He complained that the curriculum designers did not take into account what challenges might motivate teachers to become more involved in their professional development. Clearly, therefore, the curriculum could be central to teachers' professional development since if designed to encourage teachers to experiment with different practical applications rather than simply following a traditional approach, the ICT curriculum could inspire teachers to give much more attention to their continuing professional development.

In fact, most teachers (for example, Mahmoud, Fahad, Atta, and Ahmed) all agreed with Eaad about the negative role of the ICT curriculum, but these teachers were more active than Eaad, thereby prompting the question of why this essential difference occurred between them. Hence, Eaad was asked why he was not active in the OCoP, to which he replied: "when I develop, what is the difference between me and others – nothing ... in fact, there is no difference between me and any other teacher – neither in terms of our monthly salary, nor in appreciation". In this response, Eaad indicates the importance of

rethinking the existing educational policy, such that it motivates teachers to become better professionals. As adult learners, teachers should be involved in the design of curricula because they know the needs of their students and this type of involvement would encourage teachers to embrace curriculum change instead of resisting it.

When considering those teachers who changed their practice, it is noticeable that the ones with the least experience, such as Aman (case No. 4), Atta (case No. 2) and Fahad, all made more changes when compared with teachers like Jara, Ayup, and Ahmed (case No. 3), who had an abundance of experience. This point highlights the difference between a new teacher and more experienced teachers. What clearly happened was that because there were no teachers in the OCoP with more experience than for example Ahmed who had 15 years' teaching experience, and Ayup who had 11 years' teaching experience, these particular teachers had nobody from whom to learn. It can be seen that the main weakness within the OCoP was the limited number of participants coupled with the time restrictions. Obviously, had there been teachers with greater experience more learning may have occurred and even experienced teachers might have been exposed to some new practice. This was a possibility referred to by some teachers with an abundance of experience like Mahmoud (case No. 1) and Ahmed (case No. 3), who suggested that an OCoP should involve more experienced teachers, in order to make the community more effective and helpful. With more teaching experience located within the OCoP, experienced teachers might be encouraged to explore new ideas with those of equal standing in an experimental manner.

As a means of observing teachers actually implementing change, three teachers (Fahad, Mahmoud, and Atta) were visited in their own schools. Such visits by the researcher took place on the basis of three observations of each of the three teachers, the logic for this strategy being that changes might become more apparent with time.

Unlike Fahad and Atta, Mahmoud did not make significant changes in his practice, and justified this by reference to external factors. The first concerned the willingness of students to learn. Mahmoud taught in a private school in which he believed most students attended purely to obtain a secondary certificate, and not to learn. Indeed, most of the teachers who taught (including Sama, Atta, Aman, and Ahmed) expressed

this belief, and complained about the low level of students' enthusiasm towards learning, which in turn affected the teachers' motivation towards professional development. Hence, it can be understood that professional development is influenced by a multitude of factors in the educational situation and context, including the desire of students to learn or not to learn. During the observation, I noticed that Mahmoud was unable to control the behaviour of students in the classroom, and consequently was unable to use collaborative learning as an approach. In fact, during the observation event, some students chatted with their friends, and others browsed the internet. This overall lack of commitment by the students to the educational process might have contributed towards Mahmoud's indifference towards professional development.

Another indication of the need for practical changes is seen in the character of the topics that teachers chose to discuss and negotiate in the OCoP. Members suggested eight subjects for discussion, and in Table 7.1, the teachers' contributions in respect of the two main subjects that have a strong relationship with their practice - learning strategies, and lesson plans - are shown.

Table 7.1: Subject of Discussion in the OCoP

Subject		Sub-subject	Number of messages
A	Learning Strategies		
	1	Collaborative methods	23
	2	Difficulties that faced collaborative learning	8
	3	Self-learning method	10
	4	The role of teacher in the classroom	10
	5	Attributes of successful teachers	5
	6	The problem of outdated curriculum of ICT	5
	7	Dealing with students' behaviour	20
	8	Using Smart Whiteboard	20
Total			141 messages
B	Development Lesson Plans		
	1	Standards successful lesson plan	6
	2	Upload practical lesson plan for suggestions	30
	3	Using advanced technology for preparing lesson plans	10
Total			54 messages

The subjects and sub-subjects identified for discussion by the teachers and shown in Table 7.1 can be labelled as practical applications in the classroom. In respect of the

development of lesson plans, there were 54 messages within the OCoP, and the aim of these was essentially to refine the activities which teachers had included in their lesson plans, and also to improve their pedagogical approach. In another section concerning collaborative methods, the discussion was comprised of 31 messages (23 + 8). In this section teachers posted a collaborative learning plan as a teaching method for discussion with a view to it being applied within the classroom by other teachers. Clearly, Table 7.1 shows that there were not huge numbers of messages passing around the OCoP, but it must be taken into account that the Community started from scratch, it had comparatively few members, and a relatively short amount of time to mature. It takes time to build a rich community with a great depth of experience and multi-media resources.

The practical evidence of this movement from abstract information to real experience can be obtained also from the subjects that were discussed in the OCoP. Table 7.2 demonstrates the diversity of topics considered.

Table 7.2: Diversity of Topics in the OCoP

N	Subject	Number of posts
1.	Solving problems	71
2.	Teaching Strategies	59
3.	Lesson plan	57
4.	Co-operative learning	43
5.	Using new technology	38
6.	Dealing with Students	36
7.	Interactive Whiteboard	15
8.	General discussion	212

Table 7.2 indicates the diversity of practical topics discussed in the OCoP, and the number of messages passed between members in respect of each topic identified. Solving Problems, for example, attracted 71 messages between teachers in the OCoP,

whilst Teaching Strategies, as a practical subject, attracted 59 messages. The subject that attracted the least discussion was the Interactive Whiteboard, which only managed to inspire 15 messages. Some of the topics require knowing who the responders are in order for those posting the questions to accept the knowledge/advice provided, particularly when that in itself has emerged from personal experiences.

7.3 Solving Problems

The main advantages of learning in the OCoP are that members of the OCoP are given the opportunity to interact and negotiate with other teachers who are specialists in the same subject but who have different experience. This can be seen as embodying a constructivist approach to learning as it provides the basis for members (learners) to explore new issues by building on their own and others' existing knowledge. Consequently, their knowledge and skills can evolve as they interact with others. The platform of online learning provides a meaningful way for its members to be fully autonomous. Teachers can raise issues in which they are interested as the basis for interaction in the OCoP and at the same time, they can share educational resources with their peers to arrive at solutions to problems they have faced in their individual environments. In the trial OCoP, teachers suggested subjects for discussion and posted any of their problems that they wanted to discuss in a collaborative way with their peers. Solving real-life problems enables teachers to learn since such problems are concrete examples of situations that require teacher attention.

In the OCoP most of the problems that were posted were genuine problems that teachers had encountered. Some of these problems are presented later together with teachers' opinions of the OCoP as a learning environment that particularly offers the chance for teachers to share authentic problems with their colleagues. Some teachers, Aman and Satam for example, justified the difference between their contributions and engagement in the OCoP, and their efforts in other online communities by reference to the fact that the trial OCoP adopted the strategy of using genuine problems as discussion items, and providing practical solutions for these.

Indeed, all the problems that were discussed within the OCoP had been posted by teachers themselves. Examples of such postings were: "How do we deal with teenage

students?” “I created a new learning channel. However I have some problems” “I have a problem with a computing test programme. Any suggestions?” These examples demonstrate that teachers had a real desire to treat the OCoP as an arena for problem resolution. Atta (case No. 2) for instance said:

Mr. XXX made it [some suggestions] ... Also I raised the issue of dealing with the student in this sensitive age group. I really had a problem in dealing ... as I have a relatively short personal experience ... these ideas were good and practical from my point of view.

Here it can be seen that Atta found a solution to his problem, something he had not been able to do despite having “read about it before”. It was through the sharing of tacit knowledge and experience made available through the OCoP that Atta was able to resolve the difficulty. This confirms the importance of informal discussion among teachers with an interest in the same subject, and of being able to discuss with others with greater experience. As Atta (case No.2) said, “I really had a problem in dealing with this age group as I have a relatively short personal experience”, and that problem was not solved by attending formal CPD programmes in training centres or other online communities. Indeed, the value of the trial OCoP was readily accepted by him, as he was stimulated him to continue his membership with the OCoP and used it as a resource for problem-solving with his peers.

One particular problem that was posted to the OCoP concerning learning channels, was concerned with the ways to motivate students to participate in particular learning channels and how to support them to become lifelong learners. In this connection, one teacher designed a learning channel for his students. This channel enabled students to communicate with their classmates and teachers in order to discuss problems. Atta faced a problem with this channel resulting from the lack of desire amongst his students to actually use it, and he did not know how to overcome this lack of interest because he was a relatively new teacher with only three years’ experience. Consequently, he discussed the issue with colleagues in the OCoP, in an attempt to discover reasons why some students might be uninterested in using this channel. After these discussions, different reasons and suggestions were posted to the OCoP by other teachers (see these suggestions in an Atta’s case No .2). When asked about the usefulness of these

suggestions, Atta responded, “these ideas are fruitful and in fact what caught my attention was the subject of having different patterns of learners”.

On the other hand, Jara, Ayup, Eaad (case No. 5), Adel, and Mahmoud (case No. 1) did not send any problem, or ask for any practical suggestions. Rather, they used the community as a source of theoretical information, such as lesson plans and workshop sheets. One teacher actually said that he did not believe online communities could be helpful since they were mostly concerned with the provision of educational materials which did not necessarily apply in real situations. He also said that problem-solving required dialogue and discussion among teachers which had not been part of the online communities he had visited in the past.

Mahmoud apologised for his lack of his contribution, citing the fact that he had two teaching jobs (one in the morning and another in the evening), which left him with no time. It was clear that Mahmoud did not face any problem or difficulty that required discussions with colleagues during the period of the OCoP. It was also clear during the two observations of Mahmoud, that there was no significant difference/improvement in Mahmoud’s teaching style. This situation indicates the effect of a teacher’s economic situation on his/her ability to participate in continuing professional development, since without two jobs, Mahmoud would have been unable to cover his life expenses, and consequently his first priority was to survive rather than develop. Mahmoud’s economic status, therefore influenced the level of his contribution.

Obviously, teachers should have sufficient salary in order to continue in their professional development as teachers, but the situation in Saudi Arabia does not reach this ideal, since in addition to Mahmoud, four other teachers expressed their inability to fully participate in the OCoP because they also had two jobs.

Adel was another teacher who also did not identify any problem to share with his colleagues in the OCoP. In fact, the total of his messages was only three, and these were merely social messages, containing greetings and showing appreciation of others. That said, he did download all the educational materials that had been uploaded by other peers in the OCoP. Adel considered that the ICT curriculum presented no challenge, and that students had no motivation to learn. When asked why he did not send any problem

to the OCoP, he replied: “where do challenges or problems come from for teachers if the curriculum is not updated?” and “there is a lack of incentive among students to learn”.

As already indicated, curricula play a vital role in motivating teachers to develop themselves professionally, since if curricula are updated so too will there be a need for teachers to rise to new challenges. In the absence of curriculum reform, teachers merely repeat what they have done in previous years, delivering the same content, and using the same methods, as was seen in the cases of Adel and Eaad (case No.5).

The second point causing Adel to be reluctant to share his difficulties with his peers in the OCoP was the lack of students’ motivation towards learning. Adel taught some students privately out of the school time which he did not have in the classroom. He justified that because the students in the evening came by their choice to learn. He said that his students came to school for different reasons, some simply wanting to gain a certificate, others to avoid being blamed by their families, and others because of pressure from society generally. This effectiveness has been shown also by Mahmoud, as presented in his case No. 1, when he said if he were to add anything outside the curriculum of ICT to foster a creative learning environment, students would complain and resist the change. He said that had happened to him in the past, since students “only care about getting high grades, regardless of understanding or comprehending the subject”.

With regards to Ahmed (case No.3) and Jara, both said that they did not face any problems in their schools. Ahmed and Jara were considered to have reached a high level of teaching among the members of the OCoP, and consequently, most of their participation was in the form of providing advice to others with less experience. Jara, for example, contributed 83 posts with 63 posts (nearly 76% of his posts) resolving problems that other teachers in the OCoP had raised in connection with the ICT curriculum. Therefore, in his interview, Jara suggested adding more members who were distinguished, experienced teachers, in order to make the OCoP more useful for himself and other experienced teachers by enabling deeper discussion.

To conclude this section, the example of just one teacher is given as a means of showing the benefit of being able to solve problems in the OCoP. The teacher concerned, Satam,

said “our OCoP has opened the door for me to search for more solutions. For example, some of the solutions ...”. Here it can be seen how interactions with peers helped Satam to resolve problems so that he believed the OCoP would be a good mechanism for solving future problems as well. Essentially, the OCoP had opened his mind to the variety of solutions, which reflects that as the teacher moves from the periphery of the community to be closer to the centre, he becomes more expert in a range of practices and therefore begins to teach differently unlike the situation he had encountered in other online communities. This point was stressed by him in another context, when he said “the OCoP and the involvement of some colleagues in it have raised my curiosity in looking for solutions for the problems that face me”. Interaction among teachers creates a curiosity in respect to professional development which is considered the core aim for all CPD initiatives because this curiosity creates lifelong learners as it encourages them to continually search for different ideas and opinions.

7.4 The Impact of Trust on Teachers’ Participation

An interesting observation from both the interviews and the interaction within the OCoP, is the clear difference between the level of involvement of individuals in the OCoP compared with their involvement in other online communities of which they were members. Table 7.3 demonstrates this.

Table 7.3: Level of Teachers’ Involvement and Engagement in the OCoP Compared with other Online Communities

	Participant	OC		OCoP	
		Number of OC that they had a membership with	Frequency of visiting of OC	Number of posts to the OCoP	Number of viewed in read the content of OCoP
A	Ahmed	Three OCs	Once through fortnight (he did not post messages)	114 messages	1,216 times
	Jara	He did not have any membership	He did not have any membership	83 messages	2861 times
	Satam	Two OCs	Weekly basis	72 messages	1067 times
	Sama	Three OCs	Monthly basis	49 messages	917 times
	Hamad	Two OCs	Weekly basis	47 messages	537 times

	Aman	Three memberships	Monthly basis	35 messages	1,032 times
	Atta	One OC	Weekly basis	27 messages	725 times
	Fahad	Three OCs but he left it	He did not have any membership at the moment.	24 messages	420 times
	Fisal	Two OCs	Weekly basis	15 messages	297 times
B	Mahmoud	One OC	Two or three times per month.	20 messages	216 times
	Eaad	One particular OC for six years	Weekly basis	19 messages	161 times
	Ayup	Two OCs	He did not visit it for a long time	5 messages	81 times
	Adel	He did not have a membership with any OC.	He did not have a membership with any OC	3 messages	86 times
	Enaz	Two OCs	Monthly basis	1 message	30 times

It is clear from Table 7.3 that the members of the OCoP can be divided into two groups. Group A includes individuals who were generally active in the OCoP but less so in other online communities, and Group B who were much less active in both. Ahmed, for example, (case No. 3) was a member of three OCs which he visited on a fortnightly basis, but to which he did not contribute. When asked why he visited these OCs, he replied that it was simply to update his knowledge about ICT. On the other hand, he posted 114 messages to the OCoP and read content from the site 1,216 times. This shows a substantial difference between Ahmed's attitude towards the OCoP compared with the three other OCs of which he was a member. Mahmoud (case No. 1), as an example of group B did not show a clear difference between his contributions in the OCoP in comparison with the OC, since despite the fact that he posted 20 messages, half of these were to collect advice and information that had been taken from the internet. As previously mentioned, Mahmoud was aware that his level of contribution was low, but referred to his lack of time to properly participate because of having to manage two jobs.

Through reviewing the data, it emerged that trust featured as an influence on the level of teachers' interaction in different areas. The data show that trust impacts on the acceptance of the solutions that have been suggested by other teachers, and encourages

teachers to build professional relationships with other teacher whom they did know before. This atmosphere of this trust presents a liberal environment for teachers where they can discuss any issues they want. Where there is trust, there is enriched discussion, which in turn can motivate teachers towards continuing their membership.

Trust can create the grounds for teachers who have sufficient experience in the educational field to collaborate with their peers in the interests of finding solutions to problems. Particularly when they want to obtain tacit knowledge about their subject, which they cannot obtain in ordinary online communities, the OCoP provides an opportunity where they can share knowledge in a supportive environment. Indeed, the members of the OCoP indicated that some subjects simply could not be discussed in other OCs because they do not have sufficiently experienced members to make valuable contributions on those subjects. Issues such as managing student behaviour, and using different teaching methods in the classroom, were cited as being inappropriate for OCs. Indeed, having checked the content of some of the OCs with which the OCoP members were involved, I found that most of the subjects discussed in these OCs were concerned with lesson planning, workshop sheets, and examination papers, and that there was no genuine interaction in those OCs

Aman, as an example (case No.4), said about the OCoP as follows:

In our OCoP I discussed with people who are specialists in one subject. Therefore, you are sure about their confidence and trust their answer because they are specialists while in the other OCs the answers might be general or incorrect because these online communities are open for the public so any person can register in these OCs.

Here Aman shows that he has faith in the sender of information/advice in the OCoP because he knows that the people involved are members of the community by virtue of being ICT teachers. Hence, he is confident in engaging in discussion with a professional individual whom he has come to know. This does not occur in the OCs because of the anonymity associated with their members. Another teacher mentioned this point when he said “our relationship with each other is closer than that with someone that you do not know, and would probably be one of your students”.

The second outcome of the trust existing among members is that they are encouraged to engage in in-depth discussions because they trust other members' experience. This is in contrast to what happens in the OCs where there is little interaction, either in terms of visiting these communities or contributing to them. The main reason for the lack of the teachers' contributions in the OCs was the eligibility of anybody to become a member, including 'our students' as three teachers frankly said. Hence, there is a deeply-felt concern about participating in detailed discussions with unknown people.

On the other hand, when trust does exist among teachers as is the case in the OCoP, this encourages members to take some risks in their learning, as they are confident that they are interacting with mature professionals and that their interaction will be respected. In this connection, Sama said "we know each other so it would help to try new things and take some risks to learn", and Atta (case No. 2) expressed the same feeling, saying "also, one important characteristic of our community is that we know each other which helps build mutual trust and enables us to talk liberally". Clearly, the main difference between the OCoP and other OCs is that the OCoP supports frank peer group discussion among specialists and there is no fear of students gaining access to the community. Hence, teachers are more comfortable as members and appreciate the freedom to engage in honest dialogue on any educational matter of their choice. This flexibility and limitless forum for discussion promotes teacher contribution and hence, development.

However, the question might be raised as to why the high levels of trust among members of the OCoP did not influence teachers in group B, such Mahmoud (case No. 1), Eaad (case No. 5) and Adel, to make more use of the community.

With regard to Adel, as Table 7.3 shows, he did not register with any OC, although as he mentioned in the interview, he visited a few OCs without registration, purely to download educational materials. When asked why he joined the OCoP, he again cited his wish to download educational materials but added that it was more attractive to him because it was limited to ICT teaching specialists and he believed the materials available would be of a better quality than those in other OCs. Adel did not recognise the importance of discussion among peers in problem-solving or knowledge construction, and this restrictive view of the role of the OCoP suppressed his contribution level to the community. Indeed, Table 7.3 reveals that he only sent three messages, all of which

were social messages sending greetings or appreciative comments. In contrast, however, he did visit the OCoP on 86 occasions, which is completely out of proportion to the number of messages he posted. Nonetheless, despite his many readings, there was no need for trust on the part of Adel as he simply wanted to obtain ready-made items on which he only needed to change the date and the name of the subject. Hence, it can be seen that the concept of online community held by both Adel and Eaad did not require there to be any trust between the members.

7.5 The OCoP as a Forum for Discussing Authentic Issues

One reason for the failure of traditional forms of CPD to achieve their aims is the fact that they tend to deal with theoretical issues that might be of no interest to teachers, and in turn create a negative attitude towards CPD programmes. Consequently, the OCoP attempted to generate a spirit of collaboration among teachers to allow for the discussion of authentic issues which were close to their real environments and their subjects, which might help individuals during the learning process to move from the periphery of learning towards the centre through discussion of practical ideas and authentic practices. So, the OCoP endeavoured to avoid the tendency of OCs to focus purely on exchanging information rather than promoting debate about live issues that in itself would encourage teachers to be more involved and engaged.

In this section, the impact of discussing authentic issues within the community, irrespective of the level of participation, is considered. The model for analysing contributions in the OCoP, which was identified by Garrison et al (2001), involves as mentioned in the literature, some elements that reflect upon authentic issues, and which have already been mentioned when evaluating the OCoP as a form of CPD, such as suggestions for consideration, creating solutions, and vicarious application to the real world. Table 7.3 indicates these elements and the number of messages each attracted.

Table 7.4: Authentic Issues within the Community

Name	No of messages
Suggestions for consideration	25
Creating solutions	30
Vicarious application to real world	23
Testing solution	37
Defending solutions	6
Total	121 messages

As shown in Table 7.4, the total number of messages sent to the OCoP in respect of the topics included was 121 (out of 531 messages), thereby meaning that around 22% of all communication related to these authentic topics. Of these 121 messages, 25 messages related to suggestions made by teachers to other teachers. A further 30 were concerned with creating solutions, reflecting the fact that teachers had managed to provide/obtain solutions to particular ICT-related problems. This is an important point since it demonstrates a clear difference between the usefulness of the OCoP and that of other OCs, which most teachers (see Satam, Atta [case No. 2], Ahmed [case No. 3], and Aman [case No. 4]) rejected as vehicles for improved professionalism on the grounds that they only provided theoretical information, and did not offer any practical solutions to problems. Additionally, it is interesting to see that the number of solutions that had been suggested by peers, and that were actually tested by others in their individual educational environments amounted to 37. These solutions might be related to teaching strategies, lesson plan preparation, etc. The question may arise as to why only six messages defending these solutions were sent, and the answer to that is simply that solutions take some time to apply and evaluate, and the stage of evaluation had not been reached since the OCoP was only in existence for three months.

The benefits of practical ideas and suggestions are also evident from what teachers said after the OCoP trial when they were interviewed. These show some changes in teachers' practices as a result of acquiring new experience, and such changes were cited as reasons that encouraged teachers' continued contribution to the OCoP. In this connection, it should be remembered that all members joined the OCoP voluntarily and had the right to withdraw at any time. Nonetheless, teachers chose to remain.

In fact, Atta (case No.2) mentioned very early on in his attendance at the OCoP, his need for practical solutions, saying:

Dear colleague, each time I will raise a question that I believe it is very important in my point of view of course, so that we can think of answers together. The question requires clear answers from all colleagues from your experience, if we surf the internet, we expose a lot but I look for experience, practice rather than theory.

In this posting, Atta emphasised the main difference between OCs and the OCoP. He makes the point that OCoP members should not repeat the process they had encountered in OCs involving them in posting theoretical ideas or impractical solutions, but should rather offer tacit knowledge and experience that they have applied in their own educational context. This authenticity or practical experience led Atta and other teachers to be active in the OCoP despite the fact that they did not actively participate in the other OCs of which they had been members for a long time (Atta had the least experience with these OCs, and this amounted to three years).

Ahmed (case No.3), as a second example, was a member of three OCs, which he visited once a fortnight, whereas he participated in the OCoP for about three months. His contributions within the OCoP reached 117 posts, and he viewed and read the content of the OCoP 1,214 times. When asked about his motivation in this respect, Ahmed (case No.3) said clearly:

The practical application of what we learn in the OCoP in the real world is what motivated me, most of our discussion is about practical issues, not a theoretical example, ... took in training centres, but the application of it that was done [in the OCoP] by Mr. Jara was a greater incentive than a theoretical explanation.

Ahmad commented that the source of his motivation in the OCoP was the “discussion about practical ideas” offered by peers, believing this to provide “greater incentive” for him as the ideas supported his learning in the OCoP. He criticised the training centres for their theoretical approach to the “computing tests programme”. In the OCoP Mr. Jara explained that particular programme, how it worked, and what steps should be taken to adopt it. Additionally, he supported all his explanations with photographs in order to make it easy for his peers to fully appreciate the principles involved, and hence apply it.

Sama is the last example of a teacher who was motivated by the nature of discussions in the OCoP. In this respect, he said the members had “particular aims for discussion”, out of which they would “produce something”. For him, the main advantage of the OCoP was the direction provided by the discussion and the fact that they had the ultimate aim to achieve a practical positive outcome, whether this be in the form of practical ideas to apply in the classroom or a practical application for some educational software. Clearly, there is no point in restricting the activities of the OCoP since this would make the forum no different from other OCs.

7.5 The Impact of Ownership and Belonging on Teachers’ Participation

The OCoP, being a community with a target membership of individuals with a common interest, has the potential to generate a sense of belonging among those individuals, which may in turn, assist them to engage in the forum’s discussion, as they feel that they own the OCoP themselves. In the current OCoP, teachers were encouraged in several ways to develop this sense of ownership. Firstly, they were given the opportunity to choose the subjects for discussion, and secondly, they were asked to use their real names rather than pseudonyms as is usually the case in OCs. Finally, the OCoP was restricted to specialists in ICT, thereby showing that the forum was applicable only to them. The impact of the feeling of ownership and belonging to the OCoP generated by these strategies is now highlighted.

Table 7.5 reveals the approximate time spent by each member in the OCoP compared with the level of their engagement in the OCs. This amount of time was calculated by assuming that each reading of content takes only one minute from the teacher, despite the fact that it might consume more than that. Hence, the estimate is a conservative one. As an example of the calculation, Sama viewed and read the content 917 times, so divided by 60 (60 minutes per hour), this amounted to 15 hours.

Table 7.5: Time Spent by Individual Teachers in the OCoP

Participant	OC		OCoP	Time
	Number of OCs that they have membership with	Regularly visiting	Number of viewed in read the content	
Jara	He did not have any membership	N/A	2861 times	48 hours
Ahmed	Three OCs	One time through fortnight (he did not post messages)	1,216 times	20 hours
Satam	Two OCs	Weekly basis	1067 times	18 hours
Aman	Three memberships	Monthly basis	1,032 times	17 hours
Sama	Three OCs	Monthly basis	917 times	15 hours
Atta	One OC	Weekly basis	725 times	12 hours
Hamad	Two OCs	Weekly basis	537 times	9 hours
Fahad	Three OCs but he left it.	N/A	420 times	7 hours
Fisal	Two OCs	Weekly basis	297 times	5 hours
Mahmoud	One OC	Two or three times per month.	216 times	3.5 hours
Eaad	One particular OC for six years	Weekly basis	161 times	2.5 hours
Adel	He did not have a membership	N/A	86 times	1.5 hour
Ayup	Two OCs	He did not visit it for a while	81 times	1.5 hour
Enaz	Two OCs	Monthly basis	30 times	30 mins

When consulting Table 7.5 it should be understood that the OCs involved were those that specialised in ICT. From Table 7.5, it is clear that a definite difference exists between the time teachers spent in the OCoP and the time they spent in other OCs. Most of the teachers can be seen to hold membership of two or three different OCs, although two teachers (Jara and Adel) had no such memberships. This table demonstrates how much teachers spent from their time to engage with their colleagues in the OCoP. They dealt with the OCoP as a reference for their professional needs, recognising that the OCoP could save their experience so they could return to it whenever they wanted.

Table 7.5 reveals that Jara, Ahmed, and Satam spent the most time in the OCoP. Jara, for instance, spent 48 hours in the OCoP, and no time at all in any other OC. Ahmed, however, despite being a member of three other OCs, also spent a lot of time in the OCoP in comparison with the OCs, as he only visited the OCs on a fortnightly basis. In contrast, Enaz, Adel and Ayup spent very little time in the OCoP. Enaz, for instance, spent only 30 minutes in it over the entire three month period, and clearly this is insufficient for any personal development to occur. At the same time, despite also being a member of two OCs, Enaz only visited these on a monthly basis, and only to download educational resources, so they were really considered by him as no more than libraries. Likewise, Ayup also spent a short amount of time in the OCoP, amounting to just one and a half hours; and also like Enaz, he was an infrequent visitor to the OCs of which he was a member.

The question may arise as to what explains the difference between teachers' interactions in the OCoP compared with their participation in other OCs. And in this respect, it is possible to ask whether an influence upon attendance derives from the sense of ownership of the OCoP that members experienced. Additionally, it is important to explain the differences between the members themselves, for example why Ahmed (case No. 3) spent nearly 20 hours in the OCoP while Adel only spent one and a half hours, despite the fact that all members had the same rights in determining the content, and had equivalent opportunities to participate.

When asked why he enjoyed using the OCoP for his CPD initiative, Ahmed said "personally, the OCoP is better [than OCs] because it involves discussions with specialists in ICT. Also, there are many subjects for discussion which allow members to move between these different subjects. It gives us a margin for discussion and dialogue with our peers".

Here, it is clear that the restriction of the OCoP to specialists of ICT provided teachers with more opportunity to determine their professional needs, and for Ahmed this was a motivating factor because he was happy to engage more and enjoyed the feeling that the OCoP belonged to him. In fact, Ahmed had the highest number of years' teaching experience among all the teachers in the OCoP so this demonstrates that even

experienced teachers can benefit from, and enjoy the OCoP as a vehicle for CPD. Having 15 years' teaching experience, Ahmed related to the members of the OCoP well, referring to them as "our peers" despite not knowing any of the other teachers, except Jara, before the OCoP was launched. The impact of owning the OCoP was highlighted by Ahmed when he said "in our OCoP there is an encouragement because we make one goal for all of us, so everyone seeks to enrich the topic". Clearly, from his words "our OCoP", Ahmed is conveying his sense of ownership, and his reference to the common goal, strengthens the idea that he sees himself as integral to the working of the OCoP, and hence, he feels he belongs. These are the reasons why Ahmed's participation in the OCoP was extensive when compared with that in the other OCs of which he was a member, and which he only visited once a fortnight to read what had been posted.

Another teacher who contributed highly towards the OCoP was Aman (case No. 4), who spent 42 hours in the OCoP, yet only visited the three OCs of which he was a member, on a monthly basis. Aman said "the OCoP strengthens the ties between colleagues ... here in the OCoP, I became acquainted with people that I did not know before and our relationship continued for nearly three months, and I really intend to continue these relationships, if the OCoP will continue to work, as it will be useful for the process of building closer relationships." It can be seen from Aman's comments that he has reached a sense of belonging, or being related to the OCoP, since his choice of words 'ties' reflects this. Obviously, this feeling of belonging to the OCoP impacted on the amount of time he spent within it, and it was apparent from his comments about the OC that he did not feel the same way. For example, he said "you need to know who you asked in order to trust his answer - about resolving problems - , also you need to know his qualification". These words convey no feeling of belonging to the OC because Aman did not know any of the other members and basically could not identify with them, let alone have any relationship with them. Being able to identify his peers in the OCoP helped him to consider the OCoP as a bona-fide community that was united and cohesive in providing mutual support. As he said, "I can discuss ... any educational aspect at any point of time".

Aman's belief that he had formed relationships with members and belonged to the OCoP is also seen in his desire to continue the OCoP so that the benefits of exchanging

experience and engaging in discussions with his peers could be prolonged. It is clear he had very positive feelings towards the OCoP, since during his post-OCOP interview, he referred to the OCoP as “our OCoP” on seven different occasions. For example “I really dealt with our OCoP like educational inspector”; “however, here in our website we can take a long time”; “the materials in our OCoP are unlimited unlike other OCs”. Such expressions reflect the feelings of one who has ownership and a relationship with other owners.

The last among the teachers who were considered more active was Atta (case No. 2). It can be seen that his participation was influenced by his sense of ownership when he said, “in our OCoP, you express yourself through discussion of a point you raise and you are part of the content building process and its development, which is a good thing for morale, I guess”. This shows that he liked the idea of belonging because that promoted the internal motivation to engage. By participating in the creation of the identity of the site, and in its construction and content, Atta was committed to the initiative. Indeed, he suggested six new subjects for discussion in the OCoP. Clearly, he felt he belonged in the group, and at the end of his post-OCOP interview, he said: “providing the OCoP continues for a longer period, I will continue to have its membership because it is really the only way that I communicate with someone who is more experienced than me”.

So, there was a substantial difference in participation levels between for example, Mahmoud (case No. 1), Eaad (case No. 5), Ayup, and Enaz, who were not active in the OCoP, and those who were eager to become involved, and the reasons for this difference should be noted. In respect of Eaad, the reason is basically that he held a negative attitude towards his professional development in general and was uninterested either in the OCoP or in training centres. In fact, Eaad had attended only five hours of training during the previous three years (2009-2011) (as shown in Table 7.9). He did not recognise the importance of professional development, but together with Adel, he believed that the OCs were better than the OCoP because they contained more educational materials which could be downloaded. Essentially, this reflects his attitude towards the job, since such materials are used regardless of who sent them. Enaz thought that there was no need to use real names nor to restrict membership of an online community to teachers of a particular subject area (ICT in this case), and not

surprisingly, he sent only one message, as shown in Table 7.3. At the same time he only attended five hours of training between 2009 and 2011. Despite the fact that Eaad, Adel, and Enaz all had an opportunity to participate in the design of the CPD initiative via the OCoP, they did not change their attitudes towards professional development because they all lacked the intrinsic motivation to change. This raises the question of what depresses this intrinsic motivation, in which respect it may be that the core cause is educational policy which is in need of reform, or that it is a cultural issue. Whatever, the reason, further research into this would be welcome.

7.6 The Impact of the OCoP on Continuing Professional Development

One reason for using a community of practice as a professional development approach is the fact that it provides a common ground for teachers to be lifelong learners by allowing them to continue their discussion and offer collegial support instead of providing 'one-shot' professional development which is criticised by most scholars on the grounds that this does often not achieve its aim. The main feature of a CoP is the communal basis for discussion, exchange of experience, and resource sharing among teachers who genuinely wish to evolve professionally. In order to determine whether the study's OCoP provides a ground for CPD, the participants' CPD in the preceding three years (2009-2011) was explored. The various methods of CPD used were discussion groups, workshops, and online training courses, as indicated in Table 7.6.

Table 7.6: Collaborative CPD Attended by Teachers (2009-2011)

No	Name	Discussion groups whether in school or outside	Workshop	Online training courses
1.	Sama	Three discussion groups	Two workshops	X
2.	Ahmed	Three discussion groups	One workshop	X
3.	Jara	Two discussion groups	Two workshops	X
4.	Eaad	Two discussion groups	One workshop	X
5.	Fahd	X	X	X
6.	Aman	X	X	X
7.	Satam	X	X	X
8.	Mahmoud	X	X	X

9.	Atta	X	X	X
10.	Adel	X	X	X
11.	Enaz	X	X	X
12.	Fisal	X	X	X
13.	Ayup	X	X	X
14.	Hamad	X	X	X

From Table 7.6 it is seen that most teachers (10 out of 14) did not attend any collaborative training whether via discussion groups or workshops. Sama and Ahmed (case No. 3) joined three discussion groups, and Jara and Eaad joined two discussion groups. These same those four teachers also attended workshops, Sama and Jara attending two workshops, while Ahmed and Eaad (case No.5) attended only one workshop during the three year period. As revealed by the third column, none of the teachers participated in any online CPD course.

These three types of CPD are those that assist teachers to be lifelong learners the most because these methods of CPD all involve the teacher in collaborating with his/her peers. Collectively, they can evolve professionally, since it is in the collective situation that they are able to determine the needs of the profession and identify their own strengths and weaknesses by being able to benchmark their own competence levels against those of their peers. Despite this benefit of collaborative CPD most teachers did not attend it.

In the previous section, light was shed on the situation of CPD in training centres, specifically how many teachers attended such sessions, because to date these centres are still considered to be the major provider of CPD initiatives. However, online communities have the potential to offer an alternative, and these are now discussed since they represent another approach that empowers teachers to obtain professional development. All the members of the OCoP, with the exception of Jara and Adel, as shown in Table 7.5, were members of other OCs; and the majority of those members, as indicated in their cases (e.g. Mahmoud [case No. 1], Atta [case No. 2] and Eaad [case No. 5]) considered these OCs as libraries, essentially as sources of materials that could be

taken and used within their individual classrooms. Table 7.7 provides more detail of the visits to these OCs by the teachers involved.

Table 7.7: Frequency of Visits to OCs

Number	Name	Regularly visiting of other online communities (OCs)
1.	Satam	Weekly basis
2.	Hamad	Weekly basis
3.	Atta	Weekly basis
4.	Fisal	Weekly basis
5.	Eaad	Weekly basis
6.	Ahmed	One time through fortnight
7.	Mahmoud	Twice or three times per month.
8.	Sama	Monthly basis
9.	Aman	Monthly basis
10.	Enaz	Monthly basis
11.	Ayup	He did not visit it for a long time.
12.	Fahad	He had a membership however he left it
13.	Jara	He did not have any membership
14.	Adel	He did not have any membership

From Table 7.7 it can be seen that five teachers visited their OCs on a weekly basis, which can be construed as frequently and regularly, while two teachers were not members of any OCs and therefore, made no such visits whatsoever. The remaining teachers were shown to visit much less frequently, to have little active participation, or indeed to have decided to leave these OCs. In contrast, Table 7.4 shows teachers' continuing interaction with their peers within the OCoP for the three months of its existence.

The example of Jara provides insight into how teachers reacted differently to the professional development opportunity given by the OCoP from the way in which they

reacted to other OCs. Jara was not a member of any OCs but he had had some experience of them and had concluded that they did not provide the basis for discussion and negotiation, and that they only served as a repository for educational resources. However, Jara's participation in the OCoP was quite substantial, since he sent 83 messages and read and viewed the content of the OCoP 2,861 times. Thus, the approximate time that Jara spent in the OCoP was 48 hours over the three month period. That amount of time (48 hours) is equivalent to four hours of CPD per week.

Additionally, Ahmed highlighted the negative aspects of OCs when compared to the OCoP, saying "they [OCs] may make the teacher lazy if he only depends on downloading ready-prepared educational materials and presents them without either modifying or adding to them". Basically, he believed that instead of supporting teachers to become more active and engaged, OCs made them more passive and lazy because they encouraged dependence upon materials that had been designed and produced by others, and this led to an unprofessional approach since the precise context in which these materials were being used was not taken into account.

In Table 7.5, it has been demonstrated how much time teachers spent within the lifetime of the OCoP. From this it can be understood that teachers became engaged in continuing efforts to reflect upon their professional needs by communicating with their peers, talking openly and constantly, experimenting with pedagogical techniques, and benefiting from each other's experience. Using the OCoP for around three months allowed for discussions on a range of topics related to the specialist subject of ICT on a 24/7 basis. The OCoP served as a permanently accessible vehicle for knowledge generation and sharing. This continuing discussion and negotiation yielded 531 messages that were exchanged between teachers, and resulted in more than 40 educational resources being uploaded for sharing amongst the community. These resources were lesson plans, worksheets, and presentation about teaching methods. The impact of the OCoP can be established by considering what some teachers said about their experience within it in terms of continuing their learning.

Satam, for example, said:

Our OCoP has opened the door for me to search for more solutions. For example, some of the solutions that I have found increased my incentive

to search on other sites to make sure of the solution. In the past, I did not, in fact, look at all for solutions, but the OCoP and the involvement of some colleagues in it have raised my curiosity in looking for solutions for the problems that face me.

The diversity of teachers within the OCoP, and their different suggestions, exposed Satam to the possibility of many varied solutions to educational problems, and this new insight prompted him to undertake more personal research about the subjects of discussion. In turn, this additional research activity increased his internal motivation and curiosity towards learning, both of which play a vital role in creating lifelong adult learners. These qualities also support the teacher in his/her attempts to evolve pedagogical practices and restructure his/her knowledge. As indicated in Table 7.7, Satam visited his OCs on a weekly basis, but as he said in his interview, “the only benefit I get out of it is downloading such educational materials like lessons on PowerPoint, or reading ideas on how to teach certain chapters and so on”. Satam did not indicate that he achieved any kind of deep learning from the OCs, other than learning “how to teach certain chapters”. This kind of interaction in the OCs does not promote lifelong learning because it does not provide the chance for discussion with peers, which is what is required to learn in depth. As already noted, the OCs only gave Satam the ability to download materials and present these in his their classroom. Clearly, the OCoP allowed Satam to develop from being a passive receiver of information, to becoming an active learner looking for options and possibilities in different places.

Atta serves as another example of a teacher who had shown the effectiveness of the OCoP in terms of continuing professional development. In the OCoP Atta suggested some subjects for discussion among colleagues in the community, such as educational channels, and handling student behaviour. By making such suggestions, Atta was signalling his desire to continue his learning, and hence, his professional development. At the same time, Atta also had membership of one ICT-related OC which he had visited for three years (2009-2011) on a weekly basis (see Table 7.7). He was critical of this OC and OCs in general, saying “they [OCs] are used to download materials and preparing lesson plans. That’s all!” This comparison gives an indication for the differences in behaviour and position of Atta towards the OCoP and the OC. It indicates how the OCoP encouraged him to be an active learner instead of the passive receiver of knowledge and

information which was the outcome of the OC. This difference was confirmed by Atta (case No. 2) in his post-OCoP interview when he said:

Providing that the OCoP continues for a longer period, I will continue to have its membership because it is really the only way that I communicate with someone who is more experienced than me.

Atta clearly believed the OCoP to be a worthwhile CPD forum for him in its provision of the opportunity to connect with more experienced specialised ICT teachers with whom he could share knowledge and evolve as a professional. Moreover, Atta considered the OCoP to represent the only learning route available for him because it was the only place in which he could make suggestions and communicate with other ICT teachers. Hence, the value of the OCoP to Atta was obvious.

On the other hand, some other teachers did not perceive the OCoP as a fruitful place to continue their professional development. Specifically, Eaad, Adel, Ayup and Enaz, saw no benefit from the initiative. Adel, for instance, said he did not want to commit himself to participating in discussion since his professional needs amounted to nothing more than a need to download ready-made educational materials. The core focus of knowledge sharing, of exchanging experiences and resources, and of working collaboratively in order to develop interest in the subject, was lost on Adel.

Enaz, as another example of a teacher with no interest in the community, sent just one message and spent only 30 minutes in the OCoP during the entire three month period. This represents exactly two hours of CPD per academic year. Moreover, in the preceding three years, he had attended only five hours of CPD. As already noted, the main reason offered by him for this situation was work overload which prevented him from participating, plus the fact that he did not have internet access in the school where he worked, meaning that he was required to access the OCoP after school in his personal time.

To conclude, it can be understood that the OCoP, the training centres, and the OCs all differ from each other in terms of encouraging teachers to continue their learning. The OCoP creates a ground for negotiations, engagement, and sharing interests which would

support learners in efforts to upgrade their learning by moving from the periphery of the learning process when they only obtained educational material, to the centre as they become active learners through more in-depth interaction with others who have greater experience to share, none of which are features of the other two forms of CPD. This human/social element is seen to be important in developing the intrinsic motivation to develop in personal terms, since the relationships with other teachers in the same subject produced fruitful outcomes, so much so that as Ammen said, “I became acquainted with people that I did not know before and our relationship continued for nearly three months, and I really intend to continue these relationships, if the OCoP will continue to work, as it will be useful for the process of building closer relationships”.

7.7 The Impact of the OCoP in Building Professional Relationships

The formation of professional relationships among teachers is important because this type of relationship enables teachers to create a community of learners which provides them with professional and emotional support. It established trust among the members, which in turn made them consider the OCoP as something which belonged to them, i.e., that they themselves owned, and wished to preserve. Therefore, this kind of professional relationship empowers members to acquire tacit knowledge and experience that sometimes cannot be obtained from books or CPD courses in training centres. Modern technologies have been employed to facilitate communities of learners because they bring the opportunity to share learning resources and experience globally. This knowledge sharing facilitates the change from individualism to collectivism and builds relationships among teachers, such that they see themselves as part of the profession. In this section the impact of professional relationships on the teachers within the OCoP is highlighted. Initially, certain demographic details of the OCoP members are given, as shown in Table 7.8.

Table 7.8: Demographic Details of the OCoP Members

Years of Teaching Experience			Type of school		Area of school		City				
Between 3 to 5 years	Between 6 to 10 years	Between 11 to 20 years	Private	Public	Urban	Rural	Bura	Onez	Aeeon	Bedae	Raas
4	7	3	4	10	10	4	6	2	2	2	2

From Table 7.8 it can be seen that the 14 members were from a variety of backgrounds and cities, and types of school (public:private/urban:rural). Nonetheless, regardless of this wide disparity between them, the OCoP created a foundation from which they could forge professional relationships among themselves during a three month period. The depth of this relationship can be witnessed by the volume of interaction (messages posted to the OCoP and readings) during that time. In fact, there was a total of 531 messages which can be understood as a substantial achievement given that all participation was entirely voluntary and members could withdraw at any time without having to provide any justification.

At the start of the OCoP, none of the teachers involved knew any of the others, with the exception of just two individuals who were acquainted. However, all the teachers came to recognise each other through the OCoP, and moreover they became united as members of the community, to the extent that some members, such as Atta (case No. 2), Satam, Ahmed (case No. 3), and Aman (case No.4) seriously asked for the OCoP to be continued in order to enable them to communicate and interact with their peers despite the fact that they were geographically dispersed.

Another indication of the professional relationships that developed can be witnessed in the nature of the discussion within the OCoP. The criticism made of the OCs was quite clearly that this type of forum concentrates on the provision of abstract information instead of knowledge gained from experience, and operates on the basis of anonymity. Hence, teachers are reluctant to be active participants (e.g. Aman, and Atta), as they have no genuine knowledge of whom they are interacting with, or indeed of whether that person is trustworthy, in these OCs. Being deterred by this, the teachers in the OCoP suggested at the start of the experiment that they use real names so as to be able to build professional relationships with each other, and it was indeed found, that by

doing this, teachers did develop professional relationships and were encouraged to be more active and reflective about what they were doing instead of repeating what others did.

Confirmation that the OCoP helped some teachers to build relationships with their peers came from several participants. Fahad, for example, considered training courses to be weakened by the fact that it was impossible to create close links with other teachers, saying “I really did not have a link or a relationship with any person after the training in the training centres [why] In fact, it is difficult to build a relationship out of one meeting; especially that you have come only to attend the training course”. This is undoubtedly one disadvantage of “one-shot” training courses which are too short to provide any kind of platform on which to build professional relationships. In these situations, trainees attend purely to listen to the trainer and then return to their respective workplaces. There is no further communication between them. Obviously, this type of training cannot create any type of cohesion or solidarity among teachers, whereas in contrast, the OCoP with its three-month timeframe enabled this. Fahad was able to show the benefits of the OCoP in this respect, saying:

One of the positive aspects ... the relations between the colleagues ... you feel that you are with colleagues who share with you the same scope of specialties and the same concerns. For example, I have never known someone with command of a wide range of knowledge like Mr. X. If I need to ask him about some question, I will definitely communicate and discuss with him through his email displayed on the OCoP – if the site will not continue to work.

It is obvious from this comment that the OCoP is a vehicle for building and maintaining professional relationships as Fahad is clear that through the OCoP he is able to contact colleagues who he has come to respect through the knowledge sharing initiative. Moreover, these relationships are perceived as enduring, since Fahad makes the point that he intends to continue them in the event that the OCoP closes.

Another example is Mahmoud (case No. 1), who specifically indicated that he joined the OCoP with the aim of building professional relationships with his peers in mind. When asked about the benefit of being able to do this, he said “in fact, such a thing breaks the barrier between teachers because it gives us a chance to exchange school visits without

being astonished as long as we know each other”. Clearly, Mahmoud’s professional relationships extended beyond communicating via the OCoP to actually meeting colleagues on a face-to-face basis and extending the knowledge sharing activity by visiting those colleagues in their individual school environments. Prior to joining the OCoP, Mahmoud was not able to gather such varied and rich experience.

On the other hand, a few teachers saw no such advantages associated with professional relationships coming from their participation in the OCoP. Eaad, Adel, Ayup, and Enaz were all unconvinced in this respect. Adel who had no membership whatsoever with any other OC (Tables 7.5/7) definitely did not want to be involved, saying “I do want to carry any responsibility”. Essentially, Adel was dependent on others in his educational need. He did not demonstrate any commitment to improving himself through interaction with other more experienced teachers than himself, and consequently he did not contribute towards creating the conditions for collaborative working and the subsequent professional networking. When asked how he might resolve difficulties that confronted him in his school, he simply said “the trainer tells me the solution”.

7.8 The OCoP as a Preferred Method of CPD

The difference between CPD conducted through the OCoP, and CPD undertaken in training centres can be seen in several ways. Firstly, it can be observed by examining the variation between a teacher’s attendance (in terms of the time devoted to CPD) and contribution. Secondly, it can be seen by observing the levels of interaction between teachers in the OCoP and in the training centres, where the potential for interaction is more controlled. These differences are indicated in Table 7.9.

Table 7.9: Difference in Teachers’ Attendance – OCoP and Training Centres

Participant	Training hours of courses during the last 3 years	OCoP (over three months)		Time scale
		Number of posts	Number of viewed in read the content	
Ahmed	90 hours	114 messages	1,216 times	20 hours
Jara	10 hours	83 messages	2861 times	48 hours
Satam	40 hours	72 messages	1067 times	18 hours
Sama	35 hours	49 messages	917 times	15 hours
Hamad	20 hours	47 messages	537 times	9 hours

Aman	42 hours	35 messages	1,032 times	17 hours
Atta	2 hours	27 messages	725 times	12 hours
Fahad	12 hours	24 messages	420 times	7 hours
Fisal	24 hours	15 messages	297 times	5 hours
Mahmoud	40 hours	20 messages	216 times	3.5 hours
Eaad	5 hours	19 messages	161 times	2.5 hours
Ayup	3 hours	5 messages	81 times	1.5 hours
Adel	40 hours	3 messages	86 times	1.5 hours
Enaz	5 hours	1 message	30 times	30 mins

Table 7.9 clearly reveals that the average time spent by teachers in the OCoP was almost double that spent by teachers in training centres during the preceding three years. Jara for instance spent 48 hours in the OCoP during the three month period, yet spent only 10 hours in training centres in the entire three years. Essentially, therefore, Jara was involved in 15.5 hours of CPD per month during the OCoP, and if that were to be continued, then over one academic year that would amount to 155 hours, and over three years, 415 hours as compared with the 10 recorded in training centres. Such differences are also observable in the cases of Satam, Atta (case No. 2), and Aman (case No. 4).

Table 7.10 summarises what teachers said about CPD in training centres and what they said about the OCoP as a new method of CPD.

Table 7.10: Teachers' Opinions on CPD in the OCoP and in Training Centres

<i>CPD via the OCoP</i>	<i>CPD in the training centres</i>
Autonomy	Top-down approach
Following constructive approach	Repetition of the courses
Practical Discussion	Followed a theoretical manner
Feeling of ownership and belonging. Teachers participated in the topic of discussions.	Feeling of isolation; CPD courses suggested by trainers
Update	Need to update
Making professional relationship	People do not know each other
Various topics	Only one topic in one time
Provided 24/7	Consuming time

Some of the differences recorded in Table 7.10 serve as hindrances in respect of attendance on CPD programmes in TCs. Four important differences are the top-down approach vs. autonomy; repetition of the courses vs. following the constructive approach; feeling isolated in training centres vs. a feeling of ownership and belonging; and the theoretical manner adopted in training centres vs. practical discussion in the OCoP. Using a transmission method (top-down) in the training courses dissuades teachers from attending CPD programmes whereas the autonomous discussion encouraged in the OCoP provides a liberal environment for teachers to debate any issues they want in an open manner. This level of freedom was appreciated, and led teachers to remain as members of the OCoP for the duration of its operation. Another example is the nature of the discussion in the OCoP which is constructive as teachers bring their own experience and use this as a platform to build new knowledge and understanding, whereas in the training centres, knowledge is simply regurgitated from texts. Furthermore, the OCoP assists teachers to adopt practical suggestions and because the OCoP is accessible 24/7, teachers can experiment at their leisure and return to the OCoP in order to talk about what they did and what difficulties they faced. In contrast, CPD in TCs does not allow for such practical experimentation because of the time limitation. The final point relates to the fact that OCoP members developed a sense of ownership of their community, and that they belonged to it. These feelings came from the fact that they were themselves responsible for choosing the discussion topics, and that they gradually built up professional relationships with each other, which they intended to sustain should the OCoP not continue.

In addition to these four major points, there were others worthy of note. One related to the outdated nature of the content provided in training centres, especially in relation to ICT which is a rapidly evolving subject. Some teachers, for example, Fahad, Jara, Ahmed, Faisal, Adel, and Satam, mentioned this as a problem. Satam, for instance, said “there is a boring repetition of the courses”. The OCoP, in contrast, being fed by the members with their current problems, addressed the evolution of ICT, and indeed provided some practical examples by actually using technology in its own operation. Indeed, one of the subjects discussed within the OCoP was ‘using new technologies’, and this generated 38 messages.

Another drawback associated with the courses delivered in training centres was the fact that the courses were often repeated, and as Satam said,

.... Personally, I have attended one course three times, each comprising one week! The course was on how to use the Photoshop. It was really very boring to repeat the same course more than once.

Clearly, the situation described by Satam, where a person is expected to attend the same course more than once is a complete waste of time for that individual. Likewise, if teachers have no knowledge of what they are to receive training in, they have no opportunity to prepare. In the OCoP, there are no such weaknesses since the entire philosophy is one of self-determination, self-help, and knowledge sharing. In these circumstances, members are critical players in the CPD initiative rather than passive attendees as is the case with the training centres.

And yet another strength of the OCoP over the training centres is the flexibility to introduce a variety of topics for discussion. In the training centres, one course is delivered at a time. Hence, the focus is only ever on one subject and linkages across issues are not debated. In the OCoP, however, the diversity of topics that can be under discussion simultaneously is a genuine benefit, as noted by Mahmoud (case No. 1) who said “the OCoP presents various topics at one time while in training courses centres they train one specific topic”. The variety of courses provide different choices in the OCoP help to meet the teacher’s need and interest whereas in the TCs teachers must attend one course even they have no interest in it.

It was also reported that in the training centres, teachers felt isolated from reality because the courses were designed by external people with no input from those attending the courses, and delivered in a general way without any mechanism for attempting to create any feeling of unity among the teachers participating. In contrast, in the OCoP all eight topics for discussion had emerged as a result of teachers’ suggestions. This level of involvement strengthened teachers’ enthusiasm to contribute, and clearly teachers’ level of contribution was considerably more in the OCoP than in the TCs, as revealed by the data already presented. At the same time it has also been

shown that by being asked to contribute towards the determination of the discussion topics, teachers developed their sense of ownership of the community and their feeling of being a genuine member of it. Aman (case No. 4) for instance, said “I really dealt with our online community like an inspector who came...”, Satam said “our OCoP has opened the door for me to search for more solutions”, and Atta commented that “in our OCoP everyone can raise issues and participate in the topic of discussion”.

Stemming from this whole situation, teachers who follow CPD in the training centres, feel they cannot develop professional relationships with their peers as each group is trained in isolation, and restricted to a certain number of teachers. Hence, there is little possibility of individuals being able to learn from each other or to share interesting educational experiences or materials. The OCoP has no boundaries in respect of its membership and can bring together people from geographically dispersed schools who are keen to establish professional relationships and therefore, to commit to doing that. As a result, some teachers expressed their wish to continue the OCoP in order to sustain the relationships they had established and guarantee their future ability to discuss educational issues with their peers.

7.9 The Impact of the OCoP in the Improvement of Reflection

One of the objectives of all CPD programmes is to improve levels of reflection among individuals which usually impact on educational practice, and in this study, teachers were given an opportunity to think about their actions during the operation of the OCoP. Hence, they were asked to reflect on issues such as teaching strategies, lesson preparation, and the use of new technology in their classrooms, all of which are key to the delivery of a quality learning experience. Undoubtedly, OCoPs provide a place for sharing ideas and offering feedback among teachers, both of which contribute to deeper reflection by continuing process of evaluating experiences. The OCoP can be a forum that facilitates this, although reflection is not guaranteed purely by the existence of the community, since by definition, a Community of Practice relies on its members wanting to interact with each other to achieve their mutual learning aims.

In this section, the levels of reflection as observed among the OCoP members during their interaction with each other, are considered, as also are the factors that have an influence in this respect. I adopt Van Manen’s (1977) framework to investigate the

level of reflection. This framework has three levels of reflection. The first level is purely concerned with recalling what others say and copying. The second level moves to consider whether the subject being discussed is valid to his situation or not; and the third represents a situation when the learner provides reasons for accepting or rejecting others' experience or ideas for adoption within his/her situation.

In the current study, one subject that was discussed in the OCoP, collaborative learning, is taken as an example of how teachers reflected upon their practice.

Ahmed (case No. 3) was the first teacher in the OCoP to design a practical lesson plan involving the collaborative learning method. Fahad responded to Ahmed, as follows

I have a problem with my students with regards to the subject of databases. In fact, I wish to apply the collaborative learning method that was discussed by my colleagues, but my problem is how to apply it and use the technique at the same time. Dear colleague do you have a solution to this problem?

In this question, Fahad demonstrated that he had reflected on the potential for using a collaborative approach in his particular classroom, but indicated that he remained confused, having encountered certain difficulties. This indicates the second level of reflection. He realised the difference between the environments which led him to request a suggestion from his colleague. He did not assume that solutions would emerge from his experience and situation. In respect of one particular debate lasting three weeks, Fahad used his personal experience to post an explanation of collaborative learning, showing how he had adopted this approach with his students. Whilst there were weaknesses in his explanation, this action does demonstrate the kind of movement referred to earlier, i.e. from the periphery to the centre, and it can be seen that Fahad, through this level of participation, moved from being a newcomer to an experienced member.

Aman, for instance, was one such participant, who when asked whether he had gained any practical benefits from his interaction within the OCoP, explained that he had changed his teaching methods from a top-down approach, to another method that involved collaborative learning in the classroom as presented in his case (No. 4). Aman demonstrated the effectiveness of this new method. He moved from reading about the

new method, which represents a position at the periphery of the OCoP, to rethinking his previous teaching. This activity eventually led him to adopt a new approach in the real world, and involved him in considering the difficulties he met when doing so and subsequently making adjustments in order to customise the method to his own context. Hence, the process shows his movement towards the centre of OCoP as he acquired new skills. Nonetheless, as he was still struggling to adopt the new method, as was shown by the fact that he asked for suggestions as to how to overcome the difficulties he encountered within the classroom, it can be seen that his journey to the centre was not yet complete. However, after a few weeks, Aman mentioned the positive impact of collaborative learning upon his students. This shows that the discussion followed a constructivist approach rather than one that simply reiterated the drawbacks. This discussion builds a history of experience which gives meaning and structure for learning among members.

On the other hand we can see that Eaad, as another example, said that he had downloaded material on the subject of collaborative learning from the OCoP and intended to use this in the future. In this behaviour, Eaad showed the lowest level of reflection by recalling others' experiences without any making any adjustments. This means he did not move from the periphery of the OCoP towards the centre which is confirmed by the rest of his contributions (see case No, 5). Eaad, in general, was affected by his personal low level of stimulation. As he said quite frankly "when we develop, what is the difference between me and others – nothing!".

Likewise, Ayup mentioned in his post-OCOP interview, that he had applied a collaborative learning approach in his class, although he did not mention making any modification to the method. In fact, Ayup's contribution was extremely small, amounting to only five messages, but he explained this as the result of work overload which had prevented him from being more active in the OCoP.

Satam, as another example, responded to his colleague about collaborative learning as follows:

It is OK Mr. X. I have tried both of two method ... I found that the best solution for my case is that with the increasing number of students with a lack of equipment to follow collaborative learning one computer for one two

students. In the practical lesson I put the one excellent student with another weak student in order to help him during the lesson.

Satam also referred to the discussion about collaborative learning. He tried to apply the method in his classroom but like others, he too met some difficulties. At this point, he moved to the next step in the learning process by asking his colleagues in the OCoP if they had any suggestions to help him. The first colleague did give him some ideas that might help to overcome these difficulties regardless of the different environment and circumstances faced by Satam, while the second mentioned that there was no single strategy that was appropriate for all situations. In his last response, Satam said that he intended to take note of these suggestions. He wanted to discover what would be appropriate for his particular environment. One month after experimenting with these methods Satam said, “there is no specific teaching method can fit for all lessons ... the teacher should diversify his teaching methods for different lessons”.

The last quotation shows the high level of reflection in which Satam has engaged. He fully understood about the methods of teaching and how they work practically in his classroom, and this understanding led him to realise the limitation of using only one method since one method might not be appropriate for every class or fit with every subject. This result emerged, through a series of interactions with other members of the OCoP; in other words, he was able to learn by being exposed to other teachers' experience, and then applying the techniques he had learned about in his own teaching situation. Thereafter, he tried to overcome the problems he met, and finally in the last stage of the process, he applied the new technique with success after some adaptation to meet his specific context. Commenting on the process, Satam acknowledged that there was no “one approach fits for all”, and stressed that some experimentation must be done to arrive at the most suitable teaching method for the particular subject and classroom environment.

The second example of reflection among OCoP members is that relating to the subject of Lesson Plan Preparation. In this respect, the structure of a lesson plan was discussed among the teachers, and one member posted his lesson plan that was actually adopted during the week after the discussion. This enabled other colleagues to suggest

comments about the preparation of the lesson plan. Three teachers who posted their lesson plans were Mahmoud (case No. 1), Atta (case No. 2) and Aman (case No. 4).

The contributions of members in the OCoP in this section represented three levels of reflection. However, most of these contributions can be considered to be at a low level of reflection. Some of the teachers did not agree with the importance of lesson planning, and organising ideas, and this viewpoint dissuaded them from participating in the overall activity, so they did not post their lesson plans or offer any suggestions. Eaad, Ayup, and Adel are examples of those teachers who perceived this as unimportant.

... For instance, there is a lesson preparation of one of the teachers in a site entitled 'Lesson Preparation' by Mr. X and it is widespread in all Saudi Arabia. It is well organised and coordinated and this is what has made me enter his personal website...

In this comment, it is clear that the teacher considered the lesson plans posted in the OCs to be well organised and co-ordinated, meaning that there was no need to make improvements or to develop the lesson plan. This point was emphasised by the teacher when he said that the main aim of doing a lesson plan was to hand it to the principal of the school, which he was obliged to do on a weekly basis. In fact, a number of teachers expressed this view which was a reflection of the importance of their school culture. From this it can be understood that school culture can have both a positive and negative effect upon the professional environment.

Another example of the low level of reflection was evident in the following post by Mahmoud (case No. 1) concerning lesson plans.

I have found that good lesson plan helps me to organise the subject.... I have also noticed that in my colleagues' plans, time is perfectly divided.

Here the teacher indicates a low level of reflection. Mahmoud did not find the comments about the lesson plan from his colleagues useful, even though others offered suggestions for the plan's development. Although the teacher mentioned one useful point in the lesson plan about "organising the subject", there were other issues such as the teaching method and content of the lesson plan itself.

The second level of reflection by Mahmoud who prepared the second lesson plan was seen when he posted his lesson plan:

Respected brothers and colleagues, I attached with this post a lesson plan for the next lesson bearing in mind that I have tried to take advantage of the points that have been suggested in the past week to

Here Mahmoud shows that he modified his lesson plan to suit his own situation, and that he made the changes according to the comments that had been posted by colleagues to his previous lesson plan. This indicates a movement from his legitimate peripheral participation as a newcomer, to a more experienced member of the community able to demonstrate progression in his own learning, and hence, greater personal expertise in the subject being discussed. At the same time, he remained in the process of movement and progression.

Reviewing the contributions of Ahmed (case No. 3), Jara, and Ayup, no evidence of any deep reflection in either their written contributions or in their interviews emerged. The reason for this was that Ahmed and Jara considered themselves to possess the highest qualifications among the group and certainly they appeared to be at the centre of the OCoP by providing advice and explanations to other members, meaning that there was no real opportunity for them to experiment with new ideas proposed by other members. Consequently, these teachers suggested involving teachers with more experience. Ahmed said truthfully "I have taken a large number of training courses, getting to know the needs of my colleagues so as to be able to serve them", indicating by this statement that he believed he possessed the expertise to be able to help others develop professionally. This finding supports what other researchers have found, that being that veteran teachers gain less from CPD programmes than teachers with less experience.

Chapter Eight: Discussion of Themes Relating to the Research Questions

8.1 Introduction

In Chapter Six the data from five cases were presented, thereby giving a complete picture of the opinions and progress of five different teachers. From these cases, certain common themes emerged which have been explored in Chapter Seven, in order to understand the different issues that arose during the implementation of the OCoP, and the effects of these upon the teachers involved. In this chapter, the research questions posed in Chapter One are addressed, using the information contained within these themes.

Despite the findings reported in Chapters Six and Seven that there were definitely positive impacts felt by most teachers who participated in the OCoP, it was also clear that not all teachers learn equally, either in terms of content, or in terms of the speed with which they learn. Some of the teachers seemed to gain a deeper level of understanding, and a greater ability to reflect as a result of joining the community than others. This chapter attempts to present this different kind of learning, who benefits, and what factors might be influential in this respect. At that point, a discussion of what appeared in the literature will be provided, in order to answer the questions of whether there is a relationship between the findings of this study, and the findings of previous research. Essentially, this will establish whether previous studies are endorsed by the current findings or whether this study produces contrasting results.

The research questions are

- 1. How far does an OCoP contribute to improve teachers' practices?**
- 2. How far can an OCoP assist teachers to solve the problems they face in the real world?**
- 3. What do teachers see are the differences between CPD in Training Centres and CPD through an OCoP?**

4. What is the potential for an OCoP being used to strengthen the professional relationship among teachers?

8.2 Research Question 1: How far does an OCoP contribute to improve teachers' practices?

Generally, the natural process of learning in the OCoP did not promote uniformity in the level of interaction among members because those members came from different backgrounds and situations, and had varying attitudes towards professional development. Indeed, the online community of practice offers a new democratic environment in which teachers can engage and interact with their colleagues, and this gives them the freedom to determine how much, and what they learn. This means that members must have the internal motivation to learn.

The first research question seeks to establish the level of improvement in teachers' practice. After reviewing the data concerning the amount of online interaction, from the interviews, and from the observations, it was seen that different levels of practice emerged as indicated in Chapters Six and Seven.

The cohort of teachers can be seen as falling into two groups, the first group representing those who demonstrated a profound change in their practice, and the second containing teachers who showed only superficial benefits by remaining on the periphery of the community, such as Eaad, Ayup, Adel, and Enaz. It can be seen that there are factors which predispose the level of contribution made, and the benefits obtained from the OCoP.

Learning in a CoP can take place when teachers who are on the periphery of the community move to the centre. In other words, when teachers progress from being novice learners to becoming experts in the subject being discussed. This gradual movement occurs as a result of their increased engagement and learning such that they proceed from the sidelines of the OCoP and become more actively involved in the mutual process of negotiating the topics for exploration in the OCoP.

Looking at Eaad's posts (case No. 5), for example, it can be seen that from the beginning up to the end of the OCoP, these were limited both in the exchange of information between him and his colleagues, and his own suggestions. This type of participation

shows no evolution of learning – the learning is restricted to a minimum level characterised only by information exchange. The first message that Eaad sent to the OCoP on 12 March asked a colleague about lesson planning. At the end of May, Eaad had not shown any fundamental change in his practice. He did not embark upon the next step of learning by experimenting with new lesson plans or adopting new teaching methods, and this omission in turn affected the depth to which he could reflect upon, and evaluate his experience. This low level of participation was, therefore, investigated in the post-OCOP interview in order to reveal the reasons.

Enaz, as another example, did not see CPD in general as a part of what he does as a teacher, despite the fact that CPD is crucial for him as a teacher of ICT (a fast-moving discipline). As is clear from Table 7.1 in the previous chapter, Enaz had not attended any discussion groups whether in school or outside, or any workshops or online training courses in the past three years. This confirmed his opinion of the role of CPD. Indeed, during the entire lifetime of the OCoP, he only sent one message to the community despite having received a direct message from his colleague and from me about the lesson plan. Additionally, he only visited the OCoP on a monthly basis, justifying that low level of participation on the grounds that he was overloaded with work. That said, most of the teachers in the OCoP were in the same position – teaching the same subject, and having the same workload. All this evidence points to the fact that Enaz lacked the professional identity associated with teaching, which in turn left him with no desire for self-improvement.

On the issue of teachers who did not demonstrate any profound learning or changes in teaching practice, it can be seen that two teachers had different reasons for these outcomes. These teachers were Ahmed and Jara, who showed the greatest amount of contribution to the OCoP through their high volume of interaction, as presented in Table 7.3. A review of Jara's interaction, for example, revealed that on 5th April, he asked a challenging question related to the adoption of technology to improve teaching, but that right up to the end of the OCoP no teachers were capable of interacting with him due to the difficulty of the question. When some teachers were asked in their post-OCOP interviews why they had not responded to Jara's question, they said frankly that they did not know how to use this new technology in their teaching.

Ahmed, as another example (case No. 3), updated his own lesson plan every year to involve new educational exercises and ensure that his own standards for evaluation continued to be appropriate. Furthermore, he indicated that he had a healthy attitude towards learning, when he responded to a question about training courses that he had attended before the OCoP, saying “[a]fter the course, I started to review what we have studied ... I searched in some websites and followed the explanations ...”. However, in the OCoP he was not faced with any challenging questions. Instead, Ahmed sought to help his colleagues with lesser knowledge and experience, who were teaching the same subject. In fact, this was his main aim in joining the OCoP. He was able to make such a strong contribution because the OCoP did not include any teachers with more experience than him, which was a feature both he and Jara commented on in their post-OCoP interviews, as they felt that if the OCoP had included more experienced teachers, the community would have been more effective and helpful to everyone. Nonetheless, this criticism apart, Ahmed did receive some benefits from the OCoP but they cannot be considered as having a strong impact upon his teaching practice. Specifically, Ahmed said that he had obtained some information about new software.

However, some teachers did improve their teaching practice or rethink their teaching strategies having benefitted from the experience of other members of the OCoP. Such changes were made possible because the OCoP provided the opportunity for discussion about practical issues rather than restricting it to theoretical issues, which as some teachers mentioned was the situation in other OCs. Aman and Fahad as we see in Chapter Seven, for instance, re-considered their teaching methods and tried to move from a lecture approach to a co-operative method having been able to discuss this in the OCoP. In fact, they had both been aware of the method prior to joining the OCoP, but neither had tried this, and it was not until they saw the contribution of another OCoP member who was able to speak from experience and demonstrate the good practice associated with this strategy, that they felt confident in using the method themselves. The question as to why these individuals only changed their teaching methods during the OCoP, despite having previously attended training courses and/or joining some other OCs, is answered by referring to the practical orientation of the help available and a respect for the experience of the member offering it. This indicates the importance of practical CPD programmes and their subsequent effect upon teachers. Practical

examples give teachers the chance to think about and reflect upon their previous experience which in turn enables them to make changes to their practice whilst attending the OCoP, whereas other CPD courses did not allow that. One teacher (Fahad), as mentioned in previous chapter, expressed this point by saying that the main advantage of attending OCoPs as a means of CPD was that “a good example can be stored, enabling us to return and look”. Here it can be seen that the teachers considered that being able to save the good example and experience was a real benefit because they could return to it whenever they needed to do so.

Another potential reason for these significant changes is the fact that all the teachers were eligible to contribute towards determining the subject of discussion in the OCoP. Hence, the focus is on development through a peer group rather than development as a result of being at the end of a delivery by educational inspectors or external experts. In the OCoP all members had equal status, they were all teachers of ICT, and there were no educational inspectors or educational trainers. Consequently, they related to each other on this basis, which generated a feeling of equality, and that in turn, encouraged them to talk openly and freely. This feeling of equality encourages teachers to be more active in the OCoP than they would be in traditional CPD programmes, as is evident from Tables 7.3 and 7.5 which chart the difference between their contributions in the OCoP and OCs, and those in TCs. Furthermore, the tables show the differences in the depth of their contributions in the OCoP compared with their contributions in the OCs. The interactions among teachers via the OCoP yielded 531 messages, and more than 40 educational resources were uploaded for sharing amongst the community. To be more specific, in Chapter Six, Table 6.1, the subjects related to their teaching practice such as collaborative methods, the format for successful lesson plans, and the role of teacher in the classroom, etc., are shown.

Also in connection with this first research question, it must be noted that the OCoP began from scratch and had comparatively few members (only 14 male teachers). Clearly, in order for OCoPs to become effective vehicles for CPD, the communities themselves must incorporate diverse levels of experience and be given time to mature and it cannot be claimed that the OCoP established for this study had reached this level of maturity, and indeed quality. Its relatively small membership, which represented a

weakness, meant that those teachers with less experience like Aman, Fahad, and Atta as mentioned in Chapters Six and Seven, changed their practice more than those with greater experience, such as Jara, Mahmoud, and Ahmed. Ahmed, for example, found nothing new in the OCoP.

8.3 Research Question 2: How far can an OCoP assist teachers to solve the problems they face in the real world?

Learning by solving problems helps teachers to make the connection between abstract knowledge and how to use that knowledge in real world situations. The OCoP provides the opportunity for teachers, as adult learners, to develop their problem-solving strategies and hence, allows for the evolution of their skills so that they are able to resolve problems that occur in their classrooms (their real world). The situated learning upon which the concept of CoPs is based, provides the means by which teachers can reflect upon their experiences, restructure their knowledge, and apply that newly-formulated knowledge to specific challenges and or problems.

The analysis of the data obtained by tracking members' interaction within the OCoP in problem-solving activities, and through the post-OCOP interviews demonstrates differences between teachers in their problem-solving strategies, and shows now some problems posted to the OCoP required varying degrees of depth in their solution. Some for example, really only needed tips or advice from other members, whereas others required several communications as one teacher tried a solution that was offered, and then came back to the OCoP for further discussion.

It was clear from the post-OCOP interview data that teachers did consider the OCoP as a problem-solving mechanism, whether this be for small or large problems (see Chapter Seven). They also appreciated the fact that the OCoP, through its use of technology, allowed all the solutions and experiences posted to it, to be saved and retrieved whenever a member required, whereas in face-to-face discussion, only those in attendance can actually benefit. Using the framework suggested by Garrison et al (2001), Table 7.3 shows evidence of this, indicating the number of messages that can be categorised as being involved with solving problems. In this respect, 32 messages can be labelled as recognising problems and a further 30 messages as creating solutions for these problems.

Members' level of contribution to the OCoP in respect of problem-solving can be grouped into three categories:

- The first category includes those teachers (Mahmoud, Eaad, Ayup, Adel, and Enaz), who did not believe that they had been helped to resolve problems by the OCoP.
- The second category includes those teachers (Ahmed and Jara) who clearly contributed in solving other members' problems but who did not believe that the OCoP had helped to resolve their problems.
- And the third category includes those teachers (Satam, Sama, Hamad, Aman, Atta, Fahad, and Fisal), who believe that the OCoP did help them to find good solutions for the problems they encountered.

Considering the first group of teachers, it is apparent that these members had the lowest engagement and interaction both in the current OCoP, and in the last three years in other OCs that they were members of, as shown Table 7.3 in Chapter Seven. When asked why they did not believe the OCoP had encouraged them to try to solve problems in its forum, when they had clearly joined it in order to be exposed to new ideas and advance their educational experience, the teachers gave several justifications.

Mahmoud, for example (as seen in his case No. 1), said that students in private schools did not present any challenging problems that would encourage him to experiment with new teaching techniques. This was in contrast to the opinions expressed by three other members who also taught in private schools. However, it was notable that Mahmoud tended to blame others for his resistance to change. In his interview he pointed to personal reasons for his low contribution in the OCoP and his low interest in PD in general, saying: "I need these certificates – whether from the founder of the OCoP or from the mentor in the training courses centre - in my CV, it is important in career life". This indicates the real reason for Mahmoud's position. He had not internalised the value of CPD and saw this purely as a passport to promotion. This point shows how important it is to reconsider the evaluation mechanisms of CPD courses, which should include making an assessment of whether the trainee has engaged with the ideas and has been seen to apply the knowledge accumulated, before any certificates are awarded. This

means providing certificates which are competence-based rather than being based on attendance.

Also in this group, Enaz is another example of a teacher who had very little participation in the OCoP, as shown in Table 6.9. The lack of engagement evidenced in the OCoP is also consistent with his previous history in terms of his professional development since as shown in Table 6.6 he did not attend any workshop or discussion groups, and this happened despite him having only 12 hours teaching per week. Clearly, he had adequate free time to join CPD programmes but chose not to do so. In fact, the data indicates that Enaz preferred not to work in a group for cultural reasons. At the beginning of the OCoP, he preferred to use a nickname rather than the real name, in order to protect his anonymity. When asked about this, he said “it would be freer”, signalling that he would be worried about expressing his honest ideas and others knowing this, for whatever reason, whether he be considered too outspoken, or ignorant. In fact, Enaz works in a rural area and this makes him less likely to be sensitive to the issues being debated in the OCoP, with the outcome that he may not understand the discussion, and the consequent fear of appearing to be less knowledgeable than others. It was, however, pointed out at the launch of the OCoP that respect for all members and for the differences among them was a key requirement of all participants, and that all members’ points of view would be respected. So, it is possible to ask the question as to why Enaz decided to participate in this kind of group work, and in response, he said that his main aim in joining the OCoP was to update his knowledge and learn about decisions issued by the Department of Education.

The second group of teachers - those who made substantial contributions to the problem-solving activities of the OCoP as shown in Table 6.9, but who did not have any of their own problems solved – was comprised of Ahmed and Jara. On analysing their interaction within the OCoP it was found that they did request assistance from other members, but no teacher responded to either of them, despite the OCoP facilitator sending private emails urging them to respond to the posts from Ahmed and Jara as we saw in Chapter Seven. In fact, these teachers found their own solutions since none were forthcoming from other members, but they did mention the lack of more expertise as a

limitation of the OCoP, and suggested that in a future OCoP there should be more members with greater experience and that the OCoP should not have a short lifespan.

The third and final group of teachers comprised those who viewed the OCoP as a good place for discussion with peers and one that was very useful for them in terms of solving the problems that they faced in their classrooms, such as those related to teaching methodology (e.g. Aman in case No. 4), and learning channels (e.g. Atta in case No. 2). The OCoP gave teachers the opportunity to open up a long discussion about the problems that they faced and also to experiment with ideas posted by other members to establish whether those ideas worked in new classroom situations, or whether further modifications to suggested solutions were necessary. Table 7.2 in the previous chapter shows that 71 messages about solving problems were posted, and an important benefit to note is that all of these messages are stored and can, therefore, be read by all members of the OCoP including those who did not contribute to the discussion. This facility obviously spreads the benefits of finding solutions to problems, especially as in the future, those problems might be faced by teachers who had not experienced them to date and had consequently not been involved in the discussion. But for those who had been participating in the debate, there was evidence that benefits were derived. For example, Fisal mentioned that he had gained from the discussion that had occurred between Jara and Hamad about adopting educational software in the classroom. And Atta volunteered the opinion that this kind of discussion can motivate teachers to consider the ideas that are discussed in this way as a resource for their own use in the future.

The question may arise as to why those teachers considered the OCoP to help them to resolve particular problems when they had already attended some training courses and were members of other OCs that should have enabled them to have solved the issues already. Through reviewing the data, it could be seen that it was the fact that the OCoP tended to deal with problems in a practical rather than a theoretical manner. In the OCoP, the problems that were posted were authentic problems that teachers may have actually experienced themselves, or if not, that they could envisage might happen. As a result, they could relate to them, whereas when attending CPD programmes in training centres or when participating in other OCs, problems were always in the abstract. When

solving real problems, however, as was what happened in the OCoP, the collaboration involved gave the teachers a sense of ownership and confidence, such that they felt able to use the solutions arrived at. In particular, Aman and Atta, as we saw in their cases in Chapter Six, could be seen to develop both their knowledge and practice through this approach.

An associated factor in this respect is the trust that developed among members of the OCoP, which in turn led to them building professional relationships among themselves. The trust existing between them served as a motivator for honest discussion and genuine consideration of advice provided, and appreciation of answers to questions. At the same time it is important to remember that all members were skilled in the teaching of ICT and therefore, there was a professional bond, and the basis for mutual respect in terms of experience. This high level of trust prompted teachers to sustain their discussions when solutions did not come immediately, and to persevere to find positive outcomes. Continued discussions of the nature mentioned enable participants to use their critical faculties, and this in turn develops problem-solving capabilities that can be used in the future with different problems.

8.4 Research Question 3: What do teachers see are the differences between the CPD in Training Centres through an OCoP?

In order to answer this question, two sources of data are used. The first source is the data demonstrating what the teachers actually did in the OCoP, and the second is the data obtained from the interviews, when members spoke about the OCoP. Through this interview data, a deeper understanding of the reasons for the differences is obtained.

When consulting Table 7.7 in Chapter Seven, the variation between the teachers' attendance in the OCoP and their attendance in the TCs can clearly be seen, and the comparison reveals that the average time spent by teachers in the OCoP (over about three months) was almost double that spent by teachers in Training Course Centres (over three years). This table presents these findings, showing that most teachers spent the entire period of the OCoP engaged in their professional development, whereas they spent very little time on training courses. This gives an indication of teachers' satisfaction with the OCoP, especially since they were all volunteers and able to withdraw at any time from the OCoP without giving any reason.

Table 6.9 also shows the amount of teachers' contributions in the OCoP, which indicate their level of engagement and how they perceived the community as a source of CPD. In contrast, teachers mentioned that they are invited to attend certain training courses in the TCs and that these courses are already determined whereas in the OCoP, teachers determine their own needs. It is obvious that the teachers are positively inclined towards the OCoP because of the nature of their interaction within it, whereas the passivity associated with Training Centres is viewed negatively.

However, from the interview findings it is possible to explore this issue in greater depth and to gain more understanding. In this respect, it was found that the open environment in the OCoP led teachers to feel free to participate in discussions concerning subjects in which they had an interest. This liberality subsequently promoted the sense of ownership among some teachers, witnessed by references to "our community" (Ahmed, Faisal, Satam and Atta), and comments about their desire to continue the OCoP after its official ending, in order for it to act as a forum where they could discuss professional issues (Fahad, Atta and Faisal).

The question as to why these teachers demonstrated very different levels of engagement in, and appreciation of, the OCoP as opposed to courses in TCs is one that must be asked, and the answer lies in the fact that the distinguishing feature of the OCoP is its ethos, which is characterised by the provision of practical suggestions and solutions that can be taken on board to effect an immediate transformation in the classroom. For example, there were many direct questions, two being about how to manage student behaviour, and how to implement the use of the whiteboard in the classroom. Those asking these questions immediately received clear and concise answers which were based on the authentic experiences of other members, and which could consequently, be trusted to work in their classrooms. This is a very useful benefit since in normal circumstances, teachers only see the educational inspector once annually to debate with him about educational issues. Moreover, within the OCoP as presented in Chapter Five, all members were specialised in the teaching of ICT to students in secondary schools and, therefore, the focus was always on issues of genuine interest to them all. In the TCs, the information imparted is theoretical and abstract, and the teachers attending these courses are from different subject disciplines and

educational levels so there is no opportunity for any meaningful exchange of information among them. It was the specialised nature of the OCoP which encouraged teachers to remain as members. Indeed, some teachers indicated that the OCoP was their main source of professional development, and one in which they placed their trust (e.g. Atta case No. 2).

Teachers, as adult learners, are encouraged to be independent learners within the OCoP, they are expected to determine their own professional needs whereas in the TCs they have no input and are merely receivers of the courses provided as indicated in Table 7.8 in the previous chapter. Important ingredients of the OCoP are the autonomy and freedom enjoyed by teachers within it, and the constructive approach which is adopted towards learning. These features entitle members to determine the specific aim of the OCoP and select subjects for discussion, thereby building a sense of belonging to the community, and promoting independence among the group in terms of the direction of its collaborative professional development.

Central to this professional development is the notion of ongoing discussion. This, coupled with the genuine sharing of educational resources and the opportunity to apply new ideas in the real world before returning to the community with feedback for some kind of evaluation of new practices in existing classrooms, forms a strong facilitative framework for CPD not found in the TCs. With this framework, teachers can see their educational ideas and practice evolve according to their needs. Learning in the OCoP is seen as a process of construction like a pyramid. It follows a cyclic route rather than the simple linear one apparent in the TCs, which simply involves teachers being sent a letter asking them to attend the CPD course, often conducted by external trainers, at a specific time. This time element is important because teachers come out of their schools and are exposed to new theory at a time which may not be appropriate as the issues discussed may have no meaning for them as Satam said. In the OCoP, issues being debated are live ones with which the members can identify, since they themselves decide the agenda. Moreover, as some teachers (Aman, Faisal, and Hamad) mentioned, they only see the educational inspector twice annually and on these occasions there is insufficient opportunity for questions to be answered in a timely manner. Teachers in the OCoP view, as we saw in Chapter Seven, the accessibility of interaction with their colleagues

as extremely beneficial, enabling them to be constructive in their learning and to be self-directive in their overall development - “the OCoP is a source of professional development that enables us to return from time to time also build on what others did instead of repeat it” (Hamad); “I can contact and debate with my colleagues about any topic that I need” (Fisal). These comments support the value of the ongoing presence of the OCoP.

8.5 Research Question 4: What is the potential for an OCoP being used to strengthen the professional relationship among teachers?

The Community of practice is underpinned by the social theory of learning which requires building a relationship among the community members to sustain interactions, thereby enabling them to achieve their common aim. Learning in the CoP follows a collaborative approach which involves the development of professional relationships, without which members are unable to contact each other, and remain in isolation. So the data show the difference between the level of engagement of teachers in the OCs, and their engagement in the OCoP (see Table 7.3 in Chapter Seven).

The findings show that at the start of their contribution in the OCoP, some teachers did not send messages that reflected upon or talked about their own experience. Atta (case No. 2), and Fahad, for example, were seen to gradually strengthen their relationship with the OCoP as they read contributions from others, and came to realise that being party to the experience of other teachers was valuable. This provoked them to post their own experiences, which in turn encouraged responses from others, and as a result they were able to evaluate their own practice. In Fahad’s case, he sent a complete presentation about how teaching is a specific subject. In Ahmed’s case (No. 4), it showed that in the beginning most of his contributions were in the abstract, but by the fifth week he was providing training courses for those teachers who wanted to learn how to implement the interactive Whiteboard for educational purposes. Such approaches were not present in the OCs or the TCs, demonstrating that only in the OCoP was coherence among the members generated as they collectively developed a shared repertoire of responses to shared problems, albeit that their problems occurred in different real life situations.

The growing relationship among members of the OCoP, as mentioned in the previous chapter, moved teachers from the feelings of isolation experienced in the TCs to a feeling of belonging to the OCoP. In the OCoP, it was clear that teachers, as adult learners, were keen to build trusting and meaningful relationships with other teachers to improve their professionalism. One teacher said “I did not know Mr. X even though he teaches around my school, I will keep our relationship to ask him about some issues because he has a huge experience in ICT” (Hamad). This comment indicates how the OCoP helped the teacher to build a professional connection, and this facility encouraged teachers to continue their membership until the end of the trial (OCoP) as they clearly valued the ability to make new professional acquaintances which could be sustained, unlike the situation in the TCs as mentioned by Fahad, Satam, and Hamad.

For any sense of professionalism to be achieved, there must be a collective to which individuals belong. This collective was evident in the research findings concerned with the volume of messages passed within the OCoP in comparison with the level of contribution made by the same teachers in other OCs as shown in the previous chapter. The majority of teachers, when commenting upon their levels of engagement, attributed these to the fact that they had come to know each other and to function as a specialist group. They used their real names, they were all ICT specialists, and they all had experience they could share in a meaningful way. This has been clearly seen from the comment by Faisal, who said “I did not write lesson plans before – I used to download it from the internet, then I would ask students to read the lesson from the book and conclude at this. But the fact that when I saw my colleagues preparing lesson plans I felt ashamed and I saw that I have to be concerned like the rest of colleagues. I have really touched this development in myself personally”. It is obvious from this comment that the professional relationships with others experienced by Faisal was responsible for awakening a new interest in him, leading him to rethink his attitude towards preparation of his lesson plans and the importance of doing this in order to meet the aims and objectives of his lessons and subject.

The findings indicate a correlation between the level of the professional relationship and the level of learning in the OCoP. For example, as presented in Chapter Seven, teachers such as Eaad, Mahmoud, and Enaz confined their messages to matters

concerning the exchange of information, expressions of appreciation for what others did or sent to the OCoP, and to the downloading of ready-made materials, while other teachers truly deepened their professional relationships by collaborating with others to a much greater extent. They offered up their own experience to the OCoP in order to encourage responses from others and generally to enhance and consolidate the level of their professional interaction, and this strategy led them to rethink their practice and teaching methods, unlike the outcomes associated with Mahmoud and Eaad for instance, who seemed uninterested in strengthening their tenuous professional ties.

8.6 Relevance of the Findings to the Literature

The literature demonstrates the advantage of a CoP as being that it encourages teachers to move from an individualised learning environment to a collective one (Lave and Wenger, 1991). These arguments are supported by the findings of this study as shown in the previous paragraphs.

The OCoP served as a means of removing the isolation experienced by teachers working in different environments (Martin-Kniep, 2004), and this helped teachers to debate their teaching practice and consequently restructure their experiences. The unity and coherence that developed among them served as a natural support mechanism, seen in evidence through the frank discussion of ideas, of shared experiences, and by sharing educational resources. Hence, teachers were supported professionally by the ethos of the OCoP, and any changes they made in their behaviour can be considered as the effect of new professional relationships which developed during their joint mission to achieve the aim of the OCoP.

Through analysing the data to discover answers to the four research questions, some interesting issues emerged since it seemed that during the teachers' interaction in the OCoP, as well as overall improvements in their levels of reflection which was one aim of the experiment, the study also provided information about the impact of trust on teachers' participation, the use of the OCoP as a forum for discussing authentic issues, the impact of ownership and belonging on teachers' contributions, and teachers' intentions to continue their professional development. These issues are discussed in more detail in the following paragraphs, and an indication of how the findings agree or disagree with the literature is given.

The advantage of the current OCoP was that teachers created a common goal when they joined, and worked collaboratively to achieve this goal. They had a real chance to contribute to the design of the activity and were able to do so according to how they perceived their personal professional needs. The OCoP gave teachers – as adult learners - a new source of CPD through collaboration, which enabled them to review and refine their knowledge and consequently rethink their practices, all through the mechanism of discussion and debate with their colleagues. Within the overall confines of the OCoP, these activities were ongoing, and not, therefore, bounded by any time limit. The OCoP was accessible on a 24/7 basis whereas short courses conducted by external experts are less effective in terms of improving teachers professionally. The research findings demonstrate that teachers were more active and engaged more in the OCoP than they did with CPD initiatives delivered in TCs, and this is in line with what has been observed by Fullan (2003), and Adey (2004), who both report that it is necessary to give teachers a sense of control in order to encourage them to be more active and engaged with their CPD. Furthermore, Andrews and Lewis (2007) found that a shared vision is a central requirement for professional learning communities. In TCs, that shared vision is absent as the emphasis is on top-down delivery with the onus on those attending to try to share the vision of the expert delivering the course. As already stated, it is teachers who know what their professional needs are, they have their own personal vision, and being involved in determining the programmes which meet those needs and allow that vision to be realised, motivates teachers to accept change and be a role model for others.

The literature discusses the difference between teachers with less experience and those teachers with much experience, calling the latter ‘veteran teachers’. In the study, it is shown that the experienced teachers such Ahmed and Jara, achieved little benefit from their interaction and engagement in the OCoP which is inconsistent with what Day and Gu (2009) conclude in their research, since they argue that experienced teachers are more positive about adopting changes in policy and practice when they have appropriate leaders in their workforce. In fact, the current research did not find the same, but it should be taken into account that the research did not try to explore the impact of leadership on those veteran teachers.

It is also recognised in the literature that the curriculum plays a large role in PD. In this respect, Fishman et al (2003) state that this is particularly so when the curriculum is purposely designed to be 'educative'. However, that 'educative' design demands that teachers themselves should be involved in the design and construction of the curriculum because they are the people who really know their professional needs. Other researchers have also confirmed this argument. Indeed a study conducted by Morris et al (2000) reported that some professional development programmes were unsuccessful because the curriculum had been designed or reformed by policy-makers instead of through a collaborative approach involving teachers. The lack of challenge was also mentioned by another teacher, Adel, who felt that the curriculum should be inspirational and stimulate teachers to enhance their teaching practices. This is acknowledged in some educational contexts where policy-makers overcome the potential for weak curricula by expanding the teacher's role to include curriculum development as well as curriculum delivery (Flores, 2011).

The research findings seem to confirm these ideas, showing that students play a crucial role in encouraging teachers to pursue their PD. This willingness of students enables teachers to appreciate the impact of new experiments as seen with Fahad and Aman when they applied a new teaching method. Previous studies have also shown that the willingness of students to learn is influential upon teachers' willingness to improve their teaching practice. For example, Guskey (1989, 2002) found that teachers are supported in their role when they see evidence that they are able to affect their students' development and achievement. Bransford et al (2000:16) note that "learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information to do something that has an impact on others. Moreover, Fishman and his colleagues (2003) went beyond that when they claimed that the evidence supported the argument that students' attainment also plays a key role in PD.

In a huge country such as Saudi Arabia it is difficult to introduce physical communities of practice for teachers. The very act of gathering people together in one place is not an easy task because of geographical considerations and climate issues. Furthermore, there are great demands on people's time occasioned by duties concerned with religious and

family imperatives, not to mention the work overload suffered by many. Additionally, a physical community of practice would defeat the object of having an educational resource at one's fingertips, because it could not operate on the 24/7 basis associated with online communities. Consequently, the ability of advanced ICT provides a great opportunity in this respect, as it overcomes all of these obstacles, allowing individuals to come together electronically in an online community of practice.

In the current study, it can be seen how the technology helped to gather teachers from different cities together for the purposes of discussion, and this enabled the OCoP to benefit from a range of experiences as people from different geographical areas became members (see Table 6.8). The study also shows that the use of technology supported teachers by providing the means for constructive dialogue, therefore allowing them to add to their experience, re-structure their knowledge, and amend their current teaching practice in an evolutionary manner, rather than by having to go back to the beginning and basically try to reinvent the wheel. This finding is consistent with what Pachler (2001) and Salmon (2003) point out regarding the advantage of using technology in learning, noting that it enables learners to save and revisit knowledge and experience. Providing a good example for teachers can be "a multi-faceted tool for learning" as Wajnryb (1992:1) asserts, because teachers can see these actual examples rather than having to read the theory and try to abstract from that.

The research findings also show the impact of low salary on the desire of teachers to be involved in CPD, and the subsequent lack of effort on their part in CPD initiatives. Poor salaries, for example, steered teachers towards additional jobs to cover their life expenses, since their first priority was to survive rather than develop. Within the literature, there is a debate among researchers about the effect of teachers' salaries on their professionalism. Ferguson and Gilpin (2009) believe that increasing teachers' salaries would encourage teachers to improve themselves professionally, whereas Hanushek et al (1999) concluded from their study that teachers' salaries had only a weak effect on the quality of teachers. However, the current research finding shows a strong link between teacher quality and salaries in cases where teachers had two jobs on a daily basis. In this study, three teachers fell into this category, and hence, it can be seen that their economic situation that forced them to hold down two jobs, did impact

negatively on the level of their contributions in the OCoP, as they said in their interviews. When one was asked why he did not implement a new technology in the classroom, he responded by saying “I do not have adequate time because I have two jobs - in the evening and in the morning” (Mahmoud). This is an issue that requires further study to determine whether a link genuinely does exist between teachers’ salaries and quality of teaching. Recently, during this year, a decision was made to raise the salary of teachers in private schools to nearly 90% (Human Resources Development Fund, 2013).

The research findings show that interaction among teachers can expose the tacit knowledge that teachers possess as they exchange their thoughts and discuss their experience and practice. Through this interaction, teachers share tacit knowledge concerning their pedagogical techniques, and hence they can become aware of others’ experiences in dealing with educational problems. One such problem - dealing with students’ behaviour - was discussed in the OCoP, and Ahmed and Aman, for example, mentioned their own experiments in their classrooms. Brown and Duguid (1991), and (Wenger, 1998), believed the importance of a CoP to be in its ability to make the tacit knowledge and experience possessed by its members become explicit so that it can be shared by all members and subsequently result in those members restructuring their knowledge and refining their practice. And Fullan (1999) argued that forcing tacit knowledge and experience to rise to the surface is the heart of a CoP. It was clear within the OCoP that some teachers found the entire approach to help them in their problem-solving whereas this had not been possible in the OCs or Training Course Centres.

The research findings illustrate that the one important factor that encourages teachers to remain in the OCoP is the focus on practical issues - the interaction in the OCoP allowed individuals to talk about how they had resolved particular problems of their own, in their own classrooms, in their own schools. This benefit was perceived as invaluable because the problems were genuine, and the outcomes were realistic, having had to take account of the very many conditions and circumstances prevailing at the particular time of each problem. In the literature it is mentioned that learning by solving problems is a pedagogical strategy based on the constructivist approach in which all members interact with others to enhance their own learning by exploring authentic

problems that they have faced in their own worlds (Jonassen et al, 1998). The general aim of collaborative learning as was shown to take place in the OCoP, is to engage teachers in a high level of reflection and problem-solving activity (Jonassen, 2002) because when teachers participate in such activity, they are keen to implement the potential solutions that they find, and are committed to improvement.

The research findings show that a variety of subjects were discussed in the OCoP and that the discussions enabled different viewpoints to emerge, and that the issues were discussed from different angles. This had a positive impact upon teachers' willingness to sustain their membership of the OCoP, since they perceived the OCoP to offer them an alternative to the traditional approach to CPD which is basically that 'one size fits all' and is able to address the needs of teachers from different backgrounds. This kind of traditional CPD is not effective (Guskey and Huberman, 1995) as confirmed by teachers in the OCoP who mentioned that one big advantage of the Community was its ability to discuss various topics simultaneously, unlike what happens in the TCs where the agenda is fixed and focused on one issue, and as such cannot take account of related or tangential issues, which is perfectly possible in the OCoP.

The outcomes of the OCoP as seen in teachers' participation and contributions in the form of educational resources and experiences, show that despite not knowing the other members prior to the launch of the OCoP, most teachers moved from an individualised learning environment to a collective one, and this is extremely important in CPD initiatives because it supports the underlying aim of CPD which is to instil a sense of professionalism in the person involved, and that in itself implicitly accepts the need to become a member of a professional collaborative group (Fullan, 2001; Stoll et al, 2006). The OCoP served as a means of removing the isolation experienced by teachers working in different environments as confirmed by Martin-Kniep (2004), and of establishing the professional group required. The unity and coherence that developed among members served as a natural support mechanism, seen in evidence through the frank discussion of ideas, of shared experiences, and by sharing educational resources. Hence, teachers were supported professionally by the ethos of the OCoP, and any changes they made in their behaviour can be considered as the effect of new

professional relationships which developed during their joint mission to achieve the aim of the OCoP.

In the research it has been shown that some teachers in the OCoP did demonstrate improvements in their levels of reflection, although this cannot be claimed for all teachers since as has been mentioned, there was no change whatsoever in the behaviour of some teachers (for example Eaad and Enaz). Nonetheless, the provision of practical and professional support by the OCoP facilitated teachers' efforts to become reflective practitioners, and this was especially so in the case of new teachers with little experience. In this respect, the OCoP was seen to empower teachers to think about their practice by being able to discuss it with their colleagues, whether they be inexperienced or mature. Fulton et al (2005), and Herrington and Oliver (2000) pointed out that OCoPs raise the capacity for critical reflection because they break the isolation among teachers. And Schön (1987) perceives reflective practice as a way for novices to learn to recognise differences between their own practice and that of others who have more experience. Whilst new ideas can emerge in the minds of individuals, it is through interaction with others that such ideas develop (Nonaka, 1994) as has been confirmed by the findings of this OCoP, which have demonstrated that whilst most members were also members of other OCs, they were much less satisfied with what they had to offer in terms of CPD when compared with the current OCoP.

In the OCoP, teachers showed different levels of reflection, which were the outcome of varying aims held by members at the start. Adel and Eaad, for example, did not show any deep level of reflection, either in their interaction in the OCoP or in their interviews, and the main reason for that was that they only wanted to join the OCoP because they saw it as a resource bank from where they could download educational materials. The literature review shows that there can be no reflection within a CoP without interaction among its members (Lave and Wenger, 1991), and hence, no learning can occur if the intention is purely to download educational materials. This active interaction is considered a critical component that would empower teachers to adopt the processes which might support them in their quest to become reflective practitioners (Garrison, 1990; Salmon, 2003). And this is an aim that all teachers must strive for. By being members of an OCoP, novice teachers can come to understand what a true teacher is,

what pedagogical approaches s/he should take, and realise that teaching is a profession which needs interaction with other teachers so that teaching practice can evolve to meet the requirements of educational change.

As presented in the literature review (p. 33) Lave and Wenger (1991) consider Legitimate Peripheral Participation (LPP) a key theme in the community of practice theory. LPP explains how the learning process takes place in a community of practice, demonstrating that it occurs as peripheral participation moves towards the centre of the community. Through data analysis we have seen this movement from the periphery of the community to the centre, for instance the cases of Atta (p. 107) and Aman (p. 141). They demonstrated an improvement in their skills and an increase in their knowledge of their subject as their participation increased. Aman, for example, began his involvement by focusing on teaching methods – collaborative learning specifically. As a novice learner, he gained information and advice, developed his perspective, experimented with the implementation of new knowledge, and gradually evolved to become an ‘old-timer’ who was subsequently able to provide suggestions for other members in the OCoP (p. 146, 149). This movement reflects the Legitimate Peripheral Participation that is seen when teachers who are on the edge of the community move towards the centre of the community, thereby indicating the development of expertise in the subject being discussed.

As noted in Chapter Three (p. 34) Wenger (1998) considers mutual engagement as key in the theory relating to communities of practice, and the empirical data reveal how teachers became mutually engaged as they discussed their practice and authentic experiences with each other. Hence, the evidence is that the OCoP functioned as a forum for real-world-situated learning rather than as one purely concerned with theoretical discussion. This situation led teachers to sustain their learning and membership as was indicated by Atta (Case No. 2) and Fahad (p. 217), for example, who openly said that they wanted to continue the OCoP because it provided them with connections to other teachers who share the same interests and concerns, and above all, a platform for discussion.

This highlights a very important aspect of communities of practice, that being the variety of experience among members, which enriches those communities by fostering discussion of different experiences and ideas as noted by Gannon-Leary and Fontainha (2007), and discussed in the literature review (p. 43). The current OCoP demonstrated a great deal of variety in the different backgrounds and teaching experiences of the members, which appears in Table 7.8 (p. 195). This variety encouraged members' interaction and sustained their engagement as they appreciated that there were genuine opportunities to learn from other professionals. In enabling this level of involvement, the OCoP confirmed a clear difference between the way in which teachers behaved with regard to other forms of professional development, such as that in training centres, and within the OCoP.

Franke et al. (1998) and Stoll (1999) are reported in the literature review (p. 29) as emphasising that internal motivation plays a vital role in encouraging teachers to learn and develop themselves, and to interact more with their peers in the process. Nonetheless, I was able to find little in the literature review which paid attention to the ways in which internal motivation can be enhanced. This study has attempted to increase internal motivation by providing a flexible learning environment in which a whole array of topics was introduced for discussion. Such flexibility improves teachers' motivation to engage as adult learners since they appreciate that such a learning environment enables them to tailor their participation towards identifying and satisfying their own professional needs.

In the literature review as presented in Chapter Three (p. 33), Wenger (1998), Barab and Duffy (2000), and Kim (2000) indicate that having a shared goal among participants in communities of practice has an influence on the outcomes achieved by individual members in the community. The findings of this study agree with this point of view as we have seen clear differences between the level of teachers' involvement and engagement in the OCoP compared with other online communities as presented in Table 7.3 (p. 176). Teachers in the OCoP decided for themselves what the goals of the community were, thereby internalising those goals, and adopting behaviour which allowed them to reach those objectives at the end as presented in Chapters Six and Seven.

Chapter Nine: Conclusion

9.1 Introduction

The aim of the current study was to develop a strong theoretical understanding of how Communities of Practice (CoPs) can be implemented in the context of Continuous Professional Development (CPD), and of how such a mechanism can be adopted in Saudi Arabia. The research aimed to recommend a change in direction of CPD from the transmission (top-down) approach to the transformative approach. In order to increase the reliability and validity of the empirical exercise, different research methods were used, these being interviews, observation of teachers' interaction within the online community (OCOP), and observation of some teachers in their own classrooms. The next section draws a conclusion to the study's main findings, before discussing the implications of the study's outcomes. Then the contribution to knowledge made by the study is discussed, and possibilities for further research are suggested. A brief conclusion closes the chapter.

9.2 Conclusion

The conclusion to be drawn from the research findings is that some teachers in Saudi Arabia attend traditional CPD initiatives for reasons other than to improve themselves professionally, for example, purely to obtain a certificate, or simply to break the daily routine. Specifically, they are deterred from internalising the value of CPD by the current model which adopts a top-down approach and is concentrated essentially in Training Centres. This indicates the importance of rethinking the design of CPD programmes and their manner of evaluation. It might, for example, be more practical if these programmes were assessed not by the simple counting of the number of teachers who attended, but rather by trying to evaluate the impact of the content of these programmes upon teachers. Without knowing about this impact, it is impossible to know whether teachers' professional needs have been met.

At the same time, it is possible to conclude that educational policy plays a vital role in terms of providing teachers with the motivation to attend professional development programmes, and that currently, that motivation is absent in the prevailing model of

CPD as it fails to recognise the need for teachers to contribute towards the design of curricula. The conclusion from this study, is that the members of the experimental OCoP welcomed the chance to design their own CPD, and that brought with it the positive spin-off that teachers had an enriched sense of professional identity. If teachers are given an opportunity to contribute in designing curricula, their sense of professionalism and belonging in respect of the educational system in Saudi Arabia would be enhanced, and any negative attitudes they might have regarding new experiments in terms of professional development would be reduced.

Therefore, it can be concluded that an urgent need exists for a re-structuring of CPD opportunities in Saudi Arabia to include new sets of values.

9.3 Implications of the Study Findings and Recommendations

The research findings suggest that it might be sensible to alter the delivery of CPD initiatives from the transmission method in which a top-down approach is used, to the transformational method which gives teachers, as adult learners, an opportunity to determine their own needs, and which consequently makes them more motivated, and enthused to sustain their professional development activities. The research findings show the clear differences that exist between teachers' contribution and engagement in the online communities, and the level of attendance (and hence contribution and engagement) in respect of traditional methods of CPD in Training Centres. These findings are shown in Tables 7.7 and 7.10.

The implications of these findings demand a new model of CPD and on the basis of the literature reviewed and the overall experience of the OCoP, a model is proposed and shown as Figure 8.2. Whilst this model may already be implemented in a different cultural context, it is new for the Saudi context, and there are strong indications from all the primary and secondary data gathered that it would be more appropriate to encourage teachers to be more active and productive in CPD programmes.

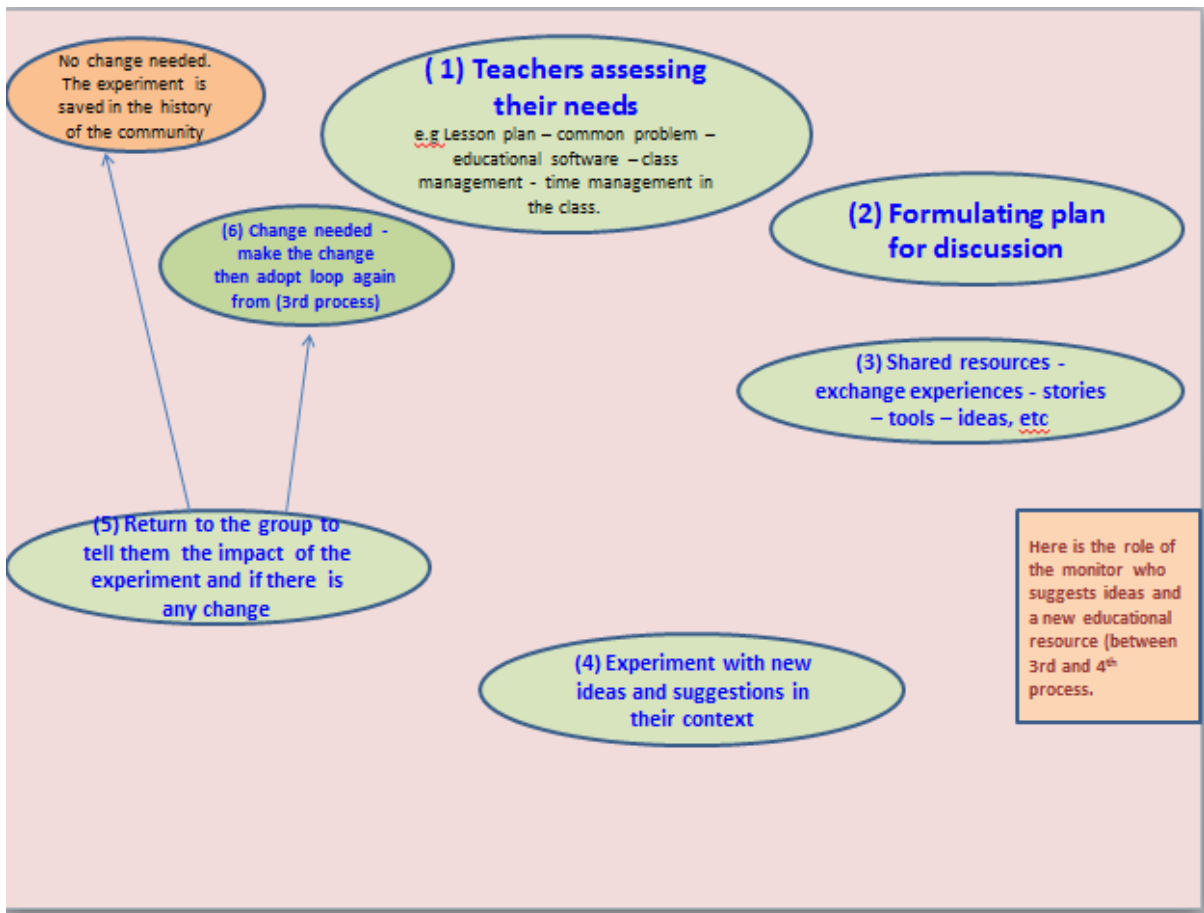


Figure 8.2: Suggested Model for CPD via OCoPs in Saudi Arabia

The model incorporates an online community of practice (OCoP). The first process refers to the point at which the teachers themselves determine their own professional needs, and then try to pursue these by instigating the sharing of knowledge and experience around those needs. Educational inspectors and/or external trainers then have a role in suggesting what resources might be able to help teachers in achieving the aims of their discussions. After collecting ideas and any other relevant feedback, teachers then experiment in their own classrooms, and subsequently decide on the success or otherwise of the experiment conducted. If the experiment is considered to have been successful, a report on it is kept in the history of the OCoP, and if it has not been effective then the loop is followed again, so that the situation can be re-thought in the light of the particular features of the teacher's classroom that worked against the implementation of the proposed solution.

The model of an OCoP is presented given that at the end of this research study, the OCoP as applied within it, met approval from the authorities concerned, and three educational departments in the Kingdom expressed their wish to adopt this mechanism as a CPD vehicle in their regions. Considering that this was a completely new approach to CPD and purely experimental, the positive reception by these educational departments is extremely encouraging. Nonetheless, there were some limitations surrounding the OCoP as it was implemented and these have implications for any future implementation. Consequently, on the basis of the study's results, and the huge literature about CoPs, and having observed some successful OCoPs in the UK, USA and Australia, the following recommendations are made concerning the educational requirements:

- CPD in Saudi Arabia should follow a cyclical process rather than a linear one. It is imperative to give teachers an opportunity to take control of their professional development plan. Teachers should operate in an open educational environment that empowers them to communicate and reflect freely with their colleagues about their practice, teaching methods and professional needs etc.
- The role of trainers and educational inspectors should be changed from that where they are expected to be sources of knowledge and expertise, to one where they become facilitators of OCoPs. Discussions and engagement with teachers, trainers and inspectors can motivate teachers to improve their reflective practice by opening new windows for discussion and thinking, and informing teachers about new pedagogical theory in order to maintain the attractiveness of the OCoPs for members, and ensure they continue to be engaged.
- The willingness of teachers to participate in OCoPs is crucial to the success of these initiatives, and therefore, the motivation process for teachers must be considered and sufficient incentives to increase personal professionalism should be introduced. This does not imply monetary incentives, but it may be that an evaluation of CPD by other methods might result in the dissolution of those methods, such that the online approach becomes more important in the eyes of teachers.

- The OCoP strategy requires more flexibility in the curriculum so that teachers can be creative and flexible in their classrooms. If there were more opportunity in this respect, teachers would rise to the challenge of experimentation within the OCoP and in so doing become more proficient, more professional, and at the same time enhance the learning process for their students.

9.4 Contribution to Knowledge

- This is the first study of an online community of practice used to deliver CPD to specialist teachers in Saudi Arabia. No other such study is reported in the literature. So, there is a very high probability that this study has produced the first experiment of its kind for teachers in Saudi Arabian secondary schools. This means that it may lead to further research in the Kingdom which would be in more depth, highlight tensions and contradictions that might occur during the implementation of an OCoP, and promote solutions and suggestions that might make OCoPs more productive. In turn, this might encourage the adoption and dissemination of this new method of CPD in Saudi Arabia, and serve as a valuable outreach tool. This research seeks to open a window for organisational learning that allows teachers to evolve professionally. The timing of the study is consistent with the large project being funded by the government of Saudi Arabia to the extent of around £2 billion, as mentioned in Chapter Four. One aim of this project is to develop teachers professionally through the use of new technologies, and this particular study has contributed to the achievement of that aim since some educational districts have asked me to implement OCoPs in their districts after the finalisation of this PhD. Hence, there is a strong practical contribution made by the research, which will have educational and economic impacts.
- A contribution is also made to the body body of literature concerning the Gulf Co-operation Council countries. During the study, I attempted to find evidence of experimental research using social theory (CoP) in the Gulf Countries generally via the Gulf Co-operation Council official website, but within the context of both Higher Education, and public education, nothing was found except for a paper written by

Mark Lamontagne in 2005, and as explained in Chapter Two, this was limited. The Arab Bureau of Education for the Gulf States (ABEGS) which is in charge of professional development in the educational field has included on its agenda, the aim of encouraging researchers with interests in educational disciplines to conduct experimental studies in the area of teachers' professional development. The current OCoP can, therefore, be seen as responding to this aim, and at the same time as creating a new channel for the ABEGS and teachers in the Gulf Countries through which they can adopt social theory (CoP). From this new channel, more understanding of how CoPs can be used in the field of education can be gained, and there will also be CPD benefits from tapping into the diversity among teachers.

- The third of contribution is that the social theories underpinning CoPs and activities subsequent to CoP discussion, were created and implemented mostly in Western democracy where there are particular cultural influences on teaching and professionalism which embody a high degree of professional autonomy. These situations promote the feeling among teachers that they have a high level of personal responsibility for their own development. The situation in Saudi Arabia is different, there is more centralisation, and teachers' attitudes self-development are conditioned by that, and other cultural factors. For instance, training programmes are managed through Training Centres affiliated to the Ministry of Education, and the educational curriculum is also designed by the Ministry of Education. This promotes an inflexible approach to teaching and teacher development. However, the OCoP as a type of CPD had positive impacts upon the members involved, and therefore, has made a contribution to national development from the perspective that if a Western theory can have any kind of relevance for the Saudi context, it can assist in national progress.
- The research findings identify that the notion of trust is very important notion in this field it plays a vital role in CoPs and it does not mention in the literature review that I have reviewed. Trust among members of CoPs allows for the creation of a homogenous group which in turn, encourages teachers to maintain their professional relationships with their colleagues despite never having met them

previously. This trust also motivates teachers to share their experiences and ideas. The outcome of the OCoP as shown in Table 7.3, reveals a clear difference between the engagement and contribution of teacher within the OCoP which operated for only three months, and their participation in other online communities which they had been members of for at least three years. The same outcome can be seen between teachers' contributions in the OCoP compared with their engagement in the training programmes that they attended in the Training Centres, as shown in Table 7.9. This result shows that an OCoP cannot be created simply by designing a website and inviting teachers to interact with their colleagues, hoping that they will communicate and discuss particular issues. Rather, it is necessary to create some coherence and to develop a homogenous group of members which prompts the teachers involved to engage in a collective process of learning. And this kind of community building depends upon trust among the participants. Once that trust is in place, the motivation to contribute and continue as members to promote professional development, follows.

- A contribution is also made by providing knowledge to the effect that a CoP can be effectively used for CPD programmes in different contexts, and one specific reason was confirmed in the view expressed by other writers (Corcoran, 1995; Bill et al, 2005; Goodall et al, 2005) that CPD activities conducted by external trainers fail to achieve their aims because those external trainers do not usually appreciate the professional needs of the teachers who are 'being trained'. In the trial OCoP teachers themselves decided upon the discussions within the Community, as shown in Table 7.2, which indicates that most of the discussion topics were practical in nature (such as lesson planning, and teaching methods), reflecting teachers' classroom concerns. Therefore, the study brings confirmation of the literature that instead of being presented with abstract information as is the case in other OCs or in Training Centres, teachers should be presented with realistic solutions to the problems they face. Teachers' contributions within the OCoP encouraged members to consider the OCoP as a source of reference, which helped them to construct their knowledge and experiences and continue their professional evolution, the emphasis being upon moving forward without repeating unsuccessful practices, and using what had been seen to work by other colleagues.

- The research findings contribute to knowledge by confirming that commitment among members of an OCoP plays a vital role in accomplishing the aim of that Community. A CoP differs from a project team which is shaped to perform a specific task, in that it operates on the basis of ongoing communication and interaction between individuals that is directed towards finding solutions to a whole variety of problems as and when they are identified. The level of commitment is, however, a function of the motivation driving individual teachers, and in this respect, the research findings show that teacher with intrinsic motivation, with a genuine desire to improve themselves, showed more engagement and participation than those teachers who were motivated by extrinsic reasons, for example, those who wanted a certificate, or some financial reward.
- The findings also confirm that OCoPs foster an environment that helps members to become lifelong learners, which is the ideal goal of CPD programmes and initiatives. This approach to learning is especially important in light of the rapid changes brought about by the presence of advanced technology which has clearly impacted upon the educational field.

9.5 Methodological Contribution

- This study acquires deeper understanding of the phenomenon by providing teachers with a long timeframe in which to interact and engage with their colleagues. The qualitative approach in this study involves multiple methods of collecting data, all of which contribute towards the construction of a complete picture of the situation in the particular context where it occurs. It has been seen that the research study adopted three different data collection methods, these being the pre-OCOP and post-OCOP interviews, online observations of teachers' interactions within the OCoP, and physical observation of three teachers in their classrooms on three different occasions. Without this multiple approach to data collection, it would not have been possible to gain a full understanding of the potential for an OCoP to work as a method of CPD for teachers, especially because of the lack of information about this issue in the Saudi context.
- Qualitative methods are also greatly assisted by modern information and communication technologies. Because the participants were using an e-

communication system, I was able to capture and analyse their interactions and contributions. This would have been more difficult if I had to rely on capturing their interactions 'live', or, worse still, to rely on their accounts of what happened between them. For example, it is possible to capture a sequence of on-line interactions, which can help the researcher to observe the development and professional changes that might take place, either by focusing on each member or by charting the evolution that might occur within the whole community. In the OCoP I utilised Moodle platform-mediated communication between teachers; this platform provides Moodle logs, which enabled me to observe the amount of time spent by each member in accessing the community, and also the number of messages posted, either based on the name of participant or on the subject. All of these details were very helpful in terms of analysing the qualitative data and helped me to gain a deep appreciation of the professional development of the community, rather than simply keeping count of the number of contributions and participations.

- The qualitative approach is better able to enhance the researcher's understanding of the phenomenon being studied from the perspective of the participants themselves. Teachers who took part in the OCoP were interviewed before the OCoP launch and again at the end of it, which enabled them to talk about and reflect on their experiences with this long experiment and how much the OCoP helped them in terms of professional development. This method gave teachers a chance to talk openly from their point of view about all the different aspects of the OCoP. These things would not have been achieved if I had only been able to rely on questionnaire responses. Therefore, adopting this type of method would help those interested in the professional development field to realize the details of the processes and intricacies relating to what teachers actually want in their development, and this appreciation in turn helps to create successful professional development programmes.
- One of the features of the qualitative methodology I used is that it empowers the researcher to understand the phenomenon in its context, since it studies the behaviours of the participants within the actual social context in which they operate instead of producing findings which are isolated from their social/cultural environment, or influenced by researcher prejudice, or ideas arising in the literature. The OCoP provided a space for

teachers to discuss the authentic issues and practical examples that they have faced in their own context, whether in the classroom or computer lab; therefore, observing teachers' interaction online enabled the study to achieve a deep understanding of the educational context such as the ways in which the school culture and educational policy contribute to the variations in the levels of teacher engagement in the OCoP.

- Additionally, when applying a longitudinal study in the educational field, it is more useful to adopt a qualitative method since this is better able to allow the researcher to understand the complexities of context being studied. This method allows the researcher to keep track of the learning processes and development demonstrated by individuals, and to confirm such developments by actual observation of improvements. These achievements are only possible through the use of observation, interviews, documentary analysis and audiovisual material. This is what distinguishes qualitative methods from other methods, and these methods are more appropriate than others particularly when there is a lack of information available to the researcher in the field of study.

9.6 Possibilities for Further Research

All studies have limitations, and from these come recommendations for continued research. The following limitations and suggestions for further research are made:

- The study was conducted with teachers only. Therefore, it might be useful to implement an OCoP with teachers, educational inspectors, and trainers. This type of collaborative CPD would allow for insight to be gained in respect of the role played by other factors, such as the different level of members, the impact of the relationship between the people with power (educational inspectors), and others in terms of exchange of experiences and flow of knowledge in the community of practice.
- The study was limited to a three month period due to restrictions on time and resources. In fact, several members of the OCoP asked me to continue it but that was not possible. Consequently, it would be appropriate to replicate the study over a longer time period in order to gain a deeper understanding of the changes in the practice and behaviour of teachers, particularly those who did not participate during the trial OCoP.

- The study experimented with a specific group of teachers – teachers of ICT. Other OCoPs could be comprised of groups of teachers from other subjects in order to see whether there are differences between different specialisms, and whether there are additional educational requirements needed to support OCoPs in other disciplines.

9.6 Last Thoughts

This study has focused on the implementation of an experimental OCoP to promote the professional development of teachers in Saudi Arabia. Its significant achievement was the success of that OCoP in meeting its objectives since the underlying concepts of the online community of practice, and teacher responsibility for personal development are essentially Western in origin, and therefore, it might have been thought that the experiment might have failed. However, despite the different impact of the OCoP on its members, most members benefited professionally. Hence, there is a strong argument for changing the approach to CPD in Saudi Arabia from the individualised learning environment to a collective one, by adopting organisational learning within the framework of a Community of Practice. This will contribute towards Saudi Arabia's national development by raising the quality of the teaching profession.

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Appendices

Appendix 1

Participant Information Sheet

You are being invited to take part in a research study which is part of a student project. Before you decide whether to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.

Who will conduct the research?

Ali Mohammed Alrubian
Full-time postgraduate student
University of Manchester
School of Education
Manchester
Oxford Road, Manchester, M13 9PL

Title of the research

Using Technology in Teachers' Professional Development in the Kingdom of Saudi Arabia for Teachers of ICT in Secondary Schools.

What is the aim of the research ?

The main aim of the research is to critically examine the effects of Continuing Professional Development (CPD) through an online community, and to establish how this kind of CPD can contribute to teachers' professional development.

Why have I been chosen?

You are one of 20 ICT teachers who have agreed to take part in the online community. You have been particularly chosen because the 20 teachers should be from different geographic locations.

What would I be asked to do if I took part?

You will be invited to three training courses of approximately three hours each. You will be asked to have an interview with the researcher for about 40-50 minutes. You might also be chosen as one of only three teachers from the whole group, to be observed in the classroom. This classroom observation will be recorded by the researcher by MP3. Then, you will be asked to interact with your colleagues through the online community by writing via a forum or chatting on line in an e-conference. At the end of the online community you will be invited to participate in a second interview for about 1 hour.

What happens to the data collected?

The collected data will be analysed to examine the effect of using technology on CPD and to assess the difficulties that teachers face and what are the advantages and disadvantages.

How is confidentiality maintained?

During the online participation, real names will be used. However, no confidential information will be discussed. You will just be sharing exercises and discussing professional practices. In respect of pre-interview and post-interview, you will be assigned codes that can be identified only by the researcher. No other individuals or organisations will have access to the data. No real names will be used to represent

individuals when reporting the findings of the study. The audio-files will be kept securely and will be deleted at the end of the research project.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason.

Will I be paid for participating in the research ?

The participants who are involved in the research will be volunteers. No payment will be paid.

What is the duration of the research ?

The online community will take two months and half ; the pre-interview will take about 40 minutes, the post-interview 1 hour.

Where will the research be conducted?

Public education secondary schools in Al-Qassim District (Kingdom of Saudi Arabia).

Will the outcomes of the research be published?

The outcomes of this study will be used in writing a PhD thesis. Also they might be used in academic publications and official guidance of the MoE.

Contact for further information:

Ali Mohammed Alrubian

email: ali.alrubian@postgrad.manchester.ac.uk , or alirub4@gmail.com

Skype: ali.alrubian

Mobile : 07921818902 or 0558153331

What if something goes wrong?

In Saudi Arabia, please contact:

The Ministry of Education

Agency for Educational Development

014046666, Ext No: 2575, 2577,2578

If a participant wants to make a formal complaint about the conduct of the researcher they should contact the Head of the Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL.

Appendix 2

Consent form for Participants Taking Part in research as apart of PhD Projects

Title of Project: Using technology in Teachers' Professional Development Programme in the Kingdom of Saudi Arabia for Teachers of ICT in Secondary Schools.

Name of Researcher: Ali Alrubian

School: School of Education, The University of Manchester.

Participant (volunteer)

Please read this and if you are happy to proceed, sign below.

The researcher has given me my own copy of the information sheet, which I have read and understood. The information sheet explains the nature of the research and what I would be asked to do as a participant. I understand that the research is for a student project and that the confidentiality of the information I provide will be safeguarded unless subject to any legal requirements. The researcher has discussed the contents of the information sheet with me and given me the opportunity to ask questions about it.

I agree to be a participant in this study. I also agree to the request that my interview will be recorded by the researcher, and I agree to being observed in the classroom, if chosen, and to be recorded during that process. Also, I agree that any data collected may be published in anonymous form in academic book or journal and I understand that I am free to withdraw at any time without giving any reason, and without detriment to myself.

Teachers' Name (full name)

Signed:.....

Date:.....

Researcher

I, the researcher, confirm that I have discussed with the participant the contents of the information sheet.

Signed:.....

Date:.....

Contact for further information: Ali Alrubian

Email: ali.alrubian@postgrad.manchester.ac.uk or alirub@gmail.com

Mobile : 07921818902 or 0558153331

Appendix 3

The Pre-OCoP Interview

A Study of the use of ICT in Teachers' Professional Development (TPD)
For the teachers of Information and Communication Technology (ICT)
In the Kingdom of Saudi Arabia

❖ *Personal Information:*

- Code:
- Experience in teaching: years
- School type: () Public () Private
- Building type: () Government () Rental
- Qualifications:
 - Diploma ()
 - Bachelor ()
 - Master ()
 - PhD ()
- The average time of accessing the Internet at your **home** to help you with your job as a teacher for example downloading e-source , finding solutions , updating your knowledge and so on () hours/week
- The average time of accessing the Internet at your **school** to help you with your job as a teacher for example downloading e-source , finding solutions , updating your knowledge and so on () hours/week
- How many hours of training courses -related to ICT - have you attended in the last 3 years:
- (please tick all that apply)

- "Face to face" in the training centre () hours
- Online training () hours
- Conferences () hours
- Group discussion () hours

❖ *Questions:*

1. How do you use ICT in your teaching?
2. Have you had experience of being a member of online community related to your subject (ICT)? What was the importance of it in terms of your teaching practice and using technology? (If you have not had experience refer to Q 4)
3. What difficulties did you face when you used online community?
4. " Online community can be used for the teachers of ICT for sharing their experience and exchange knowledge", Do you agree with ? justify your opinion.
5. What professional training you might need to improve your teaching practices and technology utilization?
6. Do you think that online community can meet your training needs? please explain how it can applies.
7. As a teacher of ICT, how would you describe the advantages and disadvantages of face-to-face professional development training (in the last three years) with regard to your practice and technology implementation?
8. With reference to your training needs, could you make a comparison between online professional development and face to face training?

Thank you for your assistance, I look forward to sharing the results with you.

Appendix 4

The Post -OCoP Interview



Teachers' code:

1. What were your expected aims and objectives of joining online community ? Have you achieved these aims and objectives?
 - If yes, what aims were achieved ?
 - If no, what might be the causes ?

2. Describe the effect of online community in developing communication and promoting discussions among you as a teachers of ICT?

3. Have you developed correspondence with members in the online community ? elaborate your answer please.

4. How Do you believe active participation in the online community contributes towards professional development? Please give an example.

5. Has your participation in the online community helped you to resolve some problems that faced as a teacher?
 - If yes, how did you resolve the problem?
 - If no, what prohibited you to resolve the problem?

6. Does your participation in the online community made a difference to your motivation as a teacher?
 - If yes, what was the effect ?
 - If no, why not?

7. Explain the benefit of online community with regard to sharing experience among you as a teachers of ICT? Please give an example from the online community.

8. Has the online community helped you in modifying your teaching practices according to your preferences?
 - If yes, please give an example.
 - If no, what preferences were not achieved.

9. What suggestions do you have to make this online community more attractive and beneficial for the participating teachers?

10. Identify and describe the disadvantages in technical issues, support issues or issues based on content in order to further develop our online community?

11. Based on your experience during these fourteen weeks could you make a comparison between face-to-face professional development at a training center and online professional development?

12. Any other comments about the online community for teachers' professional development?

Thank you for your assistance, I look forward to sharing the results with you.

Yours Sincerely,

*The researcher, **Ali Alrubian***

ali.alrubian@postgrad.manchester.ac.uk .

Appendix 5

Observation Form

Initial details:

Teachers (Code)		Subject being taught	
Date		Time of day	
Number of students in the classroom		Year- level	

I. Teaching Strategies							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
1.	Using group work in the lesson						
2.	Using lecturing in the lesson						
3.	Using practical applications in the lesson						
4.	Using investigational or research work in the lesson						
5.	Giving students chance to discuss issues						
6.	Giving students enough time to solve technology tasks						
7.	Making connections between the current lesson and The previous lesson						
8.	Assessing students' understanding of the lesson						
II. Implementation of the Lesson plan							
N	Observed Behaviour	Degree					Note
		1	2	3	4	5	
9.	Is the aim of the lesson plan clear?						
10.	Is the balance of time appropriate?						
11.	Is the sequencing of the lesson logical and appropriate?						
12.	Is the classroom layout appropriate considering the aim of the lesson?						
13.	Is there sufficient focus on the idea of the lesson?						
14.	Is the lesson completed in the allocated time?						
15.	Does the lesson plan motivate the students for the next lesson?						
III. Resources							
N	Observed Behaviour	Degree					Note
		V O	O	S	R	VR	
16.	Use of the internet to achieve the aim of lesson						
17.	Variety in the use of technology						
18.	Use of new generation of technology for example Wiki, Facebook						
19.	Participation of students in learning resources						
20.	Use of Whiteboard						
21.	Exchange of information and ideas with students in a variety of ways, including using Email, Wiki for example						
22.	Assessment of students' use of resources in their work in order to encourage them to reflect critically						

VR= very rarely; R=rarely ; S= sometimes; O=often; VO= very often
1= lowest; 5= highest.

Appendix 6

Moodle Logs

إعداد خطة الدرس

home ► My courses ► خطة الدرس ► Reports ► Logs ► Reports ► Logs ► All participants, All days

Settings

▼ Course administration

- Turn editing on
- Edit settings
- Users
- Unenrol me from خطة الدرس
- Grades
- Backup
- Restore
- Import
- Publish
- Reset
- Question bank

Switch role to...

My profile settings

Site administration

إعداد خطة الدرس : All participants, All days (UTC+3)

Displaying 59 records

IP address	User full name	Action	Information
89.241.245.148	[REDACTED]	forum add post	إعداد: خلفية درس - إخراج رسومات داخل برنامج الورد
188.50.94.125	[REDACTED]	forum add post	إعداد: ورقة عمل
188.48.213.167	[REDACTED]	forum add post	إعداد: الأنوع العائش الأرتباط الشخصي
188.48.213.167	[REDACTED]	forum add post	إعداد: برنامج العروض التقديمية (Microsoft PowerPoin)
2.89.151.233	[REDACTED]	forum add post	إعداد: برنامج العروض التقديمية (Microsoft PowerPoin)
84.235.75.80	[REDACTED]	forum add post	إعداد: تعديل قياس خطة الدرس الناجحة
84.235.75.80	[REDACTED]	forum add post	إعداد: برنامج العروض التقديمية (Microsoft PowerPoin)
94.96.67.95	[REDACTED]	forum add post	إعداد: برنامج العروض التقديمية (Microsoft PowerPoin)
94.96.67.95	[REDACTED]	forum add post	إعداد: ورقة عمل
84.235.75.80	[REDACTED]	forum add post	إعداد: برنامج العروض التقديمية (Microsoft PowerPoin)