GAZI UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
ENGLISH LANGUAGE TEACHING PROGRAMME

THE EFFECTS OF SOCIAL NETWORKING ON PRE-SERVICE ENGLISH TEACHERS' METACOGNITIVE AWARENESS AND TEACHING PRACTICE

PHD DISSERTATION

Cem BALÇIKANLI

Ankara
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Eğitim Bilimleri Enstitüsü Müdürlüğü'ne

Cem BALÇIKANLI'ya ait "**The Effects of Social Networking on Pre-service English Teachers' Metacognitive Awareness and Teaching Practice"** isimli çalışma jürimiz tarafından DOKTORA TEZİ olarak kabul edilmiştir.

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To my daughter, yet to be born, whose presence
helped motivate me through the final steps of this dissertation

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ABSTRACT

THE EFFECTS OF SOCIAL NETWORKING ON PRE-SERVICE ENGLISH TEACHERS' METACOGNITIVE AWARENESS AND TEACHING PRACTICE

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It is the aim of this study to investigate the effects of the use of social networking on pre-service English teachers' metacognitive awareness and teaching practice. The study consisted of the pilot and the main study. The former was carried out with six student teachers from the ELT Department, Gazi University in the fall semester of the academic year 2009-2010. As for the latter, it was conducted with the eight pre-service English teachers from the same department chosen through convenience sampling method in the spring semester of the academic year 2009-2010. This main study took fourteen weeks to complete including the application of the inventory as a pre and a post-test.

This study, which has mixed research design, comprised the pre-test-post-test experimental research without a control group. The quantitative data were gathered through the inventory (Metacognitive Awareness Inventory for Teachers-MAIT) modified by the researcher who made use of the Metacognitive Awareness Inventory (MAI), developed by Schraw and Dennison. The qualitative data, on the other hand, were collected through weekly reflections, peer-evaluation, stimulated recall sessions, and retrospective interviews. During the research study, the student teachers were asked to note down their personal input concerning their "ELT Methodology" class, and to take notes concerning their peers' teaching performances. The weekly personal reflections and peer- evaluations were uploaded on a social networking site, Facebook. The student teachers were recorded with their permission when they were doing their teaching demos. One day after student teachers' teaching demos, the stimulated recall sessions were conducted with them on the basis of the questions prepared and piloted earlier. By the end of the fourteen week**,** the Metacognitive Awareness Inventory for Teachers (MAIT) was administered to the eight student teachers as a post-test. After the inventory was administered, retrospective interviews were carried out with the student teachers to get a more detailed description of the improvement of their metacognitive

awareness, and to get a clear understanding of whether the use of social networking developed student teachers' teaching practice.

In relation to the first research question, the analysis of the (experimental) group in terms of pre-test and post-test findings revealed that the (experimental) group developed their teaching metacognitive awareness significantly after the treatment ($p < 0.001$, The Wilcoxon Matched-Pairs Signed-Rank=, 000, Z = - 2,521). However, this increase was observed in the regulation of cognition rather than the knowledge of cognition. The participants ended up being metacognitively more aware of their own actions in the planning, monitoring, and evaluating phases rather than developing their knowledge of cognition. As for the second research question, the student teachers' qualitative data showed that the reflections of pre-service English teachers in social networking improved their teaching practice.

This has resulted in an increase in their awareness as an autonomous teacher with the capacity for autonomous learning in their future contexts. More broadly, the findings displayed that the student teachers enjoyed a lot of opportunities to increase their metacognitive awareness for their own autonomy thanks to the reflection tools that enable them to practice autonomous skills.

Key words: Metacognitive Awareness, Social Networking, Teacher Autonomy, Reflective Approach, Teaching Practice, Pre-service English Teachers.

ÖZET

SOSYAL İLETİŞİM AĞLARININ İNGİLİZCE ÖĞRETMENİ ADAYLARINDAKİ BİLİŞÖTESİ FARKINDALIĞA VE ÖĞRETMENLİK UYGULAMALARINA ETKİLERİ

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Bu çalışmanın amacı, sosyal iletişim ağlarının İngilizce Öğretmeni adaylarındaki bilişötesi farkındalıklarına ve öğretmen uygulamalarına etkilerini araştırmaktır. Çalışma, pilot ve asıl olmak üzere iki araştırma evresinden oluşmaktadır. Pilot çalışma, 2009-2010 Öğretim Yılı güz döneminde, Gazi Üniversitesi İngilizce Öğretmenliği Anabilim Dalı'nda okuyan altı öğrencinin katılımıyla gerçekleştirilmiştir. Asıl çalışma evresindeyse, araştırma grubunu, 2009-2010 Öğretim Yılı bahar döneminde yine aynı anabilim dalında okuyan ve uygunluk örnekleme yöntemi (convenience sampling method) ile belirlenen sekiz öğrenci oluşturmaktadır. Çalışma, araştırma grubuna ön ve son testin uygulanması ile birlikte toplam on dört hafta sürmüştür.

Karma araştırma modelinin kullanıldığı bu çalışmada, kontrol grubu olmayan öntest-sontest yöntemi uygulanmıştır. Nicel veri toplama aracı olarak Schraw ve Dennison'ın geliştirdiği Bilişötesi Farkındalık Ölçeği'nden yararlanılarak uyarlanan Öğretmenin Bilişötesi Farkındalık Ölçeği (ÖBFÖ) kullanılmıştır. Nitel veriler ise, öğretmen adaylarının haftalık yansıtmalı yorumları, akranlarının değerlendirmeleri, öğretmen adaylarıyla ölçek maddelerine ilişkin uygulama sonrası görüşmeleri (retrospective interviews) ve uyarıcılarla hatırlama seansları (stimulated recall sessions) ile elde edilmiştir. Araştırma süresince öğretmen adaylarından takip etmekte oldukları "Özel Öğretim Yöntemleri" dersine ilişkin kişisel kazanımlarını ve akranlarının öğretmenlik uygulamalarına yönelik notlarını yazmaları istenmiştir. Bu yorumlar ve değerlendirmeler, yapılan çalışma çerçevesinde özel olarak açılan Facebook isimli sosyal iletişim ağ ortamına düzenli olarak yüklenmiştir. Ayrıca, adayların öğretmenlik uygulamaları, gerekli izinler alınarak kamera ile kayıt altına alınmıştır. Yapılan uygulamadan bir gün sonra, daha önceden hazırlanan ve pilot uygulaması yapılan sorular ışığında uyarıcılarla hatırlama seansları (stimulated recall sessions) gerçekleştirilmiştir. Araştırmanın on dördüncü haftasında, Öğretmenin Bilişötesi

Farkındalık Ölçeği (ÖBFÖ) sekiz öğretmen adayına son-test olarak bir kere daha uygulanmıştır. Ölçeğin uygulanmasından sonra, öğretmen adaylarının bilişötesi farkındalık düzeylerindeki artışı daha detaylı bir şekilde incelemek ve ilgili sosyal iletişim ağ ortamındaki paylaşımların adayların öğretmenlik uygulamalarını geliştirip geliştirmediğini anlamak için ölçek maddelerine ilişkin uygulama sonrası görüşmeler (retrospective interviews) yapılmıştır.

Bulgulara göre, birinci araştırma sorusuyla elde edilen cevaplar doğrultusunda, araştırma grubuyla ilgili öntest-sontest bağlamındaki değerlendirmeler, grubun uygulama neticesinde öğretmenliklerine yönelik bilişötesi farkındalıklarını anlamlı bir şekilde artırdığını ortaya koymaktadır ($p < 0.001$, The Wilcoxon Matched-Pairs Signed-Rank =, 000, Z = - 2,521). Ancak, bu gelişme bilgi bilinci (knowledge of cognition) şeklinde değil, daha çok bilginin uygulanması (regulation of cognition) şeklinde ortaya çıkmıştır. Öğretmen adayları, bilgi bilinçlerine ek olarak, bilginin uygulanma aşamaları olan planlama, gözlemleme ve değerlendirme safhalarında, öğretmenlik süreçlerine yönelik belirgin bir farkındalık kazanmıştır. İkinci araştırma sorusu bulguları ise, sosyal iletişim ağ ortamında yapılan yansıtmacı yorumların öğretmen adaylarının uygulamalarını geliştirdiğini ortaya koymuştur.

Sonuç olarak elde edilen bulgular, öğretmen adaylarının gelecekte kendine yeten bir öğretmen olarak, özerk öğrenmeye yönelik yeterlilikleriyle ilgili bir farkındalığı beraberinde getirmektedir. Bulgular, öğretmen adaylarına, özerk tutumlarına ilişkin bilişötesi farkındalıklarını artırmaya yönelik çeşitli fırsatlar verildiğinde, adayların çalışma süresince özerkliklerini geliştirmek için sağlanan bu fırsatları etkili bir şekilde kullandıklarını göstermektedir.

Anahtar Kelimeler: Bilişötesi Farkındalık, Sosyal İletişim Ağı, Öğretmen Özerkliği, Yansıtmacı Yaklaşım, Öğretmenlik Uygulaması, İngilizce Öğretmen Adayları.

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LIST OF ABBREVIATIONS

EFL	English as a Foreign Language
ELT	English Language Teaching
MAI	Metacognitive Awareness Inventory
MAIT	Metacognitive Awareness Inventory for Teachers
GPA	Grade Point Average
KMO	Kaiser-Meyer-Olkin Measure of Sampling Adequacy

CHAPTER I

INTRODUCTION

1.0 Introduction

This study investigates whether the use of social networking influences pre-service English teachers' metacognitive awareness and teaching practice. In this regard, this section features background to the study, statement of the problem, purpose and scope of the study, and the importance of the study. In addition, it briefly covers limitations of the study, assumptions and definitions of some key concepts covered in the study.

1.1 Background to the Study

Knowing how to plan, monitor and evaluate one's own learning can be considered to be one of the most effective learning strategies. It is no doubt that having this competence allows learners to fully carry out their own learning effectively. In this connection, there are a lot of research studies which indicate that learners' metacognition has been linked to increased learning, improved performance and greater achievement of educational goals (Dunlosky & Lipko, 2007; Pintrich, 2002; Rickey & Stacey, 2000). Simply described as "the ability to think about thinking", metacognition constitutes the very aspect of learning in educational settings. To become fully effective learners, they need to display certain metacognitive strategies that allow them to plan, monitor and evaluate their own learning properly. It is mutually acknowledged that the role of metacoginition is critically important in that it leads learners to plan, to allocate limited learning resources, monitor their current knowledge and skill levels, and evaluate their current learning (Schraw, Crippen & Hartley, 2006). Learner autonomy, a very related term, resulting from a focus on learner reflection and responsibility for one's own learning has become a central concern in the recent history of second language learning/teaching (Barfield & Brown, 2007; Benson, 2001, 2007; Benson & Toogood, 2002; Burkert & Schwienhorst, 2008; Dam, 1995; Holec, 1988; Lamb & Reinders, 2006; Little, 1991, 2007; Murphy, 2008; Palfreyman & Smith, 2003; Smith, 2000). However, language teachers have big problems promoting autonomy or

developing metacognition in language classrooms (Brajcich, 2000; Hurd, Beaven & Ortega, 2001; Littlewood, 1997). Promoting autonomy refers to a process which is likely to lead learners "to determine the objectives, to define the content and progressions, to select methods and techniques to be used, to monitor the procedures of acquisition and to evaluate what has been acquired" (Holec, 1981, p. 3). Thanks to this process, eventually, the (autonomous) learner establishes "a personal agenda for learning" (Little, 1994; Chan, 2003) setting up directions in the planning, pacing, monitoring and evaluating the learning process. There is evidence in research studies supporting the claim that "increasing the level of learner control will increase the level of self-determination, thereby increasing overall motivation in the development of learner autonomy" (Chan, 2001, p. 506). In order to contribute to the development of learner autonomy in language classrooms, it is vital that learners be involved in decision-making processes about their own learning. During these processes, one can easily see the vital role of teachers since 'the ability to behave autonomously for students is dependent upon their teacher creating a classroom culture where autonomy is accepted" (Barfield, Ashwell, Carroll, Collins, Cowie, Critchley, Head, Nix, Obermeier, & Robertson, 2001, p. 3). It is untenable to expect teachers to develop a sense of autonomy unless they have themselves experienced teacher training, where exploratory and evaluative approaches to learning and teaching have been key elements (Burkert & Schwienhorst, 2008; Castle, 2006; Dam, 2007; Little, 1995, 2007; Marcosa & Tilemab, 2006). Additionally, the rise to prominence of learner autonomy as a goal in language learning has necessiated an enhanced awareness of the importance of the teacher in structuring or "scaffolding" reflective learning (Smith 2001, 2003). Therefore, we cannot expect teachers to foster learner autonomy reflectively if we do not acquaint them with similar working methods; similar resources; and above all, a similar approach to learning and teaching in general (Benson, 2007; Little, 1995, 2007; Vieira, 2007). De Vries and Kohlberg (1987) give a picture of what an autonomous teacher looks like.

> The autonomous constructivist teacher knows not only what to do, but why. She has a solid network of convictions that are both practical and theoretical. The autonomous teacher can think about how children are thinking and at the same time think about how to intervene to promote the constructive culture. Autonomous teachers do not just accept uncritically what curriculum specialists give them. They think about whether they agree with what is suggested. They take responsibility for the education they are offering children (De Vries & Kohlberg, 1987, p. 380)

As Widdowson (1993) put it,

> View of the dependent teacher has been challenged over recent years. It has been argued that effective pedagogy is necessarily a reflective and research-oriented activity, that the role of the practitioner does not preclude that of theorist and that the professional status of teachers as mediators depends on the justification of an appropriate expertise of their own (Widdowson, 1993, p. 25).

From these two insights, one can easily argue that teacher education has a crucial role to play in preparing student teachers to implement pedagogical strategies for autonomy in their own future classroom environments. Pre-service teacher education also has a double role to play in fostering learner autonomy among student teachers and in encouraging them to take the first steps towards autonomy by fostering metacognitive awareness. It is evident that learners who tend to show autonomous skills are generally considered to be aware of their metacognitive strategies including planning, monitoring and evaluating. The ability to develop metacognitive skills in students is associated with teachers' own metacognition both in learning and teaching (Kramarski & Michalsky, 2008). However, for teachers to be metacognitively aware of their own teaching, they need to make conscious and deliberate decisions when planning and working with students (Duffy, Miller, Parsons, & Meloth, 2008). Nevertheless, there is little research on this issue in the relevant literature. In this regard, pre-service English teachers' metacognitive awareness may be enhanced through social networking, which may promote professional knowledge development, professional growth, reflective thinking, and more importantly teaching awareness. There are, however, few formal opportunities for metacognitive strategies to develop in teacher education. It is the potential of networking technologies to foster communication and of sharing of teaching practices, many educators believe, that can fundamentally reshape the nature of teacher education. Social networking can provide the missing piece by offering student teachers great opportunities to reflect upon their learning/teaching processes making them more effective teachers.

1.2. Statement of the Problem

Restructuring teacher education and revitalizing programmes for learning to teach are congruent with new conceptions of professional development and offer novel ideas about the acquisition of professional knowledge (Lieberman, 1993; Brooks, 1994; Darling-Hammond, 1996). A need to restructure teacher education programmes in accordance with recent developments that specifically focus on individuals and their constant reflection has emerged over the last two decades. Teacher educators have difficulty stimulating and encouraging student teachers to learn, to construct their practical knowledge, to develop an attitude of reflective inquiry and to experiment with ideas and teaching skills (Tilemma, 1997). Therefore, teacher education programmes, in addition to providing their student teachers with numerous kinds of classroom activities, techniques and strategies, may also create opportunities for student teachers to help them reflect on all aspects of language teaching such as the curriculum; methodologies; resources; lesson planning; conducting of lessons; independent learning; and assessment. In this context, the problem identified is that pre-service English teachers are not aware of their own teaching practice and that they need to develop their (teaching) metacognitive awareness, which focuses on reflection, awareness and evaluation in pre-service language teacher education (Lamb & Reinders, 2006, 2008; Little, 1995, 2007; Smith, 2001; Smith & Erdoğan, 2008). More precisely, pre-service English teachers do not know how to engage in reflection on their teaching practice. Nor do they know what they know and what they need to know about their teaching practice. It is the researcher's belief that pre-service English teachers are likely to improve their ability to plan, monitor and evaluate their future performance as teachers, as well as to encourage independent learning together with metacognitive awareness in their future students.

1.3. Purpose and Scope of the Study

It is the aim of this study to investigate the impact of social networking on pre-service English teachers' metacognitive awareness and whether this awareness affects their teaching practice. The study will do so by making use of qualitative findings gathered through weekly reflections, peer-evaluation, retrospective interviews and

stimulated recall sessions as well as the experimental research without a control group. In this regard, the purposes of the study are as follows.

a) to investigate whether the use of social networking affects pre-service English teachers' metacognitive awareness.
b) to investigate how pre-service English teachers' reflections in the social networking affect their teaching practice.

In light of the purposes of the research, the following research questions can be posed.

a) Does the use of social networking affect pre-service English teachers' metacognitive awareness?
b) Do pre-service English teachers' reflections in the social networking (over time) affect their teaching practice?

This study, however, excludes the following dimensions of teacher autonomy: a) Freedom from control over professional action b) Capacity for self-directed professional development even though they are related terms. In our study, we take the term "teacher autonomy" in relation to the ability to plan, monitor and evaluate one's own teaching".

1.4. Importance of the Study

Educators often emphasize the importance of reflection as an element in being a teacher (Dewey, 1933; Jersild, 1955; Schön, 1983, 1987, 1991). In order to make necessary modifications, teachers should be encouraged to think about and reflect upon their work. The principle of reflection focuses on metacognition. This comprises, among others, reflection on the role of the teacher, reflection on working methods and resources, reflection on classroom practice and lesson plannin. This suppors a language teacher on her/his path to planning, monitoring and evaluating her/his own practice. This situation renders it inevitable for us to understand the importance of reflection in pre-service teacher education. In the research literature, there are a great many studies suggesting that the reflection and metacognition are two indispensible elements of teacher education. Reflection by pre-service teachers not only helps them create mental models of what it means to be a teacher, it can also help them link theory to practice (Brubacher, Case, & Reagan, 1994; Levin & Camp, 2002; Valli, 1992; Zeichner, 1990). More precisely, reflection is an important skill that needs to be developed in pre-service

teachers so that they can plan, monitor and evaluate their own teaching process. These skills constitute the very essence of metacognition in educational settings.

In recent years, educational practices have undergone a lot of alterations, whereby students have become more active participants. This change is mostly due to technological innovations in the field of education. Prensky (2001) coined the term "digital natives" to refer to those who are born into digital technology. Referred to today's students, digital natives spend most of their time online, mostly on social networking tools such as Facebook and Twitter. In general, web technologies have been extremely influential in our employment of metacognitive strategies. There are lots of research studies especially focusing on the use of social networking tools in education. The goal of social networking, in nature, seems to establish reflection as a social or collaborative venture. For example, they can often make tacit thinking processes overt so that they become externalized and accessible as objects of close reflection and evaluation (Lin, Hmelo, Kinzer, & Secules, 1999; Lin, Schwartz, & Hatano, 2005). Like Bhattacharya (2001) mentions, electronic portfolios, a typical representation of Web 2. 0 techologies in a way, provide students with the opportunity for reflection. In the same fashion, social networking is out there to offer the same insights. As far as teacher education is concerned, teacher educators are using the implications of Web 2. 0, namely social networking tools. Thus, using social networking in teacher education can create valuable opportunities for pre-service English teachers in that it may develop reflective thinking skills and metacognitive awareness.

Certain educators (Baker, 2002; Risko, Roskos, & Vukelich, 2005) associate metacognition with reflecting on one's own thinking. To put it more clearly, reflection and metacognition are "overlapping constructs… involving deliberate, evaluative, and constructive activity" (Risko, Roskos, & Vukelich, 2005, p. 317). In the Turkish context, metacognition in pre-service English teacher education is a relatively untouched subject. It would be a reasonable attempt to look at some studies focusing on reflective teacher development in ELT to date. Atikler (1997) examined how action research helped an instructor in the Department of Basic English of the Middle Eastern Technical University reflect on her practice. Sungurtekin Eröz (1997) studied how trainees go over different kinds of change in their practices in time on the pre-service course at the Department of Basic English. İskenderoğlu Önel (1998) investigated the

effect of action research on the becoming reflective of the instructors at the English Language School of Başkent University. Öniz (2001) examined how action research could change educators' presentation skills. Özçallı (2007) researched the impact of an in-service training programme on the teacher efficacy and reflective thinking of EFL teachers at various foundation schools in Istanbul. Yeşilbursa (2007) examined the possible ways for teacher trainers to develop themselves professionally while continuing with their normal workload. However, there is almost no study specifically on the use of social networking in teacher education except for a few studies on the use of e-portfolios in teacher education. There are, however, only two studies which we know of on e-portfolios in teacher education in Turkey. First, Koçoğlu (2008) tried to determine EFL (English as a Foreign Language) student teachers' perceptions on the role of e-portfolios in their professional development. Second, Koçoğlu, Akyel and Erçetin (2008) examined whether the use of paper and electronic portfolios fostered the development of the reflective thinking ability of five ELT (English Language Teaching) student teachers at a university in Turkey. As far as social networking is concerned, Arıkan (2009) tried to find out the effects of social networking sites on the pedagogical development of prospective English teachers.

As is exemplified above, there are a lot of studies on the reflection in English pre-service teacher education. None of them, however, focused particularly on the metacognitive awareness of English pre-service teachers by using social networking along with a rich source of qualitative data. On the other hand, Azevedo and Cromley (2004) pointed out that in online environnments students need to be able to regulate, control, and evulate their own progress related to learning and teaching, which can be easily associated with metacognitive awareness. At this point, the findings of this study can provide new insights into the area of teacher development in terms of how social networking improves metacognitive awareness and teaching practice.

1.5 Limitations

The limitations of the study can be listed as follows:

1- The study is limited to only 8 student teachers studying in the ELT Department of Gazi Faculty of Education.

2- The data are collected during one semester (14 weeks).

3- Due to the workload of the participants and of the researcher, it is decided not to have the video-recordings examined by an independent coder.

1.6 Assumptions

There are two basic assumptions for this study. First, autonomy is a vague construct to study in educational contexts. For this reason, we assume that there is a positive correlation between autonomy and metacognition, which is easier to determine in research paradigm. Second, we assume that the participants give accurate information related to the inventory and interview questions during the study.

1.7 Definitions of Some Key Concepts

Metacognition: "one's knowledge concerning one's own cognitive processes and products or anything related to them, e.g. the learning-relevant properties of information or data" (Flavell, 1976).

Social Networking: "the range of applications that augments group interactions and shared spaces for collaboration, social connections, and aggregates information exchanges in a web-based environment" (Barlett-Brag, 2006). In the relevant literature, social networking, social networks, and social networking sites are used interchangeably. In this study, we prefer to use the term "social networking".

Teacher Autonomy: "the ability to develop appropriate skills, knowledge and attitudes for oneself as a teacher, in cooperation with others" (Smith & Erdoğan, 2007).

Reflective Approach: "a tool for engaging student teachers in examining their prior experiences and beliefs in light of new learning, resolving conflicts, and drawing connections between theory and practice" (Galvez-Martin, Bowman, & Morrison, 1998).

CHAPTER 2

REVIEW OF LITERATURE

2.0 Introduction

In order to provide a conceptual framework for the study, this chapter discusses the literature on the concepts of metacognition, social networking, and teacher autonomy. Each section takes a deeper look at constructs that constitute the core of this study.

2.1 Metacognition

This section explores metacognition in a general sense. It begins with a closer look at the definitions and views on metacognition through a thorough analysis of the literature. Then it deals with metacognitive awareness in particular and goes over two dimensions that form this awareness. Afterwards, metacogniton in pre-service teacher education is covered in the section.

2.1.1 Metacognition: Definitions and Views

In research literature there have been a great number of attempts to conceptualize the construct of metacognition over the last three decades (Baker & Brown, 1984; Flavell, 1976, 1979; Garrison, 1997; Hacker, Dunlosky, & Graesser, 1998; Paris & Winograd, 1990; Schraw, 1998; Schraw & Dennison, 1994). The literature is replete with definitions of metacognition up to date (Brown, 1985; Flavell, 1976, 1979; Garrison, 1997; Hacker, Dunlosky, & Graesser, 1998; Paris & Winograd, 1990; Schraw & Dennison, 1994). However, there is no general consensus of the most agreed-upon definition of metacognition as yet (Hacker, 1998). The construct of metacognition has become quite fashionable in cognitive psychology since it was first utilized by Flavell (1970) who first coined the term and defined it as “our awareness of the learning process”. Flavell, later, (1976, p. 232) described metacognition as “one’s knowledge concerning one’s own cognitive processes and products or anything related to them, e.g. the learning-relevant properties of information or data”. Hacker’s

definition of metacogniton, though, has proved remarkably robust and remains the most widely cited definition in the field. Hacker (1998, p. 11) believes that "metacognition includes both knowledge of one's knowledge, processes, cognitive and affective states, and the ability to consciously and deliberately monitor and regulate one's knowledge, process, and cognitive and affective states". Since then, the relevant literature has tended to focus on two aspects of metacognition: a) metacognition knowledge b) metacognitive regulation.

Indicating the assumption that metacognition plays a key role in different disciplines such as oral communication, reading comprehension, and writing comprehension, Flavell (1979) offers four classes of phenomena, which, he believes, that have very close ties with the monitoring of a wide variety of cognitive enterprises. Metacognitive knowledge, metacognitive experiences, goals (or tasks) and actions (or strategies). However, we discuss goals (or tasks) and actions (or strategies) in line with the two broader terms metacognitive knowledge and metacognitive experiences. Metacognitive knowledge is "the stored world knowledge that has to do with people as cognitive creatures and with their diverse cognitive tasks, goals, actions and experiences" (Flavell, 1979, p. 906). That is to say, metacognitive knowledge consists of knowledge or beliefs that drive cognitive enterprises to emerge in the process of factors or variables (Flavell, 1979, 1987). Within this perspective, metacognitive knowledge includes three major categories: a) person b) task c) strategy. In Flavell's (1979, p. 907) remarks, "the person category encompasses everything that you could come to believe about the nature of yourself and other people as cognitive enterprises". In other words, a learner, confronted with a particular learning situation, needs to know his/her existing situation in terms of how much information s/he has related to that particular learning. Another category is task which "concerns the information available to you during a cognitive enterprise" (Flavell, 1979, p. 907). That is, a learner needs to understand what variations enable what cognitive enterprises in achieving the task. The last category is "strategy". There is a great deal of knowledge that could be acquired concerning "what strategies are likely to be effective in achieving subgoals and goals in what sorts of cognitive undertakings" (Flavell, 1979, p. 907). It basically refers to what kind strategies each learner needs to undertake when s/he is confronted with a particular learning situation/problem to deal with. Metacognitive experiences, on the other hand, are "any conscious cognitive or affective experiences that accompany and pertain to any

intellectual enterprise" (Flavell, 1979, p. 906). In a broader context, they can be best described as "items of metacognitive knowledge that have entered consciousness" (Flavell, 1979, p. 908). Related to what metacognitive experiences propose with regard to cognitive goals or tasks, metacognitive knowledge, and cognitive actions or strategies, Flavell (1979) pinpoints three important implications for this. First, metacognitive experiences have the power of influencing metacognitive knowledge along with a variety of actions including adding, deleting or revising. Second, they can guide learners to recreate new goals and revise them on the basis of old ones. Third, metacognitive experiences can arouse strategies that may be employed in the face of cognitive or metacognitive goals.

Congruent with Flavell's insights about metacognition (1979), Paris and Winograd (1990) propose two aspects of metacognition. The aspects are cognitive self-appraisal and self-management of cognition. They define cognitive self-appraisal as "personal reflections about one's own knowledge states and abilities" (Paris & Winograd, 1990, p. 17). Another aspect is self-management of cognition which can be considered to be "metacognition in action, i.e. how metacognition helps to orchestrate cognitive aspects of problem solving" (Paris & Winograd, 1990, p. 18). As is easily recognized in these two aspects of metacognition proposed by Paris and Winograd (1990), they both refer to thinking processes and the particular actions and insights when one is confronted with one's cognitive enterprises. Corroborating with Flavell (1979)'s framework, Schraw and Moshman (1995) believe that metacognition can be broken into two parts. Drawing the studies conducted by Brown (1987), Baker (2001) and Paris and Winograd (1990) who distinguish knowledge of cognition from regulation of cognition, Schraw and Moshman (1995) propose a distinction between metacognitive knowledge and metacognitive regulation. What Paris and Winograd (1990) call "self-appraisal" can be best associated with Schraw's concept of "knowledge of cognition", while self-management is very identical to Schraw's concept of regulation (Schraw, 2001). Schraw and Moshman's distinction between metacognitive knowledge and metacognitive regulation seems to have received a lot of approval from academicians and has been widely used in many research studies. Other than two key figures in the field of metacognition, there are, however, different levels of metacognitive processing. Kluwe (1982, cited in Hacker, Dunlosky, & Graesser, 1998), differentiates between executive monitoring processes, which are directed at the acquisition of information

about the person's thinking processes, and executive regulation processes that are directed at the regulation of the course of one's own thinking. In this context, the first provides a ground for identifying the task, checking current progress of that task, evaluating that progress, and guessing what the result is likely to occur. The second, on the other hand, is concerned with certain decisions on employing his or her resources for the given task, determining the order of steps to be taken to complete the task, and pacing on the completion of task.

When it comes the question of how metacognition relates to learning, Flavell (1987, p. 27) emphasizes that "metacognition is congruent with the learners' need and desire to communicate, explain and justify thinking to organisms as well as to himself". In a similar vein, a wide range of researchers agree to provide learners with the best environment to develop metacognitive knowledge and skills since learning is internalized through interaction and communities (Flavell, 1987; Paris & Winograd, 1990; Schraw, 2001; Schraw & Moshman, 1995). One of the studies that explore the relationship between metacognition and learning gains is that Jones et al. (1987, cited in Sinclair, 1999) who found that metacognitive awareness was related to success in language learning in the sense that successful learners were aware of the processes about their own learning processes and of the appropriate strategies to manage their own learning effectively. Young and Fry (2008), based on their research study where they investigated to reveal the relationship between metacognitive awareness and academic achievement in college students, found out that there are correlations between the MAI (Metacognitive Awareness Inventory) and cumulative GPA (Grade Point Average) as well as the end of course grades. These results provide support for the validity of the MAI as it relates to academic measures. On the other hand, Stevens (2009) investigated availability of a method for the development of metacognitive self-knowledge and also a means for discovering what academic experiences students perceive as influential in their development as learners. In a qualitative research design, the researcher concluded that metacognitive self-knowledge can be developed through the use of a guided reflection activity and that the guided reflection activity used in the study identified and illuminated academic experiences that students perceive as salient for their learning. There is little evidence that metacognition is related to academic success despite the fact that there are popular ideas in the literature. Coffey (2009), for example, examined whether writing instruction in a mathematics classroom increased metacognition.

Students who are supported in using metacognition can increase their understanding in the classroom. Utilizing a pre-test-post-test control group, the researcher asked the participants to complete a mathematics problem solving assessment, which was analyzed with a rubric for accuracy and for metacognition usage, and a survey concerning how they used metacognitive skills for the problem solving activity. She concluded that there was a relationship between metacognition and writing. There are also more related studies with metacognition. S. Lee (2009), based on the findings of her research study in which she examined the relationships between metacognition, self-regulation and students' critical thinking skills and disposition in online Socratic Seminars for ninth grade World Geography and Culture students, argues that self-regulation had significant relationships with students' critical thinking disposition, but not with students' critical thinking skills for both the experimental and the control group. Using semi-structured interviews with four students from a community college to investigate the use of e-portfolios as a tool for reflection/metacognition, Zellers and Mudrey (2007) allege that there are two broader dimensions of the use of e-portfolios. The benefits are as follows. 1) Potential for raising student metacognition. 2) Potential for raising student achievement. Another benefit, instructor implementation, also consists of five important components. The components are clarity of purpose, coaching students in the reflective process, providing feedback throughout the process, addressing technological issues, and evaluating whether a course is well suited for a portfolio. The researchers concluded that electronic portfolios can be an effective tool for increasing student metacognition on condition that the way instructors implement it is very meaningful to the effectiveness itself. In a similar research study, Meyer, Abrami, Wade, Aslan and Deault (2010) conducted a research study in three Canadian provinces with 32 teachers and 388 students to answer the research question "Can an electronic portfolio have a positive impact on the literacy practices and self-regulated learning skills of students?". Using a non-equivalent pretest/ post-test design, the researchers found out that grade 4–6 students in the experimental group compared to the students in the control group showed significant improvements in their writing skills on a standardized literacy measure.

2.1.2 Metacognitive Awareness

If it is the aim of education to let learners take charge of their own learning, then they need to be able to plan, monitor and evaluate their learning. In order to do so, they need to be metacognitively aware. Q'Malley, Chamot, Stewner-Marizanares, Kupper, and Russo (1985, p. 24) summarize it: "Students without metacognitive approaches are essentially learners without direction and ability to review their progress, accomplishments and future learning directions". Oxford (1990) also points out that metacognitive strategies are essential for successful language learning. Strategies like organizing, setting goals and objectives, considering the purpose, and planning for a language task help learners arrange and plan for their language learning in an efficient way. The students without metacognitive strategies will never become autonomous learners because they don't know how to arrange, regulate, and evaluate their learning activities. However, there is no explored relationship between metacognitive awareness and learning gains in the relevant literature except for the study conducted by (Jones et al., 1987, cited in Sinclair, 1999). He concluded that metacognitive awareness was related to success in language learning and effective learners were aware of the processes underlying their own learning processes and attempted to use appropriate strategies to manage their own learning. Similarly, a few studies simply indicate that metacognitive awareness is an important element in learning and crucial to the development of effective learning (Wenden, 1991, 1999; Wilkins, 1997). Even though there are popular ideas available everywhere without specific research studies which support this view, metacognitive awareness plays a pivotal role in the effectiveness of learning process, which, however, needs to be researched.

Simply described as "being aware of one's own knowledge, processes, cognitive and affective states as well as of regulation of those states", metacognitive awareness consists of three parts: thinking of what one knows (metacognitive knowledge), thinking of what one is currently doing (metacognitive skill) and thinking of what one's current cognitive or affective state is (metacognitive experience) (Hacker, Dunlosky, & Graesser, 1998). What is important is that all this knowledge, the beliefs and perceptions are very related to development of autonomy in that they are required to make informed decisions about one's own learning/teaching. Researchers break metacognitive awareness into two subcomponents: metacognitive knowledge and

metacognitive regulation. Following this, researchers (Brown, 1987; Schraw, 2001; Schraw & Moshman, 1995) elaborate on the distinction between metacognitive knowledge and metacognitive regulation. Schraw and Moshman (1995, p. 352) describes metacognitive knowledge (or knowledge of cognition) as "what individuals know about their own cognition or about cognition in general". Metacognitive knowledge is concerned with what a person is aware of his/her own thinking processes and how thinking occurs in general sense. Efklides (2001) adds a broader dimension with his own definition of metacognitive knowledge. He (2001, p. 299) describes metacognitive knowledge as "knowledge we retrieve from memory and regards what the person knows or believes about him/herself and the tasks, goals, actions or strategies as well as the experiences s/he has had in relation to them". Flavell's overall definition of metacognition seems to be very close to this one as there are overlapping features that view metacognition in relation to tasks, goals, actions, or strategies. However, the role of memory is missing in the former one. Metacognitive knowledge (or knowledge of cognition) contains three kinds of knowledge including declarative knowledge, procedural knowledge, and conditional knowledge (Brown, 1987; Jacobs & Paris, 1987, Schraw, 2001; Schraw & Moshman, 1995). In brief, declarative knowledge refers to "knowing about things", procedural knowledge refers to "knowing how to do things", and finally conditional knowledge is "knowing the why and when aspects of cognition" (Schraw & Moshman, 1995, p. 352). More specifically, declarative knowledge includes individuals' conceptions, and also their beliefs of task structures, their cognitive goals, and their own personal abilities (Schraw, 1998; Schraw & Moshman, 1995; Schraw, Crippen, & Hartley, 2006). Presley, Borkowski, and Schneider (1987) pinpoint the importance of declarative knowledge in learning, particularly in relation to metamory in light of the results of their research study. Procedural knowledge, on the other hand, refers to "knowledge about the execution of procedural skills" (Schraw & Moshman, 1995, p. 353). In a broader sense, much of this knowledge is reflected through strategies that lead individuals to resolve the problems if there is any. Presley, Borkowski, and Schneider (1987) allege that individuals with a higher degree of procedural knowledge tend to possess a larger repertoire of strategies, and to sequence strategies effectively. Procedural knowledge basically includes information about how individuals perform cognitive tasks (Jacobs & Paris, 1987; Paris & Paris, 2001; Pintrich, 2002; Schraw, 1998; Schraw, Crippen, & Hartley, 2006). Conditional knowledge refers to "knowing when and why to apply various cognitive actions (Schraw & Moshman, 1995, p. 353).

Young and Fry (2008) particularly refer to the knowledge we have about the conditions under which we can implement various cognitive strategies. This statement is very similar to Schraw and Moshman's in that conditional knowledge ultimately concerns selected various strategies depending upon the condition in which learning is internalized. On the other hand, Reynolds (1992), based on his research study, alleges that conditional knowledge is important because it helps students selectively allocate their resources and use strategies more effectively. To put it more clearly, conditional knowledge includes the understanding of both the value and the limitations of the procedural knowledge and knowing when, how, and why procedures should be used (Jacobs & Paris, 1987; Pintrich, 2002; Schraw, 1998; Schraw, Crippen, & Hartley, 2006). Metacognitive regulation (or regulation of cognition) refers to "metacognitive activities that help control one's thinking or learning" (Schraw & Moshman, 1995, p. 354). In contrast to metacognitive knowledge, metacognitive regulation is more related to a set of actions and events so as to facilitate learning than a set of knowledge that shapes how those actions emerge. Schraw (2001) accentuates that metacognitive regulation involves performance in a number of ways, including better use of intentional resources, better use of existing strategies, and a greater awareness of comprehension breakdowns. As Schraw and Moshman (1995) point out, there are several regulatory skills that have been mostly referred in research literature. Pertaining to metacognitive regulation, three regulatory skills namely planning, monitoring, and evaluating (Kluwe, 1987; Jacobs & Paris, 1987) occupy an important role in regulating students' skills concerning their own learning processes. Planning involves "the selection of appropriate strategies and the allocation of resources that affect one's learning performance" (Schraw & Moshman, 1995, p. 354). The skills that might be attributable to planning are, by and large, setting goals, selecting appropriate strategies, and scheduling time and strategies. Miller (1985) claims, based on the findings of his research, that individuals' planning skills contain making prediction before reading, strategy sequencing, and allocating time or attention selective before beginning a task. Monitoring, on the other hand, involves "one's on-line awareness of comprehension and task performance" (Schraw & Moshman, 1995, p. 355). This skill can be best conceptualized through the process of performing a specific task and how well it is controlled at regular intervals to check if the learning happens or not. The statement "I ask myself if I am sure or not to be sure if I have really learned" can be a specific example of monitoring skills. Delclos and Harrington (1991) allege that monitoring skills can be developed through practice

and training. Finally, evaluating refers to "appraising the products and regulatory processes of one's learning" (Schraw & Moshman, 1995, p. 355). That is to say, evaluating involves taking a deep look at the outcome and determining if the learning matches our learning goals and if the regulation processes utilized were effective (Schraw & Moshman, 1995). Evaluating skills may also include re-evaluating one's goals and conclusion upon the completion of a task. Schraw and Dennison (1994) report that these components are highly correlated with each other and they serve the same purpose. In other words, they complement one and other. Along similar lines, metacognition fosters students' awareness of their own learning and thinking processes and helps them regulate their cognition with the processes of planning, monitoring and evaluating. More specifically, metacognition has an essential role in problem solving, reading, writing, and memory (Flavell, 1987).

As the very many studies indicate (Hacker, Dunlosky, & Graesser, 1998; Wenden, 1999; Wilkins, 1997), metacognition is a crucial skill to have since it makes students independent thinkers who control their thinking processes. Using metacognition, learners can have the control over what and how they learn, which can trigger the development of independent learning. Pascu (2008) made a link between metacognition and autonomy in foreign language learning and alleged that one of the most important functions of metacognition is to lead language learners to be more autonomous in the learning process. What is important is that learners who display more metacognitive skills tend to set clear objectives in the learning process, to define the content, to make a schedule in line with this content, and to select the cognitive and metacognitive strategies. The bottom line is that metacognitive awareness is an important element in learning and crucial to the development of (learner) autonomy (Wenden, 1991, 1999; Wilkins, 1997). Metacognitive awareness, in this regard, seems to be some of the key elements needed in developing autonomy. Cao and Nietfeld (2007) examined college students' awareness of difficulties in learning class content and selection of study strategies to address the perceived challenges. Employing both qualitative and quantitative procedures to analyse the data in the research study, the researchers concluded that students' awareness of different kinds of difficulties in learning the class content did not lead to adjustment of study strategies. This is not actualized in an autonomous learning process, though. In Turkish context, Sungur and Şenler (2009) examined the relationship between Turkish high school students'

metacognition and its relation to achievement goals, perceived competence, and perceived classroom environment. Unlike most research studies in the research literature, this research concluded that performance approach goals as well as performance avoidance and mastery avoidance goals are found to be positively linked to knowledge of cognition and regulation of cognition.

2.1.3. Metacogniton in Pre-service Teacher Education

Surprisingly enough there is not as much attention given to the role of metacognitive awareness in pre-service teacher education as it merits. Rather, emerging ideas are generally associated with in-service teachers. Duffy (2005) proposes three reasons for this. First, being experienced matters in that pre-service teachers are often considered to be mature individuals who are not inclined to being metacognitive. Second, due to several constrains that stem from university rules and expectations, pre-service teachers are seldom given training on metacognitive awareness. Third, the university, he claimed, does not provide a kind of environment in which it is easy to achieve conceptual congruity between what happens in pre-service teacher education course and what happens in field experiences. The third reason may not sound reasonable as pre-service teachers go to school for teaching practice at least to experience teaching in the first place. On the other hand, Bowman, Galvez-Martin and Morrison (2005) draw an analogy between learning and teaching in relation to metacognition in that metacognitive processes, just like they allow students to become more strategic and thoughtful learners (Williams, 2000), do lead teachers to become more strategic and thoughtful about their own teaching skills (Pultorak, 1993). Shulman (1987) defines this ability as “a process that involves reviewing, reconstructing, reenacting and critically analyzing one’s own and the class’ performance”. As is easily seen, reflection itself is considered to be an essential component effective teachers must have. Along those lines, certain educators (Baker, 2002; Risko, Roskos, & Vukelich, 2005) associate metacognition with reflecting on one’s own thinking. Researchers have argued that most teachers are not equipped to implement metacognitive teaching strategies with their students (Boekaerts, 1997, 1999; Fisher, 2002; Niemi, 2002). In order to better this, pre-service teachers should be encouraged to exhibit metacognitive skills so they can be more confident about employing such strategies with their own students. Thus, teacher education programs should involve the training of metacognitive

awareness as well as their instructional methods. Baylor (2002) examined pre-service teachers' metacognitive awareness of instructional planning through pedagogical agents including instructivist agent, constructivist agent and agent character. Measuring the attitudes of pre-service teachers' metacognition through pre- and post-test, the research concluded that the presence of the constructivist pedagogical agent affected pre-service teachers' metacognitive awareness of instructional planning in multiple ways: through a change in perspective, less reported reflection, and through the underlying pedagogy of their instructional plans. Using a qualitative approach to examine the development of metacognitive awareness strategies among student teacher writers, Shabaya (2005) concluded that metacognitive awareness development occurs over time, metacognitive awareness development occurs differently among students, and varied teaching approaches yield effective writing instruction. However, these results do not yield satisfactory results for the regulation of metacognitive strategies with the exception of metacognitive knowledge. In a similar vein, Memnun and Akkaya (2009) tried to determine the level of metacognitive awareness of primary teacher trainees and to examine whether there is a difference according to class levels and gender or not. In their research, they used Metacognitive Awareness Inventory developed by (Schraw & Dennison, 1994) and translated into Turkish by Akın, Abacı, and Çetin (2007) to answer their research questions. This research displayed that most of the primary teacher trainees (% 66.1) have a high level metacognitive awareness while % 33, 9 of them had a lower level of metacognitive awareness. Nonetheless, there remains a big gap between their levels of metacognitive awareness and their teaching practice. This issue is rarely considered in the research literature. Metallidou (2008), on the other hand, took only one dimension, problem-solving strategies in terms of metacognitive knowledge of pre and in-service teachers in his study. By making a connection between problem solving and metacognition, the researcher examined whether pre-service and in-service teachers' metacognitive knowledge about problem-solving strategies differed from each other. The research concluded that the age along with work experience in the formation of the beliefs about strategic behavior was an important factor in differentiating the levels of metacognitive knowledge in terms of problem-solving strategies.

In summary metacognition, or more specifically metacognitive awareness, has always been linked to greater achievement of students' learning, which leads teachers and teacher educators to take a deeper look at the ways to promote it in learning environments. Next, we turn to a discussion of social networking along with their benefits and challenges, their importance in teacher education.

2.2. Social Networking

This section explores various aspects of social networking. In order to examine the place of social networking in educational terms, it is important to examine the history, characteristics, and the benefits and challenges of social networking. It also presents educational theories behind social networking. The role of social networking in teacher education and Facebook are covered in this section.

2.2.1 Social Networking: History, Definitions and Characteristics

Web 2.0 is simply described as "web-based technology that facilitates and promotes communication and sharing among others worldwide" (Q'Reilly, 2005). Web 2.0 covers a range of technologies, services and trends due to the growth of an increasing number of internet users. Web 2.0 technologies, along with their myriad advantages they bring into people's lives, seem also to have profound potentials in education due to their open nature, ease of use and support for effective collaboration and communication (Moura, 2007; Coutinho, 2008). Accordingly, they alter traditional modes of teaching/learning so vastly that teachers from all disciplines tend to make use of Web 2.0 tools not only to aurose their learners' interests but also to greatly contribute to the effectiveness of their learners' learning process. Additionally, according to a report prepared by a group of educators, Web 2.0 technologies offer the following: new opportunities for learners to take more control of their learning and access their own customised information, resources, tools and services, a wider range of expressive capability, more collaborative ways of working, community creation, dialogue and sharing knowledge, a setting for learner achievements to attract an authentic audience (Richardson, 2008). In this regard, it is essential for teachers to improve their teaching competencies by instructing with new technologies and encouraging also their students to employ new technologies more actively and independently outside the classroom

(D'Souza, 2006) as their students, regarded as "digital natives" (Prensky, 2001), are highly likely to step into the classroom with increasingly developed web literacy.

As far as social networking is concerned, Abbitt (2007, p. 1) states that there has been "tremendous growth in the popularity of websites focusing on social activities and collaboration". In order to provide a better understanding of how social networking is viewed, it is important to clarify the differences between social media and social networking, which are sometimes used interchangeably. Hartshorn (2010) claims that there are five differences between these two terms. First, while social media is a way of transmitting information with a broad audience, social networking is based on an act of engagement through common interests, like-minds. Second, social media is a kind of format that delivers a message through a communication channel, whereas social networking is two-way interactive communication which allows people to join others with similar experiences and backgrounds. Third, in terms of return on investment, social media may not get certain results of how much the product gets praised. Social networking, on the contrary, can be more precise about the website's traffic online. Fourth, social media is something you can not do unless you are a well-known and established brand, whereas social networking allows you to have direct communication between you and the people you choose to connect with. Finally, social media is manipulating comments for one's benefits, while social networking can tell someone his/her peers about his/her business or blog and discuss how to make it success. The conclusion here is that even though there are overlapping features, social media and social networking are two different entities indeed.

Since the first time SixDegrees, one of the first examples of social networking sites ever, was introduced, social network sites such as MySpace, Facebook, Cyworld, and Bebo have attracted the attention of millions of users, many of whom have integrated these sites into their daily practices (Boyd & Ellison, 2007). In other words, hundreds of social networks have spurred online, sometimes causing the media of instruction and attracting the attention of both media and academia (Boyd, 2004, 2006). In 1997, SixDegrees.com was launched as the first example of social networking sites, which allowed users to create profiles, to list their friends and to connect through social interaction triggered by the site. SixDegrees occupied a key place in providing such opportunities with users for the first time, which also paved the way for the

development of other social networking sites to emerge due to its popularity. In a very similar vein, classmates.com allowed people to affiliate with their high school or college and surf the network for others who were also affiliated, but users could not create profiles or list friends until years later. Although Friends.com was first utilized in 1995, SixDegrees.com became more widely used because of its open nature, and use of ease. From 1997 to 2001, there were specific attempts created through similar websites to support various combinations of profiles. To exemplify, AsianAvenue, BlackPlanet, and MiGente allowed users to create personal, professional, and dating profiles so that users could identify friends on their personal profiles. Similarly, LiveJournal and the Korean virtual worlds site Cyworld were regarded as other examples of social networking sites. Four of the largest non-professional sites which dominate social networking in the English-speaking world are MySpace, Facebook, Friendster, and Orkut. Friendster, launched in 2002 by Jonathan Abrams and Chris Emmanuel, allows users to contact other members, to maintain those contacts, and to share online content and media with those contacts. In addition to this, the website is used for dating, discovering new events, bands and videos as well as sharing videos, photos with others and making comments on others' profiles. Just one year after the potential of Friendster, several eUniverse employees created Myspace with more or less the same purposes. However, they decided to offer more services and applications than Friendster in that they converted it into a music-friendly place where hipsters, indie bands and fans could network and socialize with one another (Boyd, 2006, 2008; Boyd & Ellison, 2007, 2008; Haythornthwaite, 2005). It has very similar features that pertain to online communities such as forums, user groups, network structure, and user profiles. Orkut.com, designed by a Turkish Ph.D student in the University of Standford in 2004, has very similarities to other social networks in that it allows users to add videos to their profiles from either YouTube or Google Video as well as to create polls for community users. As opposed to Facebook and Myspace, Orkut is less popular in the United States. It, though, is one of the most visited websites in India and Brazil. Facebook, the leader of social networking sites right now, is a global social networking website that is operated and privately owned by Facebook, Inc, which we describe in detail in the following section. As is easily observed in brief history of social network sites, they have had a huge impact on the way people live their own lives. Obviously, the existence of such sites is altering the possible ways of instruction.

There have been several attempts to define social networking with some characteristics that shape the concept properly. It was Boyd (2003) who first described social networking as "software applications that support the development of social connections between individuals and groups within a community". Very similarly, Barlett-Brag (2006, p. 3) viewed social networking as "the range of applications that augments group interactions and shared spaces for collaboration, social connections, and aggregates information exchanges in a web-based environment". As is seen in both definitions, the bottom line is that social networking is based on the reality that individuals interact with each other in shared spaces for collaboration that allows the exchange of information. Taking a further step, Boyd and Ellison (2008, p. 211) described social networking sites as "web-based services that allow individuals to construct a public or semi-public profile within a bounded system, to articulate a list of other users with whom they share a connection, and to view and traverse their list of connections and those made by others within the system". Lenhart and Madden (2007), on the basis of their research findings, underline that more than half (55 %) of all online American youths ages 12-17 use online social networking sites, speficially to reinforce pre-existing friendships as well as to provide opportunities public and private communication tools. According to a study conducted by National School Boards Association, an astonishing 96 % of students have ever used social networking activities including chatting, text messaging, blogging and visiting online communities (www.masternewmedia.org). On the other hand, students reported that the majority of them talk about education topics, specifically schoolwork. In another study conducted in the University of Maryland, believing that using social media is very similar to drug and alcohol addict, students can't live without social media links like laptop, cell phones (www.blog.iclimber.com). As is easily discerned, social networking has become a common place for individuals in the last five years.

Sites like MySpace or Facebook have a lot of common characteristics that allow users to create an account, to upload their photos, to make comments on others' profiles and photos, to create offline networks, to meet strangers, to articulate and make visible their social networks. Robyler and Wiencke (2003) propose five components of social networking sites: socially-designed interaction, instructionally-designed interaction, interactivity affordances of technology, affordances of technology and instructor engagement. Social networking sites provide users with great opportunities to enhance

social interaction with others by means an overall engagement in an instructional setting. With this perspective in mind, Özkan and McKenzie (2009, p. 2) compile general characteristics of social networking sites under eight dimensions.

1. Most of the social networking sites provide multiple services to users such as email, instant messaging, chat, video, blogging, file sharing, photo-sharing, etc. so users can easily interact with each other.
2. Social networking sites provide a database of users so people can find their friends, form communities, and connect with others who share similar interests with them.
3. Most social network services allow users to create their profiles online and articulate their social networks.
4. The majority of social networking services are free of charge. Or, users can connect with each other at a very low cost.
5. Although there are currently hundreds of social networks, Boyd and Ellison (2007) emphasize the fact that

> most sites support the maintenance of pre-existing social networks, but others help strangers connect based on shared interests, political views, or activities. Some sites cater to diverse audiences, while others attract people based on common language or shared racial, sexual, religious, or nationality-based identities. Sites also vary in the extent to which they incorporate new information and communication tools, such as mobile connectivity, blogging, and photo/video-sharing (Boyd & Ellison, 2007, p. 2).

6. Most of the social networks regularly add new features based on user feedback. In the same line, open source versions allow users to develop their own applications and incorporate them into the social networking site.
7. Most services allow users to set up their own access and privacy rules. To what degree users would like to share their information with the outside world is based on users' choice.
8. Boyd and Ellison (2007) argue that the rise of social networks shifted the focus from content, topic or interest based first generation online communities to individual-focused, personal online communities.

2.2.2 Benefits and Challenges

Lee and McLoughlin (2008), though not specifically for social networking, offer certain benefits of Web 2.0 technologies such as social support and accessibility, discovery through cooperation and sharing, content formation, and developed autonomous skills. Once social networking is taken into account, the aforementioned dimensions have a closer tie with the social aspect of learning in a way. Furthermore, it is possible that learners develop their independence skills by being actively participant in their own learning processes irrespective of their location. Ajjan and Harsthone (2008), based on their research study, offer very similar benefits of social networking sites in educational settings. First, it increases students' learning to a great extent. Second, it facilitates interaction between the teacher-students, and students-students. Third, it makes students more motivated for the classes. Fourth, it develops students' writing skills. Finally, it makes easier for students to get involved in the learning process. Related to those benefits, some research studies (Norris, 2002; Resnick, 2001; Wellman, Hasse, Witte, & Hampton, 2001) postulate that social networking sites are very influential in fostering connections between participants, thereby supporting a wide ranging of relationships. A study in the University of Minnesota focused on the educational benefits of social networking sites such as MySpace and Facebook. Arguing that very few students were actually aware of the academic and professional networking opportunities that the web sites provide, the study concluded that social networking sites offer more than just social fulfillment or professional networking (http://www.sciencedaily.com). Furthermore, social networking sites offer students the valuable opportunities to create a positive self-image. The profiles gives you a chance to create the image of themselves that you want people to see by putting you best qualities "out there". Mazer, Murphy and Simonds (2007), based on the results of their experimental study, looked at the effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. The research concluded that teacher self-disclosure may lead students to higher levels of anticipated motivation and affective learning and create a more comfortable classroom climate. Investigating the adoption of Web 2.0 tools by educators, Ajjan and Harsthone (2008) reached the conclusion that social networking tools increased students' learning, the interaction between students and teachers, and the integration of various applications into learning processes. Yet another study conducted on the use of Facebook by college

students underlined five crucial dimensions: reflecting of university experiences, sharing the practical information, sharing the academic knowledge, sharing pictures and links, and creating new connections with others (Selwyn, 2007a, 2007b). Lockyer and Patterson (2008), based on their study where students learned the content through a social networking site, lament that their motivation to use social networking is so high and that those who use such sites for the first time benefit from them a lot. In Turkish context, Mazman (2008) investigated the adoption process of social networking and their usage in educational contexts. Using a survey design method, she concluded that % 50 variance of educational usage of Facebook is explained by Facebook adoption and purposes of Facebook usage together. In other words, the research indicated that Facebook is accepted as a social networking tool in educational settings. Taking a further step, Usluel and Mazman (2009) offer a model based on social networking tools. Instead of adopting merely one perspective, they take certain dimensions like social factors, ease of use, benefits and innovations, image, facilitative factors.

As for challenges, social networking sites receive a lot of criticism from their users worldwide. Thus far, there have been certain attempts to ban the use of social networking in some schools in the USA. To illustrate, a school principal in New Jersey recently sent a letter to parents asking them to completely remove their children from any social networking sites and to keep close tabs on their text messaging habits. Anthony Orsini, the principal of Benjamin Franklin Middle School in Ridgewood, sent a long email to parents indicating that kids should be "not allowed to be a member of any social networking site." Orsini's main concern about social networking is that it causes psychological damage to students who are being cyber-bullied. While rumors were once a thing that would cause problems for students in a small group, social networks ensure that harmful bullying is spread across the entire student base like wildfire. The school's guidance counsellor brought this to the attention of the principal, noting that 75 % of her day is spent on social networking issues **(**Brody & Coutros, 2010). Professor Clifford Nass, one of the researchers whose findings are published in the Aug. 24 edition of the Proceedings of the National Academy of Sciences, allege that multitaskers are suckers for irrelevancy and that social networking distracts their attention. His research study concluded that "people who are regularly bombarded with several streams of electronic information do not pay attention, control their memory or switch from one job to another as well as those who prefer to complete one task at a

time" (Leonard, 2009, p. 1). Finally, Lady Greenfield, a professor of University of Oxford, mentions the negative effects of popular social networking especially Facebook on individuals. Such causes are characterized by short attention spans, sensationalism, inability to empathize and a shaky sense of identity among children (Lacy, 2009).

2.2.3 Educational Theories behind Social Networking

Ferdig (2007) state that active learning, social learning, and cooperative learning constitute the very educational values of social networking. Furthermore, Barlett-Brag (2006) underline that social networking is the best place for constructivist approach and critical thinking in educational settings. Selwyn (2007a, 2007b), Albion (2007) and Pettenati and Ranieri (2006) put an emphasis on informal learning as well as communities of practice in relation to social networking. As far as social networking is concerned, there are, obviously, certain learning theories that can be associated with social networking in educational settings.

The concept of informal learning is all that is learned throughout life in day-to-day processes at home, work and leisure (Mason & Rennie, 2007). Cross (2007) alleges that informal learning is responsive to learners and and that it is not the opposite of formal learning so much as a different range on the spectrum of all learning. Described by Livingstone (1999, p. 51) as "any activity involving the pursuit of understanding, knowledge or skill which occurs outside the curricula of educational institutions, or the courses or workshops offered by educational or social agencies", informal learning refers to all kinds of learning that occurs outside the curriculum of formal or informal institutions. Employing two main categories namely intentionality and consciousness, Schugurensky (2000, p. 2) offers three various forms of informal learning. Self-directed learning refers to "learning projects undertaken by individuals (alone or as part of a group) without the assistance of an educator (teacher, instructor, facilitator) but it can include the presence of a resource person who does not regard himself or herself as an educator". Incidental learning is defined as "learning experiences that occur when the learner did not have any previous intention of learning something out of that experience, but after the experience she or he becomes aware that some learning has taken place". Socialization refers to the internalization of values, attitudes, behaviors, skills that occur during everyday life. Once the characteristics of informal learning are considered, it is

evident that new technologies, more specifically social networking, create great opportunities for learners to experience this kind of learning. Bartlett-Bragg (2006) underlines that new technologies facilitate the design of online communication and information exchanges to empower the learners and create an enriched social learning landscape. Likewise, the use of social networking supports the development of informal learning in that it keeps learners busy doing variety of things on their own, raises their awareness and shapes their thinking frames (Gillet, El Helou, Chiu Man, & Salzmann, 2008). Finally, Selwyn (2007a) pinpoints that there is a need for educators to be wary of simply importing informal Web 2.0 application into classrooms on the presumption of transforming formal education into informal learning processes. It is widely believed that the reason why Web 2.0 applications receive much enthusiasm in educational settings is because they reflect daily life, contain spontaneous relationship, and trigger the knowledge creation and sharing very properly.

Another educational theory behind social networking, cooperative learning can be described as "a set of processes which help people interact together in order to accomplish a specific goal or develop an end product which is usually content specific" (Panitz, 1996, p. 2). As an inevitable consequence of the shift from teacher-centered instruction to learner-centered instruction, teachers tend to share the authority with their own learners, which fosters the development of collaboration and cooperation between learners and the teacher. In this connection, the use of web technologies at the service of education allows learners to access any kind of information, ideas, documents, and experiences regardless of the border and the time. This, without a doubt, triggers collaborative learning among learners (Frederick, Lillie, Gordon, Watt, & Carter, 1999). In addition, the second generation net tools like blogs, wikis, podcasts, RSS and social networking sites have a great contribution to collaborative learning environments where learners co-work on different kinds of projects (Selwyn, 2007a).

The term, communities of practice, was first used by Lave and Wenger (1991, cited in Lave & Wenger, 1998, p. 22) to refer to "the process of social learning that occurs when people who have a common interest in some subject or problem collaborate over an extended period to share ideas, find solutions and build innovations". By extending the concept and applying it to other contexts, Wenger (2006, p. 1) describes communities of practice as "groups of people who share a

concern or a passion for something they do and learn how to do it better as they interact regularly". According to Wenger (2006), communities develop their own practice through a variety of activities including problem solving, requests for information, and seeking experience. These communities are mostly informal and distinct from organizational units (Wenger, 1998). In line with the tendency that learning is no longer seen as "the acquisition of knowledge within the mind of an individual, but as the movement from peripheral to full participation in a community of practice" (Wubbels, 2007, p. 226), Gray (2004) investigated to what extent participants' experiences in an online environment constituted a community of practice. His research alleged that online communities were not only tools for informal learning but they also played a key role in shaping both participants' own identity as practitioners, but the identity of the practice itself (Boyd & Ellison, 2007; McBride, 2009; Pettenati & Ranieri, 2006). In this regard, social networking has extended the reach of the interactions beyond the geographical limitations of traditional communities. This, in turn, may allow for the exploration of communities of practice in educational settings.

2.2.4 The Role of Social Networking in Teacher Education

As the popularity of social networking is growing each day, educators are not neutral to the development of new technologies. While some feel that this is an invasion of the students' privacy by labeling this "creepy treehouse" practice (Abel, 2005), others feel that it is an intelligent use of current technologies in the classroom. Several institutions are beginning to recognize that the currently enrolled undergraduate student body is also increasingly Web 2.0 proficient. Therefore, they find several ways to express themselves, the most important of which has been the use of Web 2.0 tools to teach future school students. Like in other areas of higher education, teacher education has begun to consider the implications of Web 2.0. Teacher education is approaching Web 2.0 on two fronts: a) application to enhance learning in the process of teacher preparation or professional development b) application to classrooms where teachers are expected to use Web 2.0 tools with learners (Albion, 2007). In this respect, Voithofer (2007) argues that teaching through social networking and Web 2.0 technologies can result in greater awareness for pre-service teachers about the technical and pedagogical characteristics of educational technology, the social aspects of educational technology, and how to think about emerging technologies in relation to teaching. In the case of

social networking in teacher education, there are certain implications for teacher educators. Sharing experiences, collaborating, researching and updating one's knowledge are vital actions to cope with the new changes and to overcome the overwhelming issues. Furthermore, sustaining professional development can also be achieved through joining social networks and being willing to employ new technological developments. Moore and Chae (2007), based on their research study, found out that most beginning teachers used online resources and communities at a very superficial level. They had little apparent use for communications beyond email with existing contacts, and had limited interaction with online communities. Saunders (2008) indicates that Facebook helped shape personal and vocational identity of student teachers as well as to enable them to construct a network of teachers in a very cooperative sense. Rebecca, Howell and Jennifer (2008) examined the use of Facebook by student teachers over a period of time. They aimed at investigating the possible dimensions of using Facebook over the period of teaching practice in terms of adoption, positive and negative aspects, and the interaction between learners. Discussion topics were set up, some of which were requested by a member of the group via email to the administrator/lecturer. The posts to the discussion topics were coded into five broad themes. The posts were grouped according to identifiable themes which were named Other, Excitement, Problem, Joke and Solution. The nature of social networks is collaborative, flexible, and borders between categories that are contingent by nature. Such interconnectivity of technologies may "allow teacher education programs to provide better integration and continuity across multiple courses" (Voithofer, 2007, p. 16).

In line with this existing situation, more and more institutions worldwide are developing their own social networking sites (such as Pennster of the University of Pennsylvania). Teacher education programs consider adopting such campus-based social networking sites as safer and more convenient options to free access sites (Özkan & McKenzie, 2009). In research literature, there are a few studies on how students feel about their professors having profiles on social networking sites (Hewitt & Forte, 2006; Lampe, Ellison, & Steinfield, 2007; Mazer, Murphy, & Simonds, 2007). The most important of all of these is the study carried out by Hewitt and Forte (2006). Based on the findings of their research study, Hewitt and Forte (2006) allege that contact with the professor on the Facebook had neither a significant positive nor negative affect on

students' ratings. All in all, social networking tools enable teachers to easily learn from people throughout the world as they are globally connected to people who share resources, ideas, advice, suggestions and techniques. Moreover, they promote communication, cross-cultural understanding and peace. As far as Turkish context is concerned, there is only one study available on the use of social networking sites in teacher education. Arıkan (2009) investigated the rationale behind prospective English language teachers' use of SNSs, the linguistic and pedagogical outcomes of their SNSs activities and to what extent their SNSs activites affect their perception of other cultures and groups. The results of the study indicated that most prospective English language teachers do not consider SNSs activities pedagogically beneficial, but daily usage.

2.2.5 Facebook

Even though there are numerous social networking sites available online, Facebook, in particular, has become hugely popular since its inception in 2004. Facebook, perhaps one of the most striking realizations of the possibilities of Web 2.0 technologies, is an inevitable part of students' lives now. Facebook is a global social networking website that is operated and privately owned by Facebook, Inc. Founded by Mark Zuckerberg in 2004 in Harvard. Facebook is described as a "social utility that connects people with friends and others who work, study and live around them" (Facebook, 2010, p. 1). Upon its foundation in 2004, Facebook and its core idea spread across the dorm rooms of Harvard where it was very well received. Soon enough, it was extended to Stanford and Yale where, like Harvard, it was widely endorsed. Only months later when it was officially a national student network phenomenon, Zuckerberg and his then partner Moskovitz dropped out of Harvard to pursue their dreams and ran Facebook full time. In August 2005, the facebook was officially called Facebook and the domain facebook.com was purchased for a reported $200,000. Its revenue is 700 million USD as of September, 2010. As for applications, more than 2 billion photos and almost more than 14 million videos are uploaded to the website each month (Cassidy, 2006). As an international phonemena, it is now available on more than 70 different languages. Users can join networks organized by city, workplace, school, and region. The website's name stems from the colloquial name of books given at the start of the academic year by university administrations with the intention of helping students get to know each other better (Facebook About, 2010). It allows users to add friends and send

them messages, and update their personal profiles to notify friends about themselves. As of November 2010, there are more than 500 million users registered now and Facebook would be the third-densely populated nation in the world. 50 % of the members log on to Facebook any given day (Facebook, 2010). An average user has 130 friends on the site, and people spend over 500 billion minutes per month on Facebook. As for the activities on Facebook, there are over 160 million objects that people interact with (pages, groups and events). An average user is connected to 60 pages, groups and events. Professor BJ Fogg, who lectures The Psychology of Facebook at Stanford University, thinks that "Facebook has altered the way people perceive the world" (Shiels, 2009).

Facebook today is used especially by university students to articulate existing offline social connections as well as forge new ones (Lacy, 2008). In other words, it is like social glue for university freshmen. From an educational perspective, the social aspect of Facebook is what makes it fun and speeds up the learning process. Students constantly communicate about their lives, opinions, interests, and school work. Two-thirds of students surveyed in one study were "comfortable" with faculty on Facebook (Hewitt & Forte, 2006) and another study found that 39 % of college students surveyed wanted regular on-line discussions with faculty (Fischman, 2008). In addition to high usage rates and technological advantages, social networks can provide numerous other pedagogical advantages to both teachers and students. To illustrate, Facebook provides instructors opportunities and structures by which students can help and support one another whenever is needed. Facebook also increases both teacher-student and student-student interaction in the form of web-based communication. Facebook helps instructors connect with their students about assignments, upcoming events, useful links, and samples of work outside of the classroom. Students can use Facebook to contact classmates about questions regarding class assignments or examinations as well as to collaborate on assignments and group projects in an online environment. Building on the face-to-face teacher-student relationship, social networking allows students to glimpse instructor profiles containing personal information, interests, background, and friends which can enhance student motivation, affective learning, and classroom climate (Heiberger & Harper, 2008; Munoz & Towner, 2009; Wilson, Boe, Sala, Puttuswamy, & Zhao, 2009). With more than 4,000 institutions participating and nearly 14 million registered users as of November 2010, Facebook has become the ubiquitous online

social network for higher education. Approximately 14 million students from over 4,000 colleges and 34,000 high schools use Facebook to post personal information such as pictures, hobbies, and messages to communicate with fellow students and instructors, friends and family. This social network is unique from others (e.g., Friendster and MySpace) in that it serves to connect students and faculty within and across an academic community. Facebook along with other social networking sites can be employed as a potential facilitator of learning through the interaction with social networking. Gross and Acquisti (2005) believe that Facebook, among online social networks, stands out for three reasons: its success among the college crowd, the amount and the quality of personal information users make available on it, and personal identification of information. Accordingly, Facebook is of interest to researchers in two respects: a) as a mass social phenomenon in itself b) as an unique window of observation on the privacy attitudes c) the patterns of information revelation among young individuals (Gross & Acquisti, 2005). In a very recent study conducted with 900 college students and graduates in the University of Texas, the researchers conclude that Facebook is not spupplanting face-to-face interactions among friends, family and colleagues. On the contrary, this social networking site affords opportunities for new expressions of friendship, intimacy and community (Janus, 2010). This finding is highly critical as sociologists and psychologists believe that Facebook makes individuals alone. However, the research findings suggest that it is not the case.

To sum up, in consistent with the changing landscapes of instruction in the 21st century, social networking has become an inevitable supporter of the learning process by encouraging digital natives (Prensky, 2001) to internalize the knowledge. Next section is concerned with autonomy including various aspects of the concept.

2.3. Autonomy

This section is concerned with the concept of autonomy in a comprehensive way. After a rigorous examination of theoretical foundations of autonomy, this section explores autonomy in teacher education, more specifically the place of teacher autonomy in reflective approach and pre-service English language teacher education.

2.3.1. Theoretical Foundations

There are several theoretical foundations that have very close ties with autonomy in a variety of ways. Mostly constructivist theories of learning in education play a key role in helping understand the concept of autonomy. To start with Dewey, who greatly influenced the modes of thinking in different phases of education, he believed that the primary purpose of education should be to prepare learners to take an active part in both social and political life by having them gain the skills and attitudes they need for democratic social participation (Dewey, 1916). As is easily seen from his remarks, education should aim at preparing individuals for life in a way that enables them to survive in the environment they have to live. What is highly emphasized here is that students ought to take responsibility for their own social and political lives. Constructivism, simply defined as "a cluster of approaches which hold that knowledge cannot be taught but must be constructed by the learner" (Candy, 1991, p. 252), has close ties with autonomy because if a learner is encouraged to construct his/her own learning, s/he is somewhat involved in an autonomous learning process. In positivist terms, knowledge is seen to be discovered and taught. Unlike this, constructivism sees learning as a reorganization and restructuring of experience (Candy, 1989). In other words, constructivism is based upon the view that learners bring their own personal meanings to their worlds. In this sense, Piaget, Kelly, Bruner and Vygotsky have been more influential in the formulation of constructivism in educational history. Kelly (1955), who developed "personal-construct theory", viewed the learning process as a constant attempt to make sense of an individual's world. Learning is more like "involving learners making their own sense of information or events" (Williams & Burden, 1997, p. 27). Learners are likely to display more success than ever through the personal experiences they bring to their own worlds (Benson, 2001; Little, 1991; Schwienhorst, 1997). Little (1991) argues that personal construct provides the learners

with the ability to take control of their own learning in two ways. First, it provides a justification for the promotion of autonomy in terms of the operation of normal psychological processes. Second, it highlights the difficulties involved in the process of fostering autonomy. Piaget (1965) also maintained that the ultimate aim of education is for the individual to develop the autonomy of thought to create new, original ideas rather than just recycle old ones. Vygotsky, on the other hand, believes that social interaction is influential in language development. Emphasizing the importance of language in interacting with people, Vygotsky (1978), in his theory of the zone of proximal development, stated that the idea of collaboration is a key factor in the development of autonomy. According to Vygotsky, the learner should be at the center of learning process, which allows him to move from interdependence to independence in time (Benson, 2001, p. 14). According to Tort-Moloney (1997), with the emphasis on the social dimension of autonomy, the teacher's goal must be, in Vygotskian terms,

> to create and understand the mechanisms of the zone of proximal development in which learner and instructor carry out different functions, both of which contribute to learning which is more beneficial than could be achieved either by the spontaneous efforts of the learner alone or by the mere transmission from instructor to learner of the principles of a second language (Tort-Moloney (1997, p. 9).

Bruner (1966) incorporated knowledge in a personal framework, stating that knowing and thinking develop with experiences, placing emphasis on the individual as a self-realizing being, and stressing the importance of self-concept and affective factors in learning. This insight triggers the development of autonomy in educational context. As easily recognized in the applications of constructivism, the greatest impact of this learning theory on the idea of autonomy would be that autonomy has borrowed the idea "effective learning is active learning" (Benson, 2001, p. 40) from constructivism.

2.3.2. Autonomy in Teacher Education

This section features autonomy in teacher education. Within this perspective, there are three main issues to be covered in this section. It presents teacher autonomy, reflective approach in EFL teacher education, and fostering teacher autonomy among teacher trainees.

2.3.2.1. Teacher Autonomy

Just like the concept of learner autonomy, teacher autonomy too is a complex construct on which educators have yet to reach a consensus. It is both a multifaceted and confusing concept. The literature on teacher autonomy has a number of accounts of teacher education practices (Aoki, 2002; Aoki & Hamakawa, 2003; Lamb, 2000; McGrath, 2000; Munoz, 2007; Nunan & Lamb, 1996; Ratnam, 2007; Schalkwijk, Van Esch, Elsen, & Setz, 2002; Smith, 2000; Thavenius, 1999; Usma, 2007; Vieira, 2003, Vieira, Paiva, Marques, & Fernandes, 2008). Whereas certain educators take the term from a strict political view (Brown, 1995; Einolf, 2002; Hite, 2005), others do have a more psychological account (Parr, 2006; Smith, 2006). There is "no easy definition to operationalise teacher autonomy" (Lamb, 2008, p. 280). Various researchers have done a great many research studies that scrutinize this compelling construct by specifically looking at school policy (Anderson, 1987; Hara, 2006), decision making process (Friedman, 1999), instructors' perspectives (Garvin, 2007; Reigle, 2008), work environments (Pearson & Moomaw, 2006; Wilson, 1993), organizational climate (LaCoe, 2006; Osei, 2006), and curriculum (Dymoke & Harrison, 2006; Katz, 2005;). In the field of language learning/teaching, teacher autonomy, surprisingly enough, is not given as much weight as it should by teacher educators. Autonomy researchers, however, have produced only a few studies on teacher autonomy (Smith, 2003; Smith & Erdoğan, 2008).

Since researchers take the concept of teacher autonomy from a multidimensional perspective, it is difficult to define "teacher autonomy" properly. In other words, there is no definite understanding of what teacher autonomy refers to in pre-service teacher education (Aoki, 2002; Brown, 1995; Einolf, 2002; Hite, 2005; Huang, 2005; Smith, 2008). As an inevitable result of this situation, one can encounter great many varying definitions from one person to another, one insight to yet another. In the autonomy literature, for more than 15 years, the concept of teacher autonomy has been frequently connected with language learner autonomy, yet not many attempts to define the concept clearly have managed to make the term clear enough. Here varying definitions of teacher autonomy are given in the historical order. It was Street and Licata (1989) who first described teacher autonomy as "teacher's feelings of independence from the institution in making instructional decisions with the classroom". This definition shows

that teacher autonomy is viewed as a kind of independence from the institution when instructional decisions such as choosing the textbook to follow, teaching strategies to employ and classroom rules to obey are concerned. Pearson and Hall (1993, p. 172) viewed teacher autonomy as "the right of teachers to manage themselves and their job environment". Shaw's definition of teacher autonomy is "the capacity to take control of one's own teaching" (2002, p. 2). Unlike the first two definitions proposed above, Shaw seemed to exclude the school factor and put the very emphasis on the teacher. Before moving on the definitions more specifically in the context of ELT, it would be wise to refer to Little (1995) who stated that "genuinely successful teachers have always been autonomous in the sense of having a strong sense of personal responsibility for their teaching" (p, 179). That is, autonomous teachers and successful teachers are very similar to one another greatly. McGrath (2000), defines teacher autonomy in a more comprehensive way. He mentioned two discrete dimensions of teacher autonomy: a) "teacher autonomy as a self-directed professional development" b) "teacher autonomy as freedom of control by others" (McGrath, 2000, p. 101-102). What is important here is that the first dimension is more concerned with the psychological perspective, while the second one offers a more political one. Following McGrath, Aoki (2002, p. 111) defined teacher autonomy, in her remarks by analogy, as "the capacity, freedom, and/or responsibility to make choices concerning one's own teaching" even though she herself finds this definition a bit problematic because of the limited scope of the definition. Smith (2003; 2006) and later Smith and Erdoğan (2008) prefer to use teacher-learner autonomy. According to Smith and Erdoğan (2008, p. 83), teacher/learner autonomy is "the ability to develop appropriate skills, knowledge and attitudes for oneself as a teacher, in cooperation with others" (Smith & Erdoğan, 2008, p. 83). Drawing on Benson's argument for the sound definition of learner autonomy, Huang (2005, p. 206) focused on three terms willingness, capacity, and freedom to formulate his own working definition of teacher autonomy "teachers' willingness, capacity and freedom to take control of their own teaching and learning". Jimenez Raya, Lamb and Vieira (2007, p. 1) provided a definition "the competence to develop as a self-determined, socially responsible and critically aware participant in (and beyond) educational environments, within a vision of education as (inter) personal empowerment and social transformation". After a rigorous examination of the definitions in the literature, Ling (2007, p. 96) offered his own understanding of teacher autonomy as "an insight, a positive attitude, a capacity for reflection in teaching, and a readiness to promote the

learner to be more independent and to take control over his/her own teaching". During the course of a significant amount of time, educators have proposed different definitions by especially focusing on what they believe the most important component in teacher autonomy. Nonetheless, there seem to be common-grounded terms that pertain to almost each definition provided above. They are "willingness", "capacity", "freedom", "control", "responsibility", and "independence". It is a common belief that the term "teacher autonomy" may be used in a variety of ways, with different dimensions or components emphasized.

The dimensions of teacher autonomy were little mentioned to make the definition more obvious. It was McGrath (2000) who proposed that teacher autonomy be used with different dimensions that pertain to "self-directed professional development" and "freedom of control by others". Focusing more on "processes in the teacher" (Little, 1995), McGrath (2000, p. 100-101) employed two important dimensions so as to define teacher autonomy clearly. First, he took teacher autonomy as "self-directed professional development". This first perspective takes a number of strands including teacher as researcher (Stenhouse, 1975), action research (Bustingorry, 2008; Moreira, Vieira, & Marques, 1999), reflective teacher (Schön, 1983; Wallace, 1991), and teacher development (Head & Taylor, 1997). This perspective of teacher autonomy has close connections with the careful consideration of teachers based upon their teaching experiences. Second, McGrath (2000) viewed teacher autonomy as "freedom of control by others". Here, as opposed to the first one, he took a more mechanical perspective like "the shift of the locus of control over teachers' work from themselves to centralized bureaucracies" (Breen & Mann, 1997, p. 140). Similarly, McGrath (2000, p. 101) categorized constraints on teacher autonomy as "macro" (decisions taken outside the institution, over which teacher will normally have no control) and "micro" (institution-internal decisions, which the teachers should be in a position to influence). Smith (2003) and later Smith and Erdoğan (2008) reconceptualized "teacher/learner autonomy" by offering two broader dimensions: a) "teacher/learner autonomy in relation to professional action" b) "teacher/learner autonomy in relation to professional development" (2003, p. 4). Smith's reconceptualization of dimensions of teacher autonomy is as follows.

1- In relation to professional action	
A- Self-directed professional action	= Self-directed teaching
B- Capacity for self-directed professional action	= Teacher autonomy (1)*
C- Freedom from control over professional action	= Teacher autonomy (2)**
2- In relation to professional development	
D- Self-directed professional development	= Self-directed teaching-learning
E- Capacity for self-directed professional development	= Teacher-learner autonomy (1)*
F- Freedom from control over professional development	= Teacher-learner autonomy (2)**

* "teacher autonomy as self-directed professional development"

** "teacher autonomy as freedom from control by others"

A few clarifications need to be made in relation to the dimensions above. Smith (2003) and later Smith and Erdoğan (2008) commented on the reconceptualization of teacher autonomy with the dimensions involved as follows.

- "A" and "D" should be avoided if consistency is to be maintained for the meaning of autonomy (capacity for and willingness to engage in self-direction).
- "B" and "E" involve a more technical and psychological interpretation of autonomy, while "C" and "F" include more political dimensions.
- Professional development is a sub-set of "professional action". Therefore, the term "teacher-learner autonomy" can be more acceptable when the primary focus is on professional development.

"C" and "E" refer to the most widely accepted sense of the term "teacher autonomy" in the general education literature. The dimensions, which are more related to a political view, are not the new ones because a lot of studies have been conducted on this perspective to date, which is beyond the scope of the current study. However, "A" and "B" and "D" and "E" might be considered to be connected to "teacher autonomy as the capacity to self-direct one's teaching" (McGrath, 2000; Thavenius, 1999; Vieira, 1999a, 1999b, 2002), and "teacher autonomy as capacity to self-direct one's learning as a teacher" (Smith, 2000), which is what the study is more concerned with.

There is a common belief that learner autonomy is a prerequisite for effective language learning (Benson, 2001, 2007; Dam, 1995; Little, 1991; Little, Ridley, & Ushioda, 2003; Thavenius, 1999). As far as the development of learner autonomy is concerned in class, there seems to be a general consensus that "it is the teacher's responsibility to develop learner autonomy" (Dam, 1995, p. 79). There are possible links between teacher and learner autonomy in language learning/teaching (Breen & Mann, 1997; Cotterall, 1999; Cotterall & Crabbe, 2008; Little, 1991, 1994, 2007; Shaw, 2005; Stewart, 2003; Usma & Frodden, 2003). As Little stated (1995), the development of learner autonomy depends on the development of teacher autonomy in two senses. First, it is unreasonable to expect teachers to foster the growth of autonomy in their learners if they themselves do not know what it is to be an autonomous learner. Second, in determining the initiatives they take in the classroom, teachers must be able to exploit their professional skills autonomously, applying to their teaching those same reflective and self-managing processes that they apply to their learning. More than ten years later, Little (2007, p. 27) added yet another requirement that "teachers must learn how to produce and manage the many varieties of target language discourse required by the autonomous classroom". He raised the question of how teacher educators can achieve this. In addition to the requirements mentioned above, Smith (2001, p. 43) maintains that "teachers need to constantly reflect on their own teaching role in the classroom, monitoring the extent to which they constrain or scaffold students' thinking and behavior". Similarly, Vye, Stephenson, Skier, Koyama, Ishikawa and Bodwell (2002) accentuate the process of exploration of how language teachers can foster learner autonomy. Furthermore, language teachers are expected to develop the flexibility to use teaching approaches which are the most appropriate for their given contexts. Smith (2001, 2003) and later (Smith & Erdoğan, 2008) took a further step towards teacher autonomy and believed "one of the privileged conditions for the promotion of pedagogy for autonomy with language learners" and "an important goal in its own right", which constitute the very basic of autonomy in foreign language teacher education contexts

Somewhere earlier we made a claim that successful teachers have always been autonomous, especially in relation to Little's statement in 1995. Barfield et al. (2001) suggest that the possible characteristics of autonomous teachers may involve:

- Negotiation skills;

- Institutional knowledge in order to start to address effectively constraints on teaching and learning;
- Willingness to confront institutional barriers in socially appropriate ways to turn constraints into opportunities for change;
- Readiness to engage in lifelong learning to the best of an individual's capacity;
- Reflection on the teaching process and environment;
- Commitment to promoting learner autonomy.

In light of these characteristics, one can easily assume that an autonomous teacher works with his or her learners openly and accountably in ways that will best stimulate their learning. In other words, they are open to negotiate with their students in order to resolve the constraints on teaching/learning processes.

2.3.2.2. Reflective Approach in EFL Teacher Education

In everyday language, reflection is considered to be a kind of thinking (Gilpin, 1999, p. 109). The definition of reflection is likely to vary from one person to another (Dewey, 1933; Schön, 1983, 1987, 1991; Wallace, 1991). However, there are certain insights about what constitutes "reflection". Dewey (1933, p. 12), who himself preferred to use the term "reflective thinking, defined this term as "…a state of doubt or hesitation in which thinking originates in the practice situation, and an act of inquiry to find material that will resolve the doubt and dispose of the perplexity". For Dewey, open-mindedness, a sense of responsibility and wholeheartedness or dedication was central to the potential development of a reflective practitioner (Harford & MacRuairc, 2008, p. 2). Gilpin (1999, p. 110), on the other hand, described reflection as "thinking about the strategies to be used to change a situation, innovate etc. using the results to inform the on-going process". Some others describe reflection as involving actions such as problem solving, comparing and contrasting competing perspectives, and deriving reasoned instructional decisions. Related to the necessity of reflection, Dewey (1933) believes that

> Reflection is an important human activity in which people recapture their experience, think about it, mull it over and evaluate it. It is this working with experience that is important in learning. The capacity to reflect is developed into different stages in different people and it may be this ability which characterizes those who learn effectively from experience (Dewey, 1933, p. 36).

When it comes to teacher education, reflective teaching has been a concept that is "entrenched in the literature and discourses of teacher education and teachers' professional development" (Ottesen, 2007, p. 31). Teacher educators describe reflection or reflective practice as a tool for engaging student teachers in examining their prior experiences and beliefs, resolving conflicts, and drawing connections between theory and practice in light of new learning (Bainer & Cantrell, 1992; Galvez-Martin, Bowman, & Morrison, 1996; Galvez-Martin, Bowman, & Morrison, 1997). Wallace mentioned three kinds of teacher education models: 1) Applied Science 2) Craft Model 3) Reflective Teaching. Applied Science is the traditional and the most common model used in most training and education programmes and viewed as teaching the solving of pedagogical problems through active inquiry and experimentation. As for the Craft Model, the professional practitioner is the craft and the trainee teacher learns teaching by watching, imitating and following the instructions of the expert. As opposed to these two teacher education models (Wallace, 1991), reflective teaching is more effective in that it offers "observing, examining, evaluating skills as the process of teacher's thinking critically about what happens in the classroom" (Brookfield, 1995; Harford & MacRuairc, 2008; Hatton & Smith, 1995; Osterman & Kottkamp, 2004; Ur, 1996; Wallace, 1991). Reflective abilities are critical to the development of pre-service teachers. Schön was one of the first pioneers in reflective teaching along with his contributions to the field. Reflective practice "involves thoughtfully considering one's own experiences in applying knowledge to practice while being coached by professionals in discipline" (Ferraro, 2000). Schön (1983, 1987, 1991, 1995) introduced the concepts of "reflection-in-action" and "reflection-on- action". To clarify, reflection-in-action is concerned with thinking about what we are doing in the classroom while we are doing it; and this thinking is supposed to reshape what we are doing. Reflection-on-action, on the other hand, can be thought of "as the process of making sense of an action after it has occurred, and possibly learning something from the experience that extends one's knowledge-base" (Schön, 1983, 1987, 1991). Schön (1991) offered the concept "reflection-in-practice". What he meant by this is that a teacher's performance is internalized on the basis of the practice he undergoes. It is more like the issue of automatisation in a way that the practitioner gets used to various kinds of teaching situations. Knowing-in-practice "tends to become increasingly tacit, spontaneous and automatic and is likely to develop through expertise in time" (Schön, 1991, p. 60). However, one possible negative drawback is that this cycle can inhibit teachers to

consider more about the teaching process and gain valuable insights on teaching. Wallace (1991) offered a conceptual framework of reflective practice by getting inspired by the previous works of Dewey, Schön and many others. He proposed that there are two kinds of knowledge concerning the way teachers get the input of teaching. Experiential knowledge can be defined in the following way. "The trainee will have developed knowledge-in-action by practice of the profession, and will have had, moreover, the opportunity to reflect on that knowledge-in-action" (Wallace, 1991, p. 15). As is easily seen, experiental knowledge is what trainee teachers go through during their teaching practices and how they reflect on those experiences. On the contrary, received knowledge refers to "the knowledge of field knowledge such as theories of language, learning and teaching as well as knowing in the target language at a professional level of competency" (Wallace, 1991, p. 15). That is, this sort of knowledge can be best summarised as any kind of information which might pave the way for real practice. Wallace offered the reflective model that combines experiential and received knowledge, practice, and reflection which leads teacher trainees to construct their own professional competence. Here is his proposed reflective model for foreign language teachers.

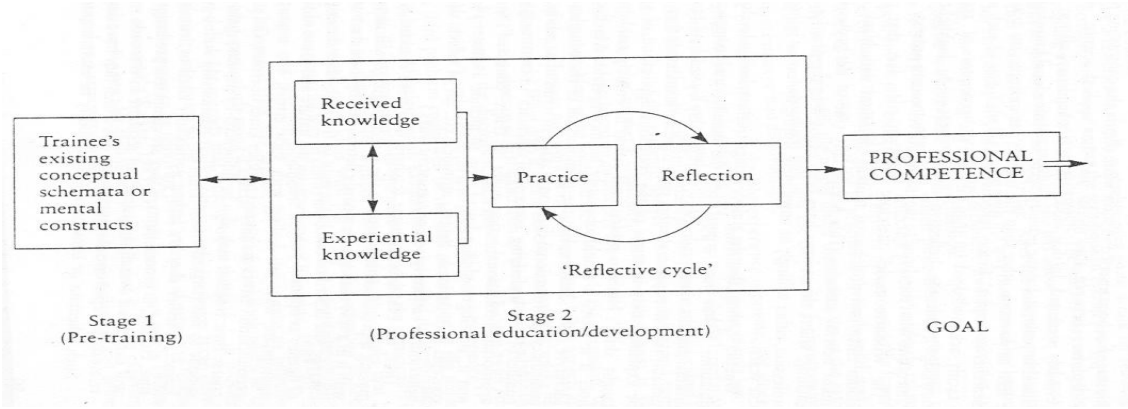

Figure 1: Reflective Model Proposed by Wallace (1991)

In conclusion, focusing on two dimensions only, Wallace (1991, p. 17) offered a very sound explanation of the implications for the training of foreign language teachers. In line with this model, it is pointed out that the teacher should seek ideas for new instructional strategies, insights into current practices, questions for further inquiry, and suggestions for improving research processes. Even though Wallace's reflective model has dominated the field of teacher education since it was first proposed, the model itself has received a lot of criticism in two ways. First, the reflective model does not

concentrate on received knowledge as much as it should have, which brings the issue of professional competence more than teacher trainee understands (Ur, 1996, p. 5-6). Second, reflective model should not be to reject or underestimate the theory, instead it should foster the practice the theory in a more practical manner (Akbari, 2007).

In relation to reflective approach in teacher education, Pollard (2005, p. 14) identifies seven key characteristics of reflective practice.

1. Reflective teaching implies an active concern with aims and consequences, as well as means and technical efficiency.
2. Reflective teaching is applied in a cyclical or spiraling process in which teachers monitor, evaluate and revise their own practice continuously.
3. Reflective teaching requires competence in methods of evidence based classroom enquiry, to support the progressive development of higher standards of teaching.
4. Reflective teaching requires attitudes of open-mindedness, responsibility and whole heartedness.
5. Reflective teaching is based on teacher judgment, informed by evidence-based enquiry and insights from other research.
6. Reflective teaching, professional learning and personal fulfillment are enhanced through collaboration and dialogue with colleagues.
7. Reflective teaching enables teachers to creatively mediate externally developed frameworks for teaching and learning.

In this regard, The National Commission on Teaching and America's Future (1996) declared that in order for teaching to be exemplary,

> Teachers must be able to think systematically about their practice and learn from experience. They must be able to critically examine their practice, seek the advice of others, and draw on educational research to deepen their knowledge, sharpen their judgment, and adapt their teaching to new findings and ideas (The National Commission on Teaching and America's Future, 1996).

As a consequence of the process where teachers are encouraged to monitor, evaluate and revise their own practice continuously, teachers are more likely to develop their awareness of their teaching, which can lead them to display more autonomous skills. The attitudes of open-mindedness, responsibility and wholeheartedness are essential for

teacher autonomy development. Collaboration and dialogue with colleagues play a key role in shaping a teacher's autonomous practice.

Related to reflective practice in align with (teacher) autonomy, all these attempts (Brookfield, 1995; Harford & MacRuairc, 2008; Richards & Lockhart, 1994; Osterman & Kottkamp, 2004; Schön, 1983, 1987, 1991; Wallace, 1991) have led the notion of reflective teaching, accompanied by collecting information on one's own teaching as the basis for "critical reflection" (Lamb, 2000), through the procedures like "self-monitoring, self and peer-observation, and portfolios" (Richards & Farrell, 2005, p. 7). Richards (1989) sees reflection as a key component of teacher development. Referring to self-inquiry and critical thinking which can help teachers move from a level where they may be guided largely by impulse, intuition, or routine, to "a level where their actions are guided by reflection and critical thinking" (Richards, 1990, p. 5), some writers related teacher autonomy with reflective teaching (Benson, 2001; Richards & Farrell, 2005; Smith, 2006; Smith & Erdoğan, 2008). Barfield et al. (2001) believe that reflective teaching lies at the center of teacher autonomy together with "critical reflective inquiry" (Smyth, 1989), "empowerment and dialogue" (Little, 1995). Since teacher autonomy contains a continual search for better answers to the different problems stemming from teaching/learning contexts, there is an obvious link between teacher autonomy and reflective teaching (Benson, 2001; Little, 1995; Richards & Farrell, 2005; Smith, 2006; Smith & Erdoğan, 2008). In a similar vein, Bartlett (1990) sees a connection that teacher autonomy seems to be very closely bound up with the notions of the "critically reflective teacher".

2.3.2.3. Fostering Teacher Autonomy in Pre-service Teacher Education

As far as autonomy is considered in relation to pre-service teacher education programs, Little (1995, p. 180) alleged that "language teachers are more likely to succeed in promoting learner autonomy if their own education has encouraged them to be autonomous". Language teachers without any autonomy-oriented training may experience difficulties in creating a classroom culture that fosters autonomy. Hence, the earlier language teachers who are in support of the principles of autonomous learning are made aware of the importance and necessity of learner autonomy in their initial teacher training, the more easily they will be able to implement this approach in their

own future classrooms. Several researchers (Burkert & Schwienhorst, 2008; Huang, 2005; Little, 1995; Sert, 2006) provide evidence that teachers who themselves are not autonomous learners may have a negative influence on the development of autonomy in their students. It is essential to underline how teacher autonomy can be seen as a legitimate goal of teacher education programmes. According to Smith (2003, p. 8), there are two basic reasons for this. First, the importance of reflective teaching has been recognized for some time now and it corresponds better with an overall insight "a capacity for self-directed professional action" Second, it allows student teachers "to gain better abilities and a greater willingness to learn for themselves in developing an appropriate expertise of their own" (Smith, 2003, p. 8). On the other hand, Barfield and Smith (1999) mention the role of in-service workshops and conferences designed for teachers' life-long language learning. Tschirhart and Rigler (2009) tried to develop learner/teacher autonomy through action research in line with technological innovations, one example of which would be LondonMet e-packs. Their research concluded that students enjoyed working with the e-pack, and believed that it made a significant contribution to the learning of the module. Besides, the students appeared to be able to exercise autonomy in different ways and to different degrees even though there were some drawbacks experienced with co-ordination online study by the students on the way. There are also action research (Benson, 2001; Erdogan, 2003), self-observations (Gebhard & Oprandy, 2005), peer observations (Dymoke & Harrison, 2006; Harmer, 2001), collaborative teacher-support groups (Schwienhorst, 1999), teaching portfolios (Richards & Schmidt, 2002) for this purpose.

Tort-Moloney (1997, p. 50) indicates that it is essential to "allow teachers to develop autonomous relationships of dialectical dependence on and independence from variables such as curriculum, research and classroom discourse, among other variables". In other words, fostering teacher autonomy is an issue that is not merely confined to teacher education they receive. It is a vital element that teachers become aware of "why, when, where, and how pedagogical skills can be acquired and used in the self-conscious awareness of teaching practice" (Tort-Moloney, 1997, p. 51). Teacher educators, at this point, need to develop an awareness of teacher trainees' teaching practice as well as possible constraints on their navigation of professional action/development, which is a key to development of teacher autonomy at pre-service teacher education. The relevant literature is replete with the studies especially focusing on teachers' fostering autonomy

among language learners. There is a general consensus that language teachers should be involved in autonomous learning processes during their initial teacher training (Burkert & Schwienhorst, 2008; Little, 1995; Sert, 2006). It may be the case that they tend to encourage their own learners' autonomous skills more confidently and competently. In the literature, there are certain studies which focus on teaching teachers how to foster autonomy (Jimenez, Lamb, & Vieira, 2007; Moreira, Vieira, & Marques, 1999; Vieira, 1997, 1999, 2002; Usuki, 2002). Researchers in the practice of teaching teachers how to foster autonomy propose a variety of approaches and concepts such as "pedagogy for autonomy" (Jimenez, Lamb & Vieira, 2007; Vieira, 2002), and "teaching how to foster autonomy" (Smith, 2003). Barbosa (2006) accentuates the importance of the process of being a teacher in the belief of pedagogy for autonomy in the school context. Very similarly, Vieira (2006, p. 24) believes that pedagogy for autonomy is always "a context-bound, never-ending struggle between conflicting discourses and practices, guided by ideals of empowerment and transformation". Drawing upon the current situation in which "there are teachers who are not conscious of the ideological implications of not working towards professional or learner autonomy" (Bobb-Wolff, 2007, p. 35), he puts a very strong emphasis on the importance of training teachers to foster autonomy. Vieira (2002) proposes a framework including two dimensions pertaining to teacher and learners' roles. Learner roles towards learner autonomy include four components that represent main role dimensions in a pedagogy for autonomy: reflection, experimentation, regulation, and negotiation. As for teacher roles toward learner autonomy, the facilitating conditions for learner autonomy are critical understanding, enquiry, action (research) plans, initiative and decision making, contingent communication, self/co-evaluation, and dissemination. These are the conditions the pre-service teacher education programmes have to create so as to help teacher trainees develop their own students' autonomous skills. She concluded by saying that "if teacher education programs aim to help teachers develop learn autonomy, then they must foster the teachers' autonomy as well" (Vieira, 2002, p. 10). Largely derived from the research study in the field, Vieira made interconnectedness between learner autonomy and reflective teaching approach. That is to say, there is a focus on processes of description, interpretation, confrontation and reconstruction of personal theories and practices, on the enactment of reflection and experimentation through action research, on the integration of teaching, and research aims and processes. Furthermore, the integration of bottom-up and top-down training strategies in line with

perceived needs and aims, the collaboration between universities and schools as partners in the construction of pedagogical knowledge are the basic components of the framework. Thus, there is a need for teacher trainees to regulate and evaluate their own practice, especially in terms of autonomy development, to improve the quality of teacher education programmes. Reflection, which refers to being aware of what one knows, being able to relate, evaluate, regulate and act upon one's own cognitive processes (Richards, 1989), is a metacognitive skill to be fostered in the context of pre-service teacher education.

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter discusses all aspects relating to the design and execution of the pilot and main study. It presents the research design and the operationalisations of the relevant concepts. Next it describes in detail the universe and participants, data collection techniques, instrument and the construction of the instrument. Finally both quantitative and qualitative data analyses conclude this chapter.

3.1 Research Design

Depending on the focus of the research, different kinds of research methods are available for researchers. In recent years, researchers have been employing studies that combine both qualitative and quantitative methods under a variety of names (Dörnyei, 2007). In social science research, this combination turned out to be a third approach in research methodology. While quantitative research contains "data collection procedures that result primarily in numerical data which is then analyzed primarily by statistical methods, qualitative research involves data collection procedures that result primarily in open-ended, non-numerical data which is then analyzed primarily by non-statistical methods" (Dörnyei, 2007, p. 24). In line with the nature of the research design, researchers may apply triangulation method, which can be described as "a process for qualitative researchers for data analysis when different data sources are compared with one another" (Lodico, Spaulding, & Voegtle, 2006, p. 277). The quantitative and qualitative methods are compared (or triangulated) to see if they produce similar findings. Cohen and Manion (1994) note that the advantages of using a triangulation approach are in two ways. First, exclusive reliance on one method may not produce the desired results of a research study. Second, the use of triangulation helps to overcome the problem of "method-boundness" in which researchers tend to use particular methods with which they are already familiar. According to Mertens (2005), mixed methods have a particular value when we want to examine an issue that is embedded in a complex educational or social context. In this regard, this research combines qualitative

and quantitative methods in terms of the techniques utilized during the data collection procedures because the concepts “metacognition” and “autonomy”, by nature, are complex entities.

In this research, student teachers were observed in terms of their (teaching) metacognitive awareness and teaching practice. The data for this came from the experimental research method without a control group as well as the qualitative research. The researcher used an inventory in order to get reliable results and an objective description. As opposed to the emphasis on the individual case in the qualitative research design, the quantitative research design is centered around the study of variables that capture these common features and which are quantified by counting, scaling or assigning values to categorical data (Dörnyei, 2007; Gorard, 2004; Q’Leary, 2004). That is to say, the researcher is trying to find out how the phenomena can be controlled by various variables. The most known benefits of quantitative research design are that it is systematic, rigorous, focused, and tightly controlled, involving precise measurement and producing reliable and replicable data that is generalizable to other contexts (Dörnyei, 2007). In this respect, the quantitative data of this research study came from the inventory modified by the researcher to see the possible impact of social networking on pre-service English language teachers’ metacognitive awareness.

Taylor (2005, p. 91) points out that quantitative research methods cannot address the full range of problems in the behavioral sciences or in the physical sciences. For this reason, in order to support the data coming through quantitative research methods, researchers tend to use qualitative tools to collect data which might help reveal an in-depth insight into the phenomena. This research study has a qualitative nature itself. The purposes of the qualitative research design are to support the data to get a more detailed description of the possible change in student teachers’ metacognitive awareness, and to get a clear understanding of whether the use of social networking developed student teachers’ teaching practice.

3.1.1 Quantitative Research Design

The quantitative research model used in this study is an experimental design without a control group (Kuhn, 2001). An experimental research study would be an intervention study which contains at least two groups: The treatment or experimental group, which "receives the treatment or which is exposed to some special conditions, and the control group, whose role is to provide a baseline for comparison" (Dörnyei, 2007, p. 116). However, experimental studies without a control group are available in the research literature even though they are rare. In this research, the researcher had only one group who received special instruction in terms of metacognitive awareness. As for the data collection tool of the experimental research, Metacognitive Awareness Inventory (MAI), developed by Schraw and Dennison in 1994, was modified in order to measure the possible impact of the use of social networking on student teachers' metacognitive awareness. The inventory, along with its construction and validation procedures, is presented in part 3.3.1. The experimental research was completed in 14 weeks including the application of the inventory as a pre-test and a post-test conducted in the ELT program, Gazi University in the spring semester of the academic year 2009-2010.

3.1.2 Qualitative Research Design

Denzin and Lincoln (2005, p. 6) contend that "qualitative research is difficult to define clearly because it has no theory of paradigm that is distinctly on its own". Nor does it have a distinct set of methods or practices that are entirely its own. In other words, the qualitative research is a complex idea that encompasses a wide range of research techniques such as interviewing, case studies, participatory inquiry, participant observation, interpretive analysis, field notes and so on (Taylor, 2005). Stacks, Hocking and McDermott (2003) define qualitative research as "a process in which the researcher aims to take a simple description of a person or event, and turn it into an interpretation that can be broken down and further investigated". Dörnyei (2007) underlines that qualitative research design has been seen traditionally as an effective way of exploring new, uncharted areas in the social science research paradigm. Just like the quantitative research design is concerned with reliability and validity issues, there are certain criteria on which the qualitative research should be based. Lincoln and Guba (1985) point out

the following criteria for the trustworthiness of the qualitative research designs. Credibility refers to the extent to which the findings of the research are credible to the population. Continuing data collection over a long enough period of time is a way of establishing credibility of the qualitative findings (Mackey & Gass, 2005). Transferability refers to whether the findings or the design is applicable in another similar context. Dependability refers to the use of triangulation and constant comparison (Lincoln & Guba, 1985). Confirmability is about the availability of the research process like field notes, journals, and various coded data to another researcher or observer. Another researcher should be able to examine the data and confirm, modify or reject the first researcher's interpretation" (Mackey & Gass, 2005, p. 180).

This research contains the qualitative data emerging from the interviews with the participants. In order to help respondents retrieve their relevant thoughts, some sort of stimulus is used to support for the recall. For this study, just after the student teachers' teaching demos, they were invited to the researcher's office to conduct stimulated recall sessions. The rationale for this technique is that a participant "may be enabled to relieve an original situation with vividness and accuracy if s/he is presented with a large number of cues or stimuli which occurred during the original situation" (Bloom, 1953, p. 161). He found that if the recalls were prompted a short period of time after the event (generally 48 hours), recall was 95% accurate. The details of the stimulated recall sessions are found in part 3.3.2.2.2.

The design used in this dissertation is based on grounded theory and triangulation as well as other processes of qualitative research which increase the trustworthiness of the data. The qualitative data were gathered through social networking (Appendix B) where each student teacher had to keep everything they did during the class online. The content and function of the social networking are discussed in part 3.3.2 in detail. Lesson plans for the class they taught (Appendix C), weekly reflections (Appendix D), peer-evaluation (Appendix E) were other tools to collect the qualitative data of this study. These raw data, then, were analyzed by the researcher.

3.1.3 Hypotheses and Research Questions

It is a known research convention that the procedure of the data collection is generally determined by the nature of the hypotheses (Taylor, 2005). In this dissertation, there are two hypotheses that constitute the research questions the researcher tried to answer. The hypotheses are as follows.

H1: The use of social networking fosters pre-service English teachers' metacognitive awareness.

H2: The reflections of pre-service English teachers in the social networking improve their teaching practice.

On the basis of the hypotheses, the research questions are formulated as follows.

a) Does the use of social networking affect pre-service English teachers' metacognitive awareness?

1.1. What are the effects of using social networking on pre-service English teachers' self-knowledge of their teaching practice?

1.2. What are the effects of using social networking on pre-service English teachers' ability to plan, monitor and evaluate their performance?

1.2.1 Do pre-service English teachers ask for feedback from their peers?

1.2.2 Do pre-service English teachers share their reflections with their peers?

b) Do pre-service English teachers' reflections in the social networking (over time) affect their teaching practice?

The first hypothesis was examined in a quantitative design. In order to collect the data for this hypothesis, the researcher employed the inventory which contains the items related to both metacognitive knowledge and regulation. As for the second hypothesis, it was examined by referring to the data which were gathered mostly through qualitative tools such as stimulated recall sessions, weekly reflections, etc.

3.2 The Universe and Participants

The Gazi University, ELT program constitutes the universe of the study. This program is the most populous ELT program in Turkey as well as being among the five most preferred ELT programs. The Gazi University, Faculty of Education, English Language Teaching Program offers the students a four-year program on teaching English as a foreign language. The first year of the program mainly focuses on teaching language skills and grammar to students, while the students take methodology classes based on how to teach the English language as of the second year of the program. The classes are Approaches in ELT, Methodology in the Area of Specialization I, Methodology in the Area of Specialization II, Teaching Foreign Language to Children, Testing and Evaluation in English, Material Evaluation and Adaptation, and Evaluation of Subject Area Course Books. Further, students in this program are required to take applied courses such as School Experience and Teaching Practice. The students of the program are Turkish students who come from more or less same socioeconomic background. As to the sample of this study, only a limited number of participants were involved in the study. By doing so, the researcher employed the convenience or opportunity sampling method to get the most appropriate results. Dörnyei (2007, p. 99) describes convenience or opportunity sampling as "a kind of sampling where an important criterion of sample selection is the convenience of the researcher". With this in mind, the researcher preferred to work with student teachers who are more cooperative. To protect their identities, they took on pseudonyms which the researcher identified for them: Sam, Becky, Zahra, Kathy, Maria, Ada, Marv, Virginia.

3.3 Data Collection Techniques

In this doctoral dissertation, different kinds of data collection techniques were employed. For the quantitative research, the researcher used the modified version of the MAI (Metacognitive Awareness Inventory), MAIT, to gather the data before and after the treatment. The qualitative data, on the other hand, were collected through weekly-reflections, peer-evaluations, and stimulated recall sessions. This section is concerned with how Teacher Metacognitive Awareness Inventory (Appendix A) was constructed and how the tools were employed to gather the data.

3.3.1 Metacognitive Awareness Inventory for Teachers

The inventory used as a pre-test/post-test tool in this dissertation was modified by the researcher. By taking the various dimensions of metacognition into account, the researcher made small changes on the inventory to make it more appropriate for teaching situations. While modifying Metacognitive Awareness Inventory for Teachers (MAIT), the researcher based it on the Metacognitive Awareness Inventory developed by Schraw and Dennison (1994). This 52-item inventory was developed to measure adults' metacognitive awareness. This inventory is a long, comprehensive scale assessing various facets of metacognition, including metacognitive knowledge and regulation (Schraw & Dennison, 1994). Items were classified into eight subcomponents under two broader categories, knowledge of cognition and regulation of cognition. Each component has different subcomponents. To clarify, knowledge of cognition includes at least three different kinds of knowledge: declarative, procedural, and conditional knowledge (Brown, 1987; Jacobs & Paris, 1987; Schraw & Moshman, 1995). Regulation of cognition, on the other hand, refers to a set of activities that help students control their learning. This component has also subcomponents: planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation. Although a number of regulatory skills have been described in the literature, three skills stand out in all accounts: planning, monitoring, and evaluation (Jacobs & Paris, 1987). Therefore, the researcher included these three skills only in the modified version of MAI, called MAIT. Subsequent to a wide range of literature review and expert opinions, it was decided that 42 items would be employed to modify the inventory. Teaching aspects were added to the items. To illustrate, the item "I ask myself periodically if I am meeting my goals" was changed into "I ask myself periodically if I meet my teaching goals while I am teaching". Similar changes were made in the items to make them more suitable for teaching contexts. A rigorous study was conducted to compose the 42 items which represent the components. Dörnyei (2003, p. 52) believes that in the questionnaire construction process "some external feedback is indispensable when we have prepared an initial item pool". At this point, the 42 items were sent to five experts (3 Turkish, 2 British) of metacognition to get external feedback about the content of the inventory as well as the wording issues. Content validity was attained this way. Dörnyei (2003, p. 52) alleges that "questions that have been used frequently before must have been through extensive piloting". As

an integral part of the questionnaire construction, field testing is used to "pilot the questionnaire at various stages of its development on a sample of people who are similar to the target sample for which the instrument has been designed" (Dörnyei, 2007, p. 112). Metacognitive Awareness Inventory for Teachers was piloted with 323 ELT student teachers in the first place. The data gathered through the inventory were processed through a statistical software program, SPSS 15, for the factor analysis. Factor analysis is "designed to see whether each item measured the subscale it was supposed to measure to look at construct validity" (Muijs, 2004, p. 70) and is particularly suited to reduce the number of variables to a few values that still contain most of the information found in the original variables (Hatch & Lazaraton, 1991). As a result of the first factor analysis, some items were removed from the inventory because their factor levels were not as high as required. Later, the five experts were asked to get their further suggestions on the 36 items. On the basis of the suggestions made, the 36 items were administered to 226 student teachers. However, there were some items which did not work. As a consequence of a meticulous study with the thesis advisor, those items were removed from the inventory. As the final step, the remaining 24 items were modified and administered to 125 student teachers. Consequently, the inventory produced the expected results. The ultimate factor analysis result is given in Table 1.

Table 1: The Ultimate Factor Analysis of the Metacognitive Awareness Inventory for Teachers

Statements	Common Factor Variance	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI
Factor I- Declarative Knowledge							
1- I am aware of the strengths and weaknesses in my teaching.	.573	.741					
7- I know what skills are most important in order to be a good teacher.	.662	.699					
13- I have control over how well I teach.	.501	.651					
19- I know what I am expected to teach.	.577	.582					
Factor II- Procedural Knowledge							
2- I try to use teaching techniques that worked in the past.	.701		.781				
8- I have a specific reason for choosing each teaching technique I use in class.	.570		.751				
14. I am aware of what teaching techniques I use while I am teaching.	.578		.683				
20. I use helpful teaching techniques automatically.	.541		.591				
Factor III- Conditional Knowledge							
3- I use my strengths to compensate for my weaknesses in my teaching.	.722			.802			
9- I can motivate myself to teach when I really need to teach.	.667			.741			
15- I use different teaching techniques depending on the situation.	.679			.662			
21- I know when each teaching technique I use will be most effective.	.540			.581			
Factor IV- Planning							
4- I pace myself while I am teaching in order to have enough time.	.644				.752		
10- I set my specific teaching goals before I start teaching.	.548				.682		
16- I ask myself questions about the teaching materials I am going to use.	.522				.631		
22- I organize my time to best accomplish my teaching goals.	.568				.601		
Factor V- Monitoring							
5- I ask myself periodically if I meet my teaching goals while I am teaching.	.711					.821	
11- I find myself assessing how useful my teaching techniques are while I am teaching.	.758					.732	
17- I check regularly to what extent my students comprehend the topic while I am teaching.	.754					.741	
23- I ask myself questions about how well I am doing while I am teaching.	.670					.681	
Factor VI- Evaluating							
6- I ask myself how well I have accomplished my teaching goals once I am finished.	.570						.581
12- I ask myself if I could have used different techniques after each teaching experience.	.508						.561
18- After teaching a point. I ask myself if I'd teach it more effectively next time.	.491						.521
24- I ask myself if I have considered all possible techniques after teaching a point.	.502						. 509

Variance **Total:** % 60,411
Factor-1: % 7,946 **Factor-2:** % 13,911 **Factor-3:** % 27,439
Factor-4: % 6,499 **Factor-5:** % 4,616 **Factor-6:** % 5, 456

KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) was employed so as to identify the validity of the inventory (0,794) and the value for Barlett TKest was identified as significant (2513,474). This calculation proved to be appropriate for the factor analysis. The number of the factors were identified as 6, as indicated above. Factor I includes the items 1, 7, 13, 19, Factor II 2, 8, 14, 20, Factor III 3, 9, 15, 21, Factor IV 4, 10, 16, 22, Factor V 5, 11, 17, 23, and Factor VI includes the items 6, 12,18, 24. As for the reliability of the inventory, Cronbach's Alpha was utilized to find out whether the inventory in the context of research was reliable or not. The detailed analysis for reliability issue is given in Table 2.

Table 2: The Reliability Analysis of the MAIT

Factors	Cronbach Alpha
Factor I- Declarative Knowledge	0, 85
Factor II- Procedural Knowledge	0, 82
Factor III- Conditional Knowledge	0, 84
Factor IV- Planning	0, 81
Factor V- Monitoring	0, 80
Factor VI- Evaluating	0, 79

When we examine the reliability data for the inventory, the values vary from 0, 79 to 0, 85, which indicates that the inventory was observed to display high alpha scores. The inventory modified in this doctoral dissertation was 5-point Likert-type response format, and the degree of agreement was from ‘strongly disagree’ (1) to ‘strongly agree’ (5). Scoring is provided as follows. “Strongly Disagree” (1) refers to 1, “Disagree” (2), “Neutral” (3), Agree (4), Strongly Agree (5).

3.3.2 Social Networking as a Data Collection Tool

In this doctoral dissertation, a social networking site, Facebook, was employed as a data collection tool. At the very beginning of the semester, the researcher met the student teachers for the first time and introduced the study to them. In this meeting, the researcher gave a brief presentation on Facebook, and the study itself. In addition to that, the educational values of Facebook were shared with the participants. Here are the points underlined by the researcher. 1- Each participant should open yet another Facebook account, which they can only use with the group members in the study. 2- They should also open a scribd account which allows them to upload their reflections on Facebook. 3- They should write weekly reflections on the course each week. 4- They should upload their lesson plans before their presentation is due so that other group members can give feedback on the lesson plans. 5- They should view their teaching recordings uploaded on Facebook. 6- They should make comments on each other's reflections online. 7- They should do the above mentioned issues for a semester. 8- The researcher and the participants meet once a week to check if everything is fine.

3.3.2.1 Weekly Reflections

Weekly reflection is a data collection instrument student teachers had to write down every week after each class. In the reflection, there are four questions that need to be answered. The questions are "What I have learned this week is…", "What I have difficulty in figuring out this week is that…", "What I need to focus more on is that…", and "I believe I may use this information (name the information, strategy, etc)…" As is suggested by its name, this is about the input they have received on teaching as well as their understanding of teaching English. The student teachers were asked to note down the personal input that have, or may have, an impact on their teaching practice.

3.3.2.2 Video Recordings

Student teachers were enrolled in an "ELT Methodology" class during the 2009 spring semester. After eight group members were identified, the first meeting about the study was held. In this meeting, the researcher gave crucial information about the study: a) Setting up a social networking account, Facebook, rather than their own if any. b) Uploading their reflections on Facebook through Scribd, a social publishing site, where tens of millions of people share original writings and documents. c) Making comments on each other recording of teaching practice and so on. The student teachers are to do the following during the course. First, they go over theoretical knowledge on how to teach English as a foreign language. Second, they put their knowledge into practice (20-minute teaching sessions) with a focus on a given specific language skill. Third, student teachers create an account on a social networking site where they can upload all the documents including their lesson plans, weekly reflections, and peer-obervation forms. Fourth, they are recorded by the instructor when they are doing their demos. Upon the completion of the demos, the researcher conducts stimulated recall sessions to identify what student teachers did during their teaching practice and what they thought over their actions through the guiding questions such as "What happened?, Why?, What caused you to make this decision rather than that one?, What would you do differently next time?" (Appendix F). Following this, the researcher uploads their recorded sessions up on Facebook where other group members are encouraged to view and discuss the sessions recorded.

3.3.2.2.1 Peer-evaluation

When student teachers were doing their teaching demos, the group members were expected to take notes concerning their peers' teaching performances. They were also provided with an open-ended section so that they were able to write their comments on the teaching performance of their peers. In the open-ended section, there were three statements that are expected to guide student teachers to write better reflections. The statements were as follows: What I like about her/his performance is that…, What I dislike about her/his performance is that…, I suppose I can make use of the strategy (name the strategy, action, etc...). The student teachers filled in the form and gave them to their friends who completed their demonstrations. All student teachers had to upload

their peer-evaluation forms on Facebook and they were expected to respond to the comments made in the form.

3.3.2.2.2 Stimulated Recall Sessions

In retrospection, the respondents "are expected to verbalize their thoughts and feelings after they have performed a task or mental operation" (Dörnyei, 2007, p. 148). Gass and Mackey (2000) answer the question "What topics can be explored using stimulated recall methodology?". She underlines that knowledge types, knowledge structures, cognitive processes and learner strategies are topics that best suit stimulated recall methodology. One of the main aims of this method in general has been to seek to uncover cognitive processes that are not evident through simple observation. Similarly, there is some evidence that the favored methodological approaches for metacognition studies are stimulated recall and self-reports of thinking (Duffy et al., 2008). With this in mind, another type of retrospection, stimulated recall sessions were utilized in this study. Dörnyei (2007, p. 149) describes stimulated recall as a data collection technique where "respondents are asked to share their thoughts just after the occurrence of the targeted thought processes". In order to help the respondents retrieve their relevant thoughts, some sort of stimulus is used to support for the recall. This is generally in the form of either watching the respondent's own task performance on video, listening to a recording of what the person has said, or showing the person a written work that s/he has produced (Dörnyei, 2007). In line with IMPROVE metacognitive self-questions (Kramarski & Mevarech, 2003), the researcher led the student teachers to ask the questions about their own teaching during the stimulated recall sessions. The researchers agree on the idea that metacognitive instruction should include questions of what, when, why, and how students select a particular self-regulatory strategy, approach or response within the learning process, and how to monitor and adjust their learning accordingly in order to achieve understanding (Kramarski & Mevarech, 2003). Similarly, this was done with student teachers in terms of their teaching practice. Dörnyei (2007) believes that stimulated recall sessions should be carried out as soon as possible so that student teachers could easily remember their performance. Just one day after the student teachers' demos, they were invited to the researcher's office to conduct the stimulated recall sessions. Before the stimulated recall sessions, the researcher watched the video on his own so as to transcribe and analyze the student teachers'

videos. Dörnyei (2007) suggests that transcribing and analyzing the data should be done in order to make the retrospective interviews more meaningful to both parties. During the stimulated recall sessions, student teachers were only encouraged to focus on the recall of retrievable information through the questions like “What were you thinking of?”. Furthermore, the student teachers were encouraged to stop the video when they remember something that might be useful. In order for student teachers to feel comfortable during stimulated recall sessions, the interviews were carried out in Turkish.

3.4 Data Analysis Methods

This part is devoted to the data analysis methods utilized in this dissertation. The section features analysis of experimental research and regulation of the qualitative data.

3.4.1 Analysis of Experimental Research

Certain statistical techniques were used to analyze the quantitative data. KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) was employed so as to identify the validity of the inventory (0,794) and the value for Barlett TKest was identified as significant (2513,474). As for the reliability of the inventory, Cronbach's Alpha was utilized to find out whether the inventory in the context of research was reliable or not. As the number of participants in the (experimental) group was below 30 and the possibility of missing items may even reduce the number of participants, the data of the experimental research were analyzed through The Wilcoxon Matched-Pairs Signed-Ranks Test and Mann Whitney U Test.

3.4.2 Analysis of Qualitative Data

The analysis of qualitative data was mostly based on categorizing the data collected immediately. As with most data, there are several steps that need to be considered when analysis of stimulated recall is carried out. These steps include transcription, coding, and description of data, as well as data analysis (Gass & Mackey, 2000). The qualitative data were analyzed by the researcher. Constant comparative method, which is derived from grounded theory (Glaser & Strauss, 1967; Strauss &

Corbin, 1990), was used in analyzing the data. Glaser and Strauss (1967) describe the constant comparison method including following distinct stages: comparing incidents applicable to each category, integrating categories and their properties, delimiting the theory, and writing the theory. This process was fulfilled mostly by reading the data many times until the discovery of some underlying themes.

CHAPTER 4

ANALYSIS AND INTERPRETATION OF DATA

4.0 Introduction

This chapter describes in detail the pilot and main study including the qualitative and quantitative findings. It also includes a detailed description of the retrospective interviews consisting of the participants' views on the quantitative findings, and stimulated recall sessions as well as the discussions of the hypotheses.

4.1 Pilot Study

Piloting is an essential part of any quantitative research and "any attempt to shortcut the piloting stage will seriously jeopardize the psychometric quality of the study" (Dörnyei, 2007, p. 75). It is widely acknowledged that researchers have to pilot their instruments and procedure before launching their actual projects. This crucial point led the researcher to plan every single stage of designing, piloting and administrating the study. The pilot study was conducted in order to establish the appropriate design, procedures and materials for the main study. It was also of help in the identification of the missing points that need to be covered for the main study. This section is concerned with how the pilot study was carried out before the actual one.

The pilot study was carried out in the ELT Program, Gazi Faculty of Education, Gazi University in the fall semester of the academic year 2009-2010 and took 14 weeks to complete. Participants of the pilot study were enrolled in a "Creative Drama" class and the researcher was the instructor of the class. In this class, student teachers were expected to do two teaching demos where they were required to put the theory into practice. By using the convenience or opportunity sampling method, the researcher identified six student teachers for the pilot study. Having identified them, the researcher invited the six student teachers to his office to give them the basic aspects of the study. During this meeting, the inventory (MAIT) was administered to the six student teachers as a pre-test. In addition, the researcher gave a presentation on the study and the website Foliospace, in which they needed to open an account to take part in the pilot study. It

was decided that student teachers (1) upload their lesson plans before their demos, (2) be recorded during their demos, (3) write weekly reflections on what they cover each week, (4) fill in the peer-evaluation forms and (5) make comments on each other's recordings, and so on. During the first meeting, the main concern of the researcher was to make sure that each student teacher understood what to do during the pilot study. It was also decided that the student teachers had to do two teaching demos per semester. Following this, the dates of teaching demos were determined in collaboration of both parties. The next step was to record student teachers' demos. One day after their teaching demos, the researcher conducted stimulated recall sessions with the student teachers to retrieve their relevant thoughts about their own performances. By doing so, the researcher used certain questions that were specifically designed to guide the student teachers. After the stimulated recall sessions were over, the researcher uploaded the teaching videos on Foliospace so that the rest of the group members could provide each student teacher with the feedback. Meanwhile, the group members were asked to give feedback to the student teachers' recordings online. As time approached for the student teachers to do their second teaching demos, they were already had already been participating the class, and composing their weekly reflections as scheduled. As planned in the first meeting, the student teachers did their second teaching demos and the same procedure was applied once again. After the study was over, the student teachers were given the MAIT as a post-test once again to see the impact of treatment on their teaching metacognitive awareness. The results of the pilot study are given in Table 3 below.

Table 3: The Results of the Pilot Study

		N	MR	SR	Z	R	P
Pre-test	Negative Ranks	0(a)	,00	,00			
Post-test	Positive Ranks	8(b)	4,50	36,00	- 3, 321	0,745	,000*
	Ties	0(c)					
	Total	8					

* $p < 0.001$

As the results indicate, a statistically significant increase in teaching metacognitive awareness of teacher trainees was observed. That is, the pilot study indicated that all of the trainees improved their teaching metacognitive awareness after the treatment they received ($p < 0.001$, The Wilcoxon Matched-Pairs Signed-Rank =,000, Z = - 3, 321). Upon the implementation of the pilot study, the following actions were taken for the main study.

1- The researcher believed that it would be much better and more feasible if they used a social networking site instead of Foliospaces, which student teachers used as an e-portfolio.

2- The student teachers and the researcher needed to meet once a week during the main study in case the participants face technical difficulties.

3- The **s**tudent teachers were given certain guiding questions in order for them to feel more comfortable during stimulated recall sessions.

4.2 Main Study

This part is concerned with the results of the main study. At this point, the findings are examined both in terms of quantitative and qualitative research design.

4.2.1 Quantitative Findings

This section reports the findings of the metacognitive awareness inventory for teachers. It also deals with the statistatical findings of the first research question.

4.2.1.1 Metacognitive Awareness Inventory for Teachers

In this research study, the researcher had only one (experimental) group to investigate the effect of social networking on metacognitive awareness. In other words, the design of the study was the pre-test-post-test experimental research without a control group. As for the data collection tool of experimental research, Metacognitive Awareness Inventory (MAI; Schraw & Dennison, 1994) was modified to measure the

possible impact of the use of social networking on student teachers' metacognitive awareness. The experimental research was conducted in the ELT program, Gazi Faculty of Education, Gazi University in the spring semester of the academic year 2009-2010. It took this research to complete in 14 weeks including the application of the inventory as a pre-test and a post-test. The results of the main study are given in Table 4.

Table 4: The Results of the Main Study

		N	MR	SR	Z	R	P
Pre-test	Negative Ranks	0(a)	,00	,00			
Post-test	Positive Ranks	8(b)	4,50	36,00	-2,521	0,785	,000*
	Ties	0(c)					
	Total	8					

* $p < 0.001$

As the table indicates, the comparison of the (experimental) group in terms of pre-test and post-test findings revealed that the (experimental) group developed their teaching metacognitive awareness significantly ($p < 0.001$, The Wilcoxon Matched-Pairs Signed-Rank=,000, Z = - 2,521).

4.2.2 Qualitative Findings

As with most data, there are several steps that need to be considered when analysis of stimulated recall is carried out. These steps include transcription, coding, and description of data, as well as data analysis (Gass & Mackey, 2000). The qualitative data were analyzed by the researcher. This section features the qualitative findings emerging from the retrospective interviews carried out with student teachers on the inventory items.

4.2.2.1 Retrospective Interviews

According to Gass and Mackey (2000), the underlying assumption is that "it is possible to observe internal processes, that is, what is going on in one's consciousness." In research studies, the researcher may ask questions like "What made you do that? and "What made you choose that item?" in order to get a more detailed analysis of the issue examined. Retrospective accounts were gathered from student teachers to follow up on specific information from the inventory. The researcher asked student teachers to make a comparison between the results of their pre and post test. If there were any change, they were asked to refer to that item and to explain what might have caused that change. The following sections present the summary of each participant's interviews along with the comments made on this.

4.2.2.1.1 Sam

To summarize the impact of this study on Sam's teaching metacognitive awareness, he simply said that his teaching metacognitive awareness developed as a consequence of the study. To clarify, he acknowledged that videos helped him realize his strengths and weaknesses about his teaching practice more than ever. He remarked that there was a significant increase between the results of his pre and post-test. His post-test replies center mainly on answers *"agree"* and *"strongly agree"*. He, however, believed that no matter how much aware of his teaching he was, he was not quite sure whether he will be as aware when he starts teaching real students in the future.

When the study started, he was very eager to be evaluated by his peers as he thought that this study would contribute to his teaching performance. Specifically his friends' constructive feedback helped develop a kind of feedback culture, which is one of the most important benefits of this study. Furthermore, he did not use to believe that Facebook would be employed as an educational tool as used in the study before he got involved in it. He, however, came to realize that Facebook was very influential in a variety of ways. These aspects can be categorized as reflection, critical thinking, self-evaluation, and teaching abilities. First, he simply recognized that while he was watching his friends teach, he managed to reflect on what was good and bad about their teaching, which led him to take notes in a more concrete sense. It can be easily observed

that this ability to reflect enabled him to be aware of strengths and weaknesses he had. In relation to one of the biggest contributions of this study to his teaching practice, he claimed that he discovered the things he had not known before the study. He added that he displayed more critical thinking dispositions as a consequence of this study. To clarify, due to weekly-reflections and peer-evaluation, he was able to recognize more points that he needed to improve his teaching skills. By doing so, he was able to look more closely at his teaching performance in a multidimensional way. When considered in relation to whether this study improved his teaching abilities, he said that he developed one of his weaknesses, the elicitation, thanks to his friends' observations and recordings. Nonetheless, he remarked that his teaching abilities were not developed as much as they could have because there were some other areas he needed to work on more. Likewise, he strongly believed that experiencing such a study was greatly influential in the dimensions mentioned above. More importantly, even though he did not teach real students, he regarded this study as a kind of rehearsal that is likely to shape the way he teaches in the future. As a last point, Sam would much like to continue with the study especially when he goes to practicum next year.

In relation to teaching techniques that worked in the past, he thought that this study gave him a great opportunity to re-evaluate his teaching so as to see if it had produced satisfactory results or not. More specifically, he said that he was more willing to use the more effective teaching techniques. Sam, on the other hand, acknowledged that he was pretty good at compensating for his weakness in his teaching.

> I sense that I am no good at eliciting the topic, which I should be, I reckon. On the other hand, I suppose I can handle warm-up section pretty well. As I view my videos I recognize this happen.

As is easily seen, he knew what his weaknesses were and he took actions to compensate for them whenever needed. In relation to his planning skills, Sam absolutely thought that there was an obvious development in planning his teaching practice. In other words, he took each step into account before he started teaching and he also considered whether the teaching goals suit each other.

> I consciously plan my teaching beforehand. In other words, I set my specific teaching goals that lead me to take specific actions during the teaching practice. Above all, yes, I am able to plan my teaching skills more effectively, I suppose.

Sam also believed that he tended to ask several questions to monitor his teaching performance. He said that he had just started doing so mainly because the study itself gave him several opportunities to check if he was doing fine and, if not, to manipulate his teaching accordingly. It is, he claimed, the Facebook videos that made it possible for him to monitor his teaching.

> I use something, and then I ask myself if it is going well, during the lesson, I tend to ask if it is going to work as well.

For the evaluation section, he obviously believed that each teaching session takes evaluation part after it is over.

> I now think that I should consider if my teaching goals are met by the end of the session. If I had to do it once again, what kind of changes would I make? This is the question I tend to ask myself so as to improve my teaching abilities.

4.2.2.1.2 Becky

Becky stated that "it (this study) helped me realize that I knew all my work and that I am a professional (soon to be) teacher". That is to say, she regarded this study as an invaluable contribution to her professional development because she thought that she would be a language teacher. She added that with the help of self-reflection, peer-evaluation and videos she realized that there were a couple of issues of which she needed to take care concerning her teaching practice. She also remarked that her post-test results indicated that there was a strong development in her teaching metacognitive awareness mainly because there were more "agree" and "strongly disagree" than others in her post-test. When she was asked what made this possible, she went on to say that this awareness was greatly because of the videos and her friends' comments on Facebook. She said that she was very glad that she had taken part in this study, for the study aroused a lot of questions she needed to ask herself before she started teaching real students. Nevertheless, in order to do use helpful teaching techniques automatically that, she believed that one needed to be an experienced teacher who knows what action to take under various circumstances.

Becky said that Facebook served as a storage tool that enabled her to look back at what she had done during the study and that this contributed to her teaching practice together with her friends' comments and videos. Keeping all the documents absolutely helped her re-evaluate her teaching performance. She simply believed that other friends' comments and presentations were available online. She realized especially her weaknesses in her teaching by thinking what kind of contributions could be made to make her teaching more efficient. On the other hand, this study helped her see what kind of progress she had been going through. She went on to say that her teaching would be the same but for this study. Becky explained that she was a bit scared of being evaluated by her peers at the very beginning of the study because she was not used to constructive feedback. As time went by, she realized that this study helped develop a kind of feedback culture which allowed her to feel comfortable in this process. She also felt that there was a need of support from her friends especially in her lesson plans. In other words, she was expecting her friends to confirm whatever she had done, which shaped her teaching accordingly. She also explained that this exchange helped increase her confidence in teaching because "fourteen eyes are much better than two eyes". To clarify, she mentioned the importance of Facebook in this study by saying that "Facebook created a kind of environment where we were observed by our peers, which was transparent to all of us." She remarked that her ability to reflect improved more than she could have ever imagined. That is, a combination of both discussion and peer-evaluation on Facebook led her to develop a more reflective approach towards her teaching practice. She also stated that she discovered the things she had not known about her teaching. To illustrate, this study helped her recognize that she was not as efficient at giving instructions as she could think. As for whether this study contributed to her teaching practice, she remarked that implementing what she had in theory into practice was one of the greatest contributions of this study. In other words, not only did she develop her teaching metacognitive awareness but also she improved her teaching abilities. Furthermore, she developed a deeper understanding of several dimensions regarding her teaching practice involving classroom management, giving instructions, and conducting the class activities more effectively.

With regard to teaching techniques that worked in the past, Becky reported that she took notes of the things she liked about her teaching so as to keep track of the effective teaching techniques.

> I tend to take notes of what I like about teaching. It can be my friends' sessions or my professors' techniques they use during the class time. I just note them down, whenever I feel I can use them, I do.

She added that she had a notebook where she kept certain grammar, speaking, reading, writing activities. She always focused on what had and had not worked and arranged her next teaching accordingly. This study, especially Facebook videos, Becky claimed, led her to have always a B plan in case an unexpected situation might emerge.

> I try to think about an alternative action whenever needed. That is the question I can ask to myself any time.

In relation to planning her teaching practice, she remarked that "in the case of goals, I construct my teaching plans by writing them on my laptop". She went on to say that in line with what she needed to cover, she always set her teaching goals that led her to take specific actions.

> When I prepare materials for my class, I put myself in my students' shoes, when I prepare my own materials, I try to understand what they do outside the class, how important materials are, especially in catching the attention of my students.

As easily seen from her remarks, she spent much time on planning her teaching materials before the teaching session. In terms of monitoring skills, she said that in the past she did not use to recognize what she was missing, however; she reported that she always monitored her teaching practice with the questions like "Did I do it as I planned?" and "Why did not the students respond to that"?. She gave an example of this.

> When I was teaching, I realized that I lost my eye contact with students, first I saw this in the first recording, and then I paid particular attention to that. I managed to have eye contact with my students once again. Watching myself was the best thing that ever happened to me.

One can easily argue that she tended to ask questions during the teaching period, which absolutely enabled her to be more aware of whatever she was doing at the time of teaching. In relation to the evaluation, she acknowledged that she never did any kind of evaluation after the teaching session before the study.

> I did not use to ask this question very often because it is a kind of relief, but now I write one-page feedback about my teaching practice, trying to expand my repertoire.

She added that she always examined if she had attained her teaching goals at the end of her teaching session. That is to say, she stated that there were two ways of evaluating her performance. First, she went over several questions such as “Was it functional enough?”, “Did it live up to my expectations?”, and “Did I achieve my teaching goals set before?” concerning her teaching session. She believed that all of these questions enabled her to construct her teaching performance more positively. Second, her friends’ comments on Facebook asked her to review her video once again to only focus on the evaluation of the session. Their constructive feedback, she reported, revealed the dimensions she needed to be more careful about. Thus, peer-evaluation, Facebook videos and self-reflection helped her to re-evaluate her teaching performance after sessions were over.

4.2.2.1.3 Zahra

Zahra reported that this study helped her recognize her weaknesses and strengths more effectively in that a combination of Facebook comments, and videos were influential in developing her metacognitive awareness to a great extent. She also added that it was not an end, but it was a process which took longer time and that she was given the golden opportunity to reflect on her teaching practice. She remarked that there was a significant increase between the results of her pre and post-test. Her post-test replies center mainly on answer *“agree”* and *“strongly agree”*. Her biggest acquisition of this study was that she may set clearer goals to achieve after the study was over. That is to say, her teaching goals may be set more cleverly than the past. She always asks the question of how well she is teaching. She, nonetheless, acknowledged that her metacognitive awareness may only develop on condition that she turns it into a kind of habit.

Zahra explained that this study helped her make a connection between theory and practice in a more conscious sense. To put it more clearly, her friends’ comments and videos contributed to her teaching practice in that they provided a kind of infrastructure of what she did in class. Furthermore, she was able to see what was going through her mind easily, which led her to become more aware of the points she needed to develop. Similarly, she mentioned the use of Facebook, where, she claimed, she had recordings as a kind of evidence. It can be easily observed that she referred to going

back and evaluating what she did during the teaching process. She was able to also recognize what kind of progress she was making during the study.

Zahra noted that she was not very willing to be evaluated by her peers at first mainly because she was going to take different reactions, which may not have made her as secure as she could have. However, she reported that a feedback culture where constructive feedback was provided was formed as time went by. She also noted that it was this feedback culture that prevented her from making serious mistakes in her teaching. Besides, she remarked that she was able to criticize her teaching while and after teaching. That is, on the basis of certain reasons that surrounded her teaching, she was able to see how much she knew and she put how much she knew in practice. It was attributable to her friends' peer-evaluation as they gave various directions to take about her teaching. She also noted that she was very willing to make reasoning for all kinds of actions she used to take while teaching. By doing so, she made use of her friends' comments that helped her move from interdependence to independence, which, she claimed, was one of the best experiences ever. Related to that, it can easily be recognized that she was getting more critical about her teaching performance through internal conversations she developed throughout the study. As for whether she discovered what she had not known about her teaching, she remarked that she wasnot aware of the fact that she was not expecting an answer from her students when she asked a question. She also added that the more she viewed her videos the more automatically she acted at the time of teaching. She definitely believed that this study in which she did not work with real students helped her rehearse her teaching before the practicum. She developed a kind of system that helped her take certain specific actions regarding her teaching. Once considered as a whole, she claimed that Facebook contributed to her teaching performance in a very effective manner. In lieu of one way, she referred to a multidimensional perspective which shaped the way she taught more constructively. In addition to that, recognizing others' weaknesses and strengths in their lesson plans, she made a remarkable connection between the theory and practice as a result of this study.

In relation to teaching techniques that worked in the past, Zahra strongly believed that with the help of this study she developed a kind of awareness that guided her to make a list of what and how to do during her teaching practice. She said that she

watched herself on the video and talked to herself about what teaching techniques would/might work more effectively than others. As for using different teaching techniques depending on the situation, she reported that she developed the ability to take certain actions depending on different contexts.

> Even though I do not think about error correction before the session, when one of my students makes a mistake, I, without a second thought, react to this and do what I need to do in this regard. Such examples are enormous.

As is seen from the comment above, depending on the condition in which she was, she could take different actions to cater for her students' needs. In relation to planning skills before the teaching experience, Zahra strongly believed that this study contributed to her planning in that she tended to think really about what she could do during the teaching practice and that she asked certain questions about the materials such as "Is it appropriate to employ these materials?", "What needs to be done to attract the attention of the students?", and "Will it live up to the expectations of the class?". In regard to monitoring skills, she believed that this ability was in a development process thanks to her friends' comments and the videos.

> I find myself asking questions like "What else do I need to do?", "Is it going as well as planned earlier?", "Is it what I was trying to do?". I have control over my teaching goals; question myself at time of teaching. Also, I keep an eye on my students in an interactive manner.

As is easily recognized above, Zahra developed a kind of awareness about her teaching practice with the ability to monitor her own performance at the time of teaching. As opposed to past, she now evaluates her teaching performance just after the sessions are over. That is to say, she asks certain questions such as "How did it go?", "Did it go as planned?", "Did it live up to my expectations?". Focusing on the session as a process rather than a product, Zahra remarked that the teaching sessions were very influential in shaping the way she teaches next time.

> Each session is another experience, what else could I have done after I think about my teaching experience? I tend to ask whether or not it worked well. Also, the session itself is not an end, it is a process, then Facebook comments are influential, planning is much more important than actually.

4.2.2.1.4 Kathy

Kathy stressed the importance of peer-evaluation rather than self-evaluation. Instead of self-evaluation forms she needed to fill in each week, peer-evaluation forms each group member had to fill for each other contributed to her teaching performance a lot more than she considered. She felt that her teaching metacognitive awareness developed as a result of the study. She also added that there was a significant increase between the results of her pre and post-test. Her post-test replies center mainly on answer *"agree"* and *"strongly agree"*, which simply indicates there has been an increase in her teaching metacognitive awareness. However, she still has a question mark which is all about the fact that she has not taught real students yet. She remarked that this might change the moment she starts teaching real students in real classroom environments.

Kathy came to realize that being aware of her own teaching brought about success as a consequence of this study. Moreover, she considered this study to be a kind of journey that allowed her to experience her change in teaching in time. To clarify, she remarked that she could not help herself thinking and observing her other friends' and teachers' performances so as to make a comparison between hers and others. Another important contribution of this study was that it allowed her to make a bridge between theory and practice. She, nonetheless, was of the opinion that this awareness should go beyond. It was not as effective as she could have thought. As a result, she claimed that she must experience it in real classrooms with real students so as to make sure that she developed her teaching practice as properly as she wished.

At first, she was very eager to be evaluated by her peers as she believed it would contribute to the development of culture of criticism where each could criticize each other constructively. She was very much looking forward to reading her friends' evaluation forms about her teaching believing that their comments would be so valuable for her teaching practice. As it can be easily seen, Kathy believed that this study would make her teaching practice much better. Kathy was of the opinion that peer-evaluation rather than self-evaluation guided her to use effective ways of teaching as the study went on. Furthermore, this practice enabled her to be more critical about her and others' teaching practice since this turned out to be a kind of habit where she could receive/give

constructive feedback on her teaching performance. On the other hand, observing and evaluating others' teaching plans and others' doing so was very influential in helping her recognize her weaknessesin teaching. Kathy considered this process to be just a beginning for her teaching career along with being metacognitively aware of her teaching actions in time. As to whether this study contributed to her teaching practice in a more effective manner, she concluded that it was first time she had even thought that she would make a language teacher. Even though Kathy believed that this study improved her teaching practice, she, nonetheless, indicated that there were some other areas she needed to work more on so as to make use of whatever acquisitions she had ever made in the process of this study. Above all, this study contributed to what she needed to do next to compensate for what she was wrong in practice.

In relation to use of teaching techniques that worked in the past, she mentioned that she went over her videos after she was done and that she commented on what had gone wrong and right. In light of this, she talked to herself saying, "Well, it worked pretty well, however it has some problems, I think I should be able to use it next time". That is to say, she tried to collect the teaching techniques that worked in the past so that she could make use of them automatically in her future teaching contexts. When she was asked what caused this, she, without hesitation, went on to say that it was videos that brought about this change as well as peer-evaluation forms. In terms of flexibility depending on the context, she pointed out that it was the impact of videos and Facebook comments that encouraged her to take necessary actions. She also added that she could make last-minute changes depending on her situation. However, she criticized that student teachers were not given as much freedom as they should. She added that in order to create new teaching situations, one has to show courage to do so. Related to her setting teaching goals, she stated that she tended to construct her teaching goals more properly than ever as her friends' comments helped construct them a lot.

> These are my teaching goals. I need to make sure I set my teaching goals appropriately. More importantly, it is the question of whether these goals match my current teaching practices.

One can easily argue that she considered planning to be one of the most important aspects of her teaching process. As to monitoring skills, Kathy strongly believed that there was a strong change in monitoring how well she was teaching. In

sharp contrast to what she used to do in the past, she now comes to believe that she always talks to herself on each step concerning her teaching practice.

> I always question the effectiveness of my teaching technique. If it is good enough, I tend to talk to myself like "Good for you, Kathy. Go for it". If there is something I need to change, then I go "You should pay more attention to that were I you" It is what I call internal talk. Self-evaluation is something superb, I suppose.

As the study continued, she adopted a kind of internal talk that led her to monitor her teaching performance. Whenever was needed, she was ready to change her teaching processes to make them more effective. The ability to evaluate her teaching performance increased mainly because Kathy asked whether the teaching goals were met or not at the end of each session. She also reported that she liked the idea of change and wished to make several changes upon her teaching practice by reflecting on what went wrong and right.

4.2.2.1.5 Maria

Maria saw the impact of this study, especially the Facebook comments and videos, on her metacognitive awareness as a teacher in a variety of ways. First, she thought that she became more aware of what areas she needed to develop concerning her teaching practice. To illustrate, she did not recognize that she gave the instructions too complicated to understand and that she spoke too fast to be understood by her students. Second, she knew what needs to be done in a particular context related to her teaching metacognitive awareness. The analysis of the results of the pre and post-test displayed that there was a significant increase in her teaching metacognitive awareness. She, however, felt that she needed to be more aware of her teaching practice due to lack of school experience even though she recognized a lot of valuable aspects related to her teaching.

Maria regarded this study as a unique experience as she realized most of the things of which even language teachers now are not aware when she was a university student. Her awareness about her teaching practice specifically giving instructions or eliciting the topic improved much more than she could have ever imagined. That is, she said that there were important lessons she needed to learn for her professional

development. Through this awareness, she indicated that as long as she could observe her friends' lessons, she came to realize which activity would work or which would not. She became more competent at eliciting the topic thanks to her friends' supports in a way because she gave more critical view of her teaching practice in time. Another benefit was that she gained a different perspective towards her teaching by asking right questions if whether they would work or not depending upon the situation. Furthermore, she developed a kind of awareness which enabled her to recognize what kind of drawbacks she had and she needed to improve them as soon as possible.

At the very beginning of the study, Maria was very curious about what her friends' might think about her teaching performance. Moreover, she was quite happy because she definitely believed that this exchange would be a very beneficial one as her friends could underline the points she might have forgotten. In this regard, she was very much looking forward to her friends' comments. In time, she came to realize that she needed to know where she was in terms of her teaching, which gave her a chance to think more about it in a detailed way. Related to that, she was developing an awareness which enabled her to consider her teaching constructively via Facebook. She remarked that she had never thought something like "recording herself teaching" and "watching it to develop her teaching performance". By doing so, she obviously recognized the things that she needed to add to her teaching. To sample, she thought that she was pretty good at classroom management. However, the videos showed the other way around. That is, she needed to develop how she could manage the classroom more effectively. Kathy also stressed the importance of critical thinking as a result of this study. To clarify, she noted that this study gave her numerous opportunities to conduct her teaching rather than to stick to one way only. She could not help her thinking about what other alternative might emerge at time of teaching by interrogating if it was going pretty well or not. This interrogation could be much better so long as she could observe her students' reactions because her reactions would alter her students' as well. In relation to whether this study contributed to her teaching practice, she stated that being aware of something was just so invaluable because individuals focus on this more consciously. With the expression that "awareness leads to success", she concluded that this awareness forced her to think more constructively about her teaching practice. This will a huge impact on the way she teaches in the future. Despite the fact that she did not

teach real students, this study improved her teaching practice speficially in terms of her weaknesses.

With regard to teaching techniques, Maria remarked that she tried to employ teaching techniques that worked in the past. Thanks to the videos she watched, she kept a kind of repertoire in which she believed the activities were available.

> When I teach, if students and my friends love the activity, I tend to modify and use them once again. I do not have to discover every single thing from stratch. If it doesn't work, I try to change it and use it accordingly.

As is recognized above, Maria developed a kind of awareness of effective teaching techniques as a result of this study. She went on to say that this basically happened because of her friends' comments on Facebook on her teaching practice. She also said that she used her strengths to compensate for her weaknesses in her teaching. To illustrate, she complained about her inability to manage the classroom as effectively as she wished. She noted that she could not conduct classroom management properly. When she realized that this was the case, she made use of her strong point, she claimed, giving the instructions more clearly. She added that this way she could cover this problematic area more creatively than she could ever imagine. In relation to setting her teaching goals, she commented that there was a tendency to set her teaching goals before the session. She spent much of her time thinking and setting sub-goals for each particular teaching. Related to that, she remarked that she tended to ask certain questions about the teaching materials she was going to use.

> Before I teach, I think about what I have to do during the teaching process. I ask the questions like "Is it appropriate to use these materials? What needs to be done to make the best use of these materials? I always view the videos from this perspective. Does it live up to expectations, in other words?

As for monitoring skills, she certainly believed that she (had) developed her monitoring skills by observing what she was doing, and what she should have done so as to make her teaching much better.

> At first, it used to take longer to realize something was wrong and that the activity did not work as well as I had planned earlier. As time went by, I came to realize that it changed such a great extent that I could easily monitor my teaching performance and take necessary precautions.

Maria remarked that she understood if her students comprehended the topic or not. If not, she worked harder on it to compensate for it. In the case of evaluation, Maria mentioned the importance of evaluating her teaching practice after it was over.

> After I watch my video, I tend ask myself if I have accomplished my teaching goals. I suppose it is a kind of "the third-eye" that enables me to look at my performance in a more constructive sense.

Like Sam, she remarked that she developed a kind of habit in which she managed to evaluate her teaching performance. Taking a further step, she wrote her post-reflections on a piece of paper that allowed her to improve her teaching practice more effectively.

4.2.2.1.6 Ada

Ada reported that it is Facebook that helped develop her teaching metacognitive awareness during the study. To clarify, she remarked that Facebook videos contributed to her teaching practice in three ways. First, she was more encouraged to view her videos after she was done. She could collect more ideas regarding her teaching practice. Second, her friends' comments on Facebook helped realize her strengths and weaknesses about her teaching practice. As opposed to her teachers' comments, she, at this point, valued her friends' comments more mainly because they were going through more or less the same things, she claimed. Third, as a consequence of the nature of Facebook for education, she acknowledged that Facebook played a key role in shaping the way she teaches. She also remarked that there was a significant increase between the results of her pre and post-test. Her post-test replies center mainly on answer *"agree"* and *"strongly agree"*. However, she stated that she needed some more time to think to reconstruct her teaching practice due to her lack of teaching experience.

Ada believed that this study, specifically Facebook, helped her identify her strengths and weaknesses and shape her teaching perspective accordingly. Her friends' comments played a huge role in constructing her teaching practice in a more effective manner. In other words, Ada put an emphasis on her friends' evaluation regarding her teaching experience simply because they provided her with invaluable constructive feedback. In addition to that, this study enabled her to make a connection between the

theory and practice. That is, she found it quite convincing that the teaching approaches and methods made more sense only if she could observe herself making use of them in practice. To conclude, Ada found the study quite valuable in that it gave her different perspectives she had never considered in relation to her own teaching.

When the study started, Ada was very positive about being evaluated by her peers because she believed that she would gain benefits from her friends. As the study continued, this proved turned to be very true as she got very constructive feedback from her peers, which also indicated that there was a feedback culture formed. One of the greatest contributions of the study, she claimed, was that she was getting more critical perspectives about her teaching practice in that there were various aspects that needed to be considered when she was teaching. To clarify, when planning lessons, she was very careful about each step to take during her teaching performance. Moreover, she was able to evaluate her teaching performance regarding her required competencies. Watching her videos on Facebook was a kind of revolutionary act, in her remarks, because she could easily spot the areas that she needed to work more on. To illustrate, she mentioned being very nervous when she realized things did not work as well as planned before her teaching session. Thanks to this study, she could identify such things, more importantly, she could eliminate such problems in a more effective sense. When she acted this way, she was able to see how they reflect in practice. She was able to reflect on how much worse or better she could have done. Even though she did not teach real students, she completely believed that this study contributed to her teaching practice since it provided her with a kind of rehearsal. Moreover, she can at least sense what kind of situations she is likely to go through with real students in future contexts. As a last point, recognizing her weaknesses when she was teaching was a right beginning to put this knowledge into practice. In other words, being aware of her own teaching triggered being better at her teaching to a great extent.

In relation to teaching techniques that worked in the past, she believed that she had constructed a wide repertoire of teaching techniques that she herself observed when viewing her teaching video and her friends noticed regarding her teaching practice. She went on to say that her repertoire will be expanded as she gets more experienced in time. Ada simply acknowledged that she always does reasoning when she uses each

teaching technique. In other words, she seems to know the background of each activity done in class.

> When I use each teaching technique, I try to do reasoning that can be associated with, say, peripheral learning or humanistic approaches.

As is easily observed, her actions are based on theories that have a huge impact on how teaching is carried out. In relation to her planning skills, she remarked that she really thought about the teaching session she was going to run. To clarify, she went on to say that since she planned every single step of her teaching, she felt more secure when teaching. In other words, she wanted to make sure that she meticulously planned every action she would take during the teaching practice by thinking how much time to allocate for each activity. Related to that, she commented that she made small changes on teaching materials and the way she taught depending upon the comments made by her friends. As opposed to her past experiences, she now feels that she is able to monitor her teaching practice easily. That is to say, when she is teaching and her students are making an attempt to learn what is being covered, she evaluates her teaching performance with the questions like "How is it going? Is it going pretty well? and What needs to be done?". She also mentioned a "third-eye" that allows her to reconsider her teaching practice more critically.

> My third-eye has always helped me monitor my own teaching performance. It says what I need to do next to carry out my teaching more effectively. Monitoring is the best thing I can ever do.

She pointed out, as a result of this study, that her evaluation after each teaching experience increased a lot in that she considered whether her teaching goals were met at the end of her teaching experience. Furthermore, she recorded her comments on her teaching practice on her MP3. She remarked what else she needed to do to make her teaching session much better.

> I can not help myself thinking about my teaching performance after I am done. I have a notebook where I take notes of what I need to do to make my teaching session much better. Also, I record my comments on my teaching performance.

4.2.2.1.7 Marv

Marv believed that this study, specifically the recordings, contributed to his teaching metacognitive awareness much more than he could have ever imagined. He added that watching himself when he was teaching gave him incredible opportunities to monitor or re-shape his teaching accordingly. He remarked that there was a significant increase between the results of his pre and post-test. His post-test replies center mainly on answer *"agree"* and *"strongly agree"*. He said that the biggest contribution of this study was that he was given a unique opportunity to shape his teaching performance by planning, monitoring and evaluating it in a more concrete manner.

Marv also referred to the use of Facebook in this study and commented that it was a kind of revolution to make use of social networking in teacher education because he and his friends could easily reflect on whatever they did concerning their own teaching. In relation to Facebook, he remarked that Facebook served as a storage tool where he managed to keep everything regarding his teaching in time. He believed this would be a great contribution to his professional development because he was able to identify what was wrong and right about his teaching. As a result of this study, Marv stated that he became more self-critical about his own teaching practice as he was able to recognize the underlying beliefs behind each action he took while he was teaching. As he got more criticism, he also learnt how to criticize others properly.

At the very beginning of the study, Marv was very willing to be evaluated by his peers because he considered this study to provide him with various aspects he had never considered. In other words, he was very looking forward to his friends' comments on his teaching practice. His friends' comments were constructive enough to shape and nurture his teaching practice. Otherwise, he could have been demotivated by this. As the study went on, he stated that he was able to evaluate his teaching more appropriately, which gave him the chance to fix his weaknesses related to his teaching. He remarked that he knew that he was not good enough to elicit the topic; however, his friends' comments helped him get rid of this problem. What's more, videos played a key role in enabling him identify his weaknesses and building their strengths on them in a more

constructive sense. This obviously created opportunities for him to monitor his teaching when teaching more interactively. As for whether this study contributed to his teaching practice, he believed that it was really a precious opportunity to develop his teaching practice because being aware was the first step ever to take in becoming a better teacher. Even though he was not teaching real students, he was of the opinion that this was an invaluable experience because it had a huge impact on the way he conducted his teaching, which gave him at least a kind of insights of what kind of actions to take in his future career.

In relation to teaching techniques that worked in the past, he strongly believed that there was an obvious change in that he managed to keep track of effective teaching techniques.

> I did not use to do it in the past. Once a teaching session is over, it is over for me. Never did I use to think about it. However, now I find myself trying to note effective teaching techniques down when I observe my friends teach. After I do this, I do my best to put them into practice.

As is easily recognized above, Marv developed a kind of repertoire which contains the best teaching techniques. Very similarly, he claimed to act in accordance with a kind of belief that surrounded him. When he took an action, he recognized why he does so, which he attributes to the use of Facebook effectively. He even made use of his strengths to compensate for his weaknesses. To clarify, he strongly believed that he was not as adept at elicitation as he thought he should be.

> I sense that I am not that good at eliciting the topic no matter what I do. On the other hand, I recognize that I can give instructions to start an activity far better. Thus, I try to make a move from that situation. Moreover, I compensate for weaknesses; at least I think I do.

In relation to of his planning skills, Marv commented that he makes significant changes before his session is due by taking into account his friends' comments.

> When I set my specific teaching goals before each teaching experience, I pay particular attention that each goal should be clear enough for me to follow. These goals turn into a kind of guidelines for me.

Likewise, he considered whether teaching materials were going to be as effective as he presumed. He tended to ask certain questions to make sure that teaching materials

would live up to expectations of the class. Related to time management skills, he regarded Facebook as a great contribution to that mainly because this social networking tool helped him use his time effectively. He claimed that he needed to make sure that time would be allocated very properly before the teaching session. In relation tı his monitoring skills, Marv talked about a significant improvement in it. To clarify, he stated that he was more aware of what he was doing at time of teaching. The videos helped him understand what went wrong and right about his teaching practice.

> I would never do it in the past. But now videos are influential in shaping the way I teach at the time of teaching. In other words, I think if my teaching goals are being met when I conduct, say, a teaching activity. To sample, I did not know that I failed to check the instructions while I was teaching, but now I can talk about a tendency.

Marv, however, stressed that there is more to go. No matter how much aware of his teaching practice he is, he still believes that it is his being nervousness that prevents him from monitoring his teaching performance. In relation to his evaluation skills, Marv simply acknowledged that teaching sessions are not an end to themselves, like he and his colleagues mentioned.

> After each teaching session, I frequently evaluate it in order to see if it worked well or not. I strongly believe that each teaching session is a process that enables me to believe that it is a kind of lesson for me. It is not enough to complete it, it takes more than that, I really suppose.

In terms of this statement, he also remarked that he has a habit of taking notes after he is done with his teaching. Next time he prepares his teaching, he acts in line with what went wrong and right about the previous teaching demos.

> I take notes of bad and good sides of my teaching practice so that I can reshape my teaching accordingly next time. It takes longer than I can ever imagine, but it does work.

Marv also pointed out that his friends' evaluating his teaching performance through the videos gave him a lot of valuable ideas concerning what to do next. To clarify, before his teaching session was due, one of his friends made a comment on his lesson plan saying that she does not figure something out.

> In the past, I never used to have a chance of looking back my teaching performance. But now I have a kind of storage which allows me to reflect on how well I am doing. If I happen to recognize any kind of problems, I tend to change them.

He also said that Facebook can be used as a portfolio in which he keeps track of his teaching practices. He is able to reflect on his teaching practice with a view to evaluating it more effectively.

4.2.1.2.8 Virginia

On the face of it, Virginia strongly believed that her ability to plan, monitor and evaluate her teaching session improved a lot despite the fact that she was not that sure about it as she had not taught real students as yet. To clarify, she remarked that there was a significant increase between the results of pre and post test. Her responses are generally *"agree"* and "*strongly agree"* in the post-test, which obviously indicated that her teaching metacognitive awareness improved. Her biggest acquisition from this study was that she developed an awareness that could help her shape her teaching as time went by. However, she needed to deal with real students to make sure that this study contributed to her teaching practice.

Virginia acknowledged that this study was crucial in three aspects. First, it gave her the greatest opportunities to reflect on what she did and to back them up with the necessary strategies. Second, she was able to criticize her teaching with the help of her friends' comments. Third, a kind of feedback culture where one gives constructive feedback to another was formed. She noted that as this was not a real classroom environment, she was not that sure if this study contributed to her teaching practice as much as she was expecting. To be more precise, she was feeling that her teaching practice developed as a result of this study, but when it comes to the question of to what extent, there are still open areas that need to be worked out. At first, Virginia was not sure about how she should feel about her peers' evaluating her teaching performance. She was a bit too nervous to get involved in this because she was not that open to criticism. In addition, she was a bit scared of technology, Facebook. However, as the study continued, she came to realize that this was not as scary as she had thought earlier. To be more precise, she managed to navigate the technology easily. She got very excited about viewing videos and spending much time on thinking about them so as to make her teaching practice more constructive, as she claimed. She even thought that she could have missed a lot of things if she had not taken part in this study. As she got

involved in peer-evaluation and viewed her videos, she felt that it turned out to be a kind of habit where she could not help herself observing her friends' sessions which were a great contribution to her teaching practice. As to whether this study contributed to her teaching practice, she noted that in parallel with her being aware of her teaching practice, her ability to teach increased. It can be easily seen that her awareness developed as she got involved in this practice more than ever. Virginia, however, felt that it was some other problematic areas that needed to be considered meticulously. Since she was not teaching real students, she was of the opinion that it would much better work in the future.

Virginia referred to the use of videos to explain why she tried to use teaching techniques that worked in the past. When she viewed her videos very often, she realized that one activity she designed earlier worked as expected. When this was the case, she stated that there was an increase in doing so in that videos serve as a "third-eye" which led her to keep track of effective teaching techniques.

> When I view my videos, I realize there are certain teaching techniques that worked. I note them down and I consider using them in the future, which I really do.

In relation to her being flexible depending upon the situation that surrounded her, she remarked that she, with the help of Facebook where she was given very valuable comments regarding her teaching practice, displayed more flexible dispositions as a result of this study. In other words, the activities she employed were likely to change depending on the situation and the atmosphere. However, she believed that she developed her teaching awareness mainly because she had a lot of things to experience in time. On the other hand, thinking that there was a lot to go, she believed that this study contributed to her teaching awareness more than she could ever imagine.

> I had a problem at first, however the plans we upload on Facebook and friends' comments caused my awareness to increase, I believe. In other words, I can plan my teaching more effectively than I used to do.

With regard to her planning skills, she certainly believed that she spent some time thinking about what kind of actions she should take to make teaching process an efficient one. She went on to say that she needed to make sure that the flashcards to be used are big enough for students to be able to see. As to her monitoring skills, she stated

that her ability to monitor her teaching practice greatly improved as a consequence of this study. To clarify, there was an obvious tendency to considering if her teaching goals were being met. If not as desired, she tried to take necessary precautions accordingly.

> At the time of teaching, I always try to check if my teaching goals are being met or not. In other words, I am monitoring my teaching as effectively as I could. If it is as desired as it could be, I am controlling it. If not, I try to make small changes to make it much better. For instance, if I give instructions, my students react to them properly, which I am quite happy with it. If not, I try to make it work.

However, she mentioned that her nervousness prevented her from controlling her teaching practice as effectively as she should. To be more precise, there is a long way to go for her to make sure that every action is checked. She was of the opinion that there are two things which make those possible: experience and reflection. Virginia claimed that there was an increase in evaluating her teaching practice. To clarify, she can not help herself thinking about what other possible techniques she could have used after each teaching experience. Furthermore, she tends to talk to herself regarding what she could have done differently to make her teaching more productive and meaningful.

> After I am done with my teaching, I tend to ask questions “Did it go well?”, “Did it match my teaching goals?”, “Did it live up to the expectations?”, “What other techniques could I have used?”, “Were I given a second chance, what kind of changes would I make?”. Viewing my videos, I note the good parts down so that I can make use of them later on. Afterwards, I try to integrate those into my future teaching as much as I can.

Overall, the evaluation of the retrospective interviews showed that the study ended up being viewed very positively by the participants despite the problems encountered on the way. The data gathered for this study indicated that the student teachers seemed to pass through states of confusion, anxiety but mostly excitement in relation to different aspects of the study. As they progressed, they increasingly appreciated its benefits including the ability to plan, monitor and evaluate their own teaching practice as well as the knowledge that led them to take those specific actions. The benefits were, generally, reconceptualized in three ways. a) Reflection over their own teaching with a view to identifying their weaknesses and strengths. b) Self-evaluation about what kind of progress they make over a period of time. c) Peer-evaluation that has a huge impact on the way each student teacher teaches. More importantly, a combination of those benefits featured above seems to constitute the very

essence of metacognition, which highly correlates with (teacher) autonomy. As Kimball's study (2005), which investigated the influence of portfolios on pre-service teachers' reflective process and thinking, this present study offers direct benefits to student teachers such as an opportunity to explore and solidify the connections between the disparate things they have covered. The students' responses revealed that they had developed their teaching metacognitive awareness during the entire study. This is revealed both in student teachers' responses to Metacognitive Awareness Inventory for Teachers (MAIT) and in their retrospective interviews. The development of participants' autonomy was, by and large, confirmed, but we also realized that the student teachers showed an increasing ability to use their metacognitive skills. In a research study carried out by Pelliccione, Dixon and Giddings (2005), the participants valued the portfolio process especially in terms of their reflective insight. The present study, too, revealed similar results in relation to reflective practice. It was also observed that the student teachers made good use of the opportunities the study gave them to engage in self-directed development. Van Manen (1991) asserts that this can only be achieved if pre-service teachers, in general, have time to think about their teaching in terms of what was done, what could have been done, and what should have been done. This opportunity was given to the student teachers because they were allowed to observe both their and others' teaching practices. This overall evaluation showed that the goal of teaching metacognitive awareness can be achieved even in the difficult circumstances of a pre-service teacher education programme. As Lin, Schwartz and Hatano (2005) observed in their own studies, the student teachers in our study also developed adaptive metacognition effective teachers have. To be more precise, they mentioned that they made small adjustments according to the classroom dynamics. The aforementioned benefits are, of course, specific to our own context, and to the particular group of student teachers involved in this study.

4.2.2.2 Stimulated Recall Sessions

After student teachers' demos were recorded, stimulated recall sessions were conducted with them on the basis of the questions prepared and piloted earlier. The following section features the first and second recordings as well as the student teachers' comments on them. More importantly, student teachers were encouraged to give specific reasons, if there is any, on their comments.

4.2.2.2.1 Sam

One day after his teaching session, the researcher conducted stimulated recall sessions with Sam so as to take a deeper look at his teaching performance on the basis of the questions prepared and piloted earlier. Sam felt that he was not aware of what he was doing during his first teaching practice. It was frequently observed that he used questions like “Did I do this?” and “I was not aware of this”.

> I only now could notice that when I was calling upon my students to speak, I gave no feedback to them. I just went on speaking, of which I was not aware.

As is easily seen from his remarks above, Sam could hardly observe himself when he was teaching. He also stated that he needed to develop urgently because being aware of his teaching process was a crucial step to take. In relation to that, Sam mentioned that he had chosen “I strongly agree” for the item “I check regularly to what extent my students comprehend the topic while I am teaching” before the study. However, his teaching video indicated that this was not the case. He believed that he could monitor his teaching when he was doing so, but, the first recording showed that he was very far from it. This constitutes the mismatch between his belief (what he believes about his teaching) and practice (what he is currently doing). As time went by, there were other mismatches. As opposed to the first recording, in the second recording, Sam remarked that he was more aware of what he was doing because he had planned it more properly earlier than his teaching practice. When he failed to get desired responses from his students, he was not able to recognize this at the time of teaching. Viewing his video after his teaching practice, he remarked that he could have asked different kinds of questions that might encourage the students to get involved in the class.

> I did not notice I could have used various types of questions, because no matter what I did, I did not get any reactions which helped interaction to come out.

As for his second recording, he was absolutely aware that he needed to get his students to take part in the class more interactively. When it was the case that his students were unable to get the points covered, he commented that he managed to take specific actions to compensate for them. In the first recording, he remarked that he was not aware of the fact that teacher talking time was much more than it should have. To be more precise, believing that it was the teacher who had to get students to talk as much

as he could, he did not do so. More importantly, he was unaware of this when he was actually teaching. It was only after that he recognized that it was the case. In relation to his second recording, he indicated that due to his students' reactions, he was able to understand that he failed to elicit the topic. During the second recording, he got it at once and this understanding led him to take specific measures to cover this. It can be easily argued that there was an obvious change in monitoring his teaching skills while he was teaching. Sam strongly believed that videos made him believe that he was good enough to elicit the topic. In addition, he was able to recognize his weaknesses and strengths, more importantly, he was more aware of the points he needed to better.

4.2.2.2.2 Becky

During the stimulated recall session, Becky stated that she was a bit nervous in her first teaching session. For this reason, she was unaware of what was going on while she was teaching. She added that when she was viewing her teaching video, she generally considered that she was not aware of what she was doing.

> I was not aware of that I was alone teaching the grammar point. I did not recognize that time, but I can now figure out that I was unable to get the desired responses from my students. The worse thing was that I was unaware of this at the time of teaching. I was a kind of blind to my teaching awareness.

In her second teaching video, it was frequently observed that she became mostly aware of her teaching practice as time went by. It might have been due to the fact that she received a lot of peer evaluation feedback that specifically focused on her weaknesses. Furthermore, viewing her videos was influential to reveal the blank aspects of her teaching. Another crucial observation she made about her teaching practice in the first recording was that she realized that she was unable to set the groups as properly as she should because it was not enough to merely say "Be a group". In other words, she was not aware of giving such instructions in setting the group, which she had not recognized that time. When she was viewing her video afterwards, she came to realize that she should have been more careful when grouping her students.

> I did not realize that I did not get the desired responses. That is, I was asking something, which the majority of my students failed to understand. I was just trying to conduct my teaching, that's all.

As is easily seen from her remarks above, in her first recording, she was not as reflective as she could because she even failed to maintain the interaction between herself and her students. Furthermore, she was unable to have a good control of the class as it was hardly possible for her to monitor the interaction with her students. As opposed to her first teaching practice, in her second one, Becky stated that she was paying attention to what she was doing because she noticed that they did not respond to the way she expected them to do.

> (Referring to a particular scene) Right here I was trying to make a connection between what they did and what they should have done. I immediately realized that it was not going as well as I planned earlier. Then, I took specific measures to make it work. I did relate the topic to their own lives, which, I suppose, worked.

Becky, in contrast to her previous teaching practice, was specifically considering whether her students would understand her instructions or not. In other words, she was using her strengths as a kind of monitoring tool that enabled her to keep track of her teaching practice. It can be easily argued that she was quite good at checking whether her students would understand her instructions or not.

> While I was preparing questions to elicit the meaning, which I had a great difficulty in the first place, I specifically considered whether my questions would be easy enough for my students to understand. I confidently claim that the first recording played a key role in shaping my questions, or the effectiveness of my questions.

These statements, it can be easily argued, indicated that her ability to monitor her teaching practice greatly improved due to the fact that recordings gave her a great opportunity to evaluate her teaching practice while teaching. She was able to think critically and reflectively. Besides, she was pretty aware of her instructions because she was able to check them very properly. At first, she got panicked because her instructions were not clear and were not understood by her students. However, she was able to cover this due to the alternatives she had during her teaching practice. She noted that she made use of other strategies to compensate for the situation.

4.2.2.2.3 Zahra

Generally, Zahra focused on several issues of which she was unaware in her first recording. First, when one of her students was trying to answer the question Zahra asked, she neglected her student and did not give any particular feedback to her, which

she could only recognize while she was viewing her video. She was not paying attention to her students' responses even though she claims that she does it very frequently. Second, she could have used different kinds of questions that may have helped her students get the topic. She did not even recognize this that time, so she failed to use such leading questions. Third, viewing her video, she came to realize that she had more teacher talking time than enough, of which she was unaware. It can be easily recognized that Zahra had a great difficulty in monitoring her teaching practice as there were different dimensions which she could hardly recognize. As opposed to her first recording, she was pretty aware of what was going on during her teaching practice.

> Unlike the first recording, I was quite aware of what I was doing while teaching. For example, I knew whether my students understood my instructions or not. I can say now that my facial expressions showed that everything was pretty in control.

Related to that, she recognized the specific actions she needed to take when teaching because she was aware of the fact that there was something wrong in eliciting the topic. That is to say, she realized that eliciting the topic would not work as it was, and then she decided to change it to a more interactive way.

> I was aware of that no matter what I did, they (her students) were unable to get the grammar point I was trying to teach, and then I thought I had to change it to a more effective way. What I did was to ask more personal questions related to their own lives. I came to realize that it worked, really.

As is easily seen from her remarks, she developed awareness in time which helped her monitor her teaching practice. She also mentioned that she really liked the way she gave the instructions. The reason being was that all of the students seemed to understand what they were supposed to do. She came to believe that she was controlling the way she conducted her teaching practice.

4.2.2.2.4 Kathy

When she was watching her first video, Kathy stated that she was not aware of most of her actions. She mentioned that she did not recognize that she should have paid more attention to her students when they were trying to say something.

> (Referring to a particular scene) I do not believe I really did this. I should have listened to Marv (one of his friends) here, not looking at the paper, which I did not recognize that time.

One can easily argue that Kathy was unable to monitor her teaching practice that moment. Her second recording, however, indicated that she was very aware of even her language as opposed to her first teaching recording, which gave her a lot of self-confidence. What's more, she was pretty aware of what she was doing during the class.

> I was totally aware of what I was doing when teaching. To specify, I understood that some reactions were not as good as I anticipated. In order to make that work, I really took specific measures. I can see now that they all worked.

Taking specific actions concerning her teaching practice, she acted depending upon the context which surrounded her. She was also aware of the fact that the pre-part did not go as well as planned because she was unable to give the instructions properly. It was critically important as she had a chance to compensate for them. What's more, she realized that she developed a kind of teaching awareness about her teaching thanks to this re-viewing. To clarify, in the first recording, she did not recognize that she talked a lot more than enough, which made her class a teacher-centered one. However, she certainly believed that this should not be the case as she should encourage her students to actively participate in the class. On the other hand, in the second recording, she realized that she should have checked the instructions before the students did the activity, for it might have been very useful to avoid the chaos, she claimed. In the first recording, however, she was unaware of a very similar situation, which she could only realize when watching her video afterwards.

> As opposed to the first recording, I can confidentially say that I was more aware of the actions I was taking while teaching. This was partly due to my viewing recordings and my friends' comments on my teaching practice. More importantly, it was a combination of both in a great sense.

4.2.2.2.5 Maria

Maria, on the whole, stated that she was not aware of what she was doing during her teaching practice apart from the fact that she felt there was something wrong going on. She did not recognize that she was talking too much even though she claimed that she was a little aware of this while she was trying to elicit the topic.

> (Referring to a particular scene) I was a bit aware of it, I was talking too much. However, it was a matter of moment that I had to change it, I go myself "come on, Maria, it should be them who are supposed to talk", but on the other hand, I believe that I need to do something to have them talk, otherwise they would never take risks to react, let alone talk. Above all, I was a little aware of the fact that I did too much talking.

As it can be easily observed from her remarks above, Maria was trying to control her teaching practice by monitoring how well she was doing. Nonetheless, she seemed to lose the track of her teaching practice sometime because she did not plan her teaching more effectively, she claimed. In the second recording, she was more aware of her teaching practice as she claimed that she understood that she could have done much better to enable her students to get the point that she was trying to teach.

> I wanted to have my students understand this point; yet, no matter what I did, I sensed that they failed to understand it. Then, I realized that I should have done something else. I thought for a while, and I asked different questions, which, to me, was a kind of thinking outside the box.

As opposed to her first recording, she was able to control her teaching practice in the second one, as the statement above indicated. It was a very important action to monitor her teaching practice to see whether it was going well or not, more importantly, she managed to take specific measures related to that specific action. Similarly, Maria acknowledged that she did not realize that there was a lack of smooth transition in her teaching practice. To clarify, she was unable to make smooth transition from one point to another, which, absolutely, astonished the students.

> (Referring to a particular scene) Here I was trying to finish the elicit part, and go on with the exercises. I do now realize that it happened so fast. In other words, a minute ago we were dealing with grammar, but now doing exercises. My students' eyes simply indicated that this should not have been carried out this way. Rather, it should have been smoother, because of the fact that it resembles real life this way.

Her second teaching recording showed that there were more points of which she was aware than the previous recording. Other than that, she was pretty aware that her teaching was being monitored with a cautious eye when teaching. To clarify, she mentioned that she was able to check if her teaching goals were being met or not.

> (Referring to a particular scene) I recognized that the questions did not live up to my expectations that time. In other words, whatever I did was for my students to understand the topic. Also, I was pretty aware of that they failed to understand the activity, and in order to make sure that it would work, I checked it. Asking questions helped me to make sure about it. I am pretty happy that I was quite aware of it.

As opposed to her first recording, in her second recording, she came to realize what was going on during her teaching practice, more importantly; it was obvious that she knew what needed to do.

4.2.2.2.6 Ada

Ada mentioned the greatest differences between her first and second teaching recordings in that she was quite unaware of what was going on in the first one. In other words, she stated that whatever actions she took in her first recording, she mostly found out that she failed to recognize what she doing while teaching. To clarify, she was unaware of ignoring her students when they were trying to come up with the response.

> (Referring to a particular situation) I really do not remember why I did this. Worse, I have no idea that I did this, I was unaware of this, I suppose. This was what I always try to pay attention.

As one can easily see from her remarks above, she did not recognize that she (had) ignored her students. This could be because she was very nervous. More importantly, she failed to monitor her teaching practice. Whenever was needed, she should have been ready to compensate for them. However, she was unable to do so. On the other hand, she had a strong feeling that she used very well-prepared materials including flashcards. In the first recording, no matter how unaware of her teaching practice she was, she mostly recognized that her teaching materials were good enough to attract the attention of her students. When it comes to elicitation part, she claimed that she did not recognize what she was doing.

> (Referring to a specific scene/sentence) Oh my god, did I really ask that question to elicit the topic? I was not aware of this. I could have asked a more meaningful question for students to get the meaning. Otherwise, that would be a chaos.

Unlike the first recording, Ada, in her second recording, claimed that she knew better what to do during each step, which indicated that her awareness was getting higher. She remarked that she was controlling her teaching practice more effectively than the previous one as this study allowed her to work on each step meticulously. To sample, she was very aware when she was giving the instructions, which, she thought, went pretty well. More importantly, she recognized that her students understood what they were supposed to do with the instructions. In addition, she expected that the

concept questions would work as effectively as she had considered earlier. She believed that the questions were clear enough for her students to understand. What was critically important here was that she was aware of that her students were guided very effectively by the questions.

> (Referring to a particular scene) I could have done it more differently. I was unaware of the fact that I gave the instructions like this. I did not recognize this.

In her first recording, she was not able to monitor her teaching practice as effectively as she could. In addition to that, she remarked that she could have checked if her students had understood the instructions or not. On the face of it, Ada believed that she was quite aware of what she was doing during her practice, each step she took, each question she asked, each interaction she made with her students. To Ada, what made this more important was that she knew why she was doing this. She was also pretty sure about what strengths and weaknesses she had, more importantly, she had to consider the possible ways to strengthen her weaknesses.

4.2.2.2.7 Marv

Marv, on the whole, stated that there were so many differences between his first and second recording. Whereas the first recording was full of things he was not aware of his teaching practice, the second implied that he developed a kind of awareness that enabled him to plan, monitor and evaluate his teaching more properly.

> (Referring to a particular scene) I was not aware of asking that question "What's the topic today?", which, to me, was a bit artificial right now. Surprisingly enough I did not even recognize this at that time. I can only see this.

In addition to this, he was unaware of the fact that his students did not respond to his question as properly as he wanted them to do.

> I believe it was because of me. I could have asked different kinds of questions that allow them to answer the question.

As one can easily observe form the remark above, Marv failed to monitor his teaching in the first recording, which he managed to understand afterwards. Another example for this might have been that while he was giving the instructions for the

activity in the first recording he did not recognize that the students did not understand what they were expected to do.

> I did not recognize if they were listening to me. I kind of lost the track of my students, which was horrible indeed. I can only now think that were they doing what they were expected to do.

Marv pointed out that he was not aware that he spoke more than his students. It was very obvious that the students should have taken up speaking more than the teacher.

> Oh my god, it was me who talked too much. Everyone (professors, friends, etc) always tells us that we have to do my best to have my students talk as much as possible. Look what I have done.

Related to that, he failed to monitor the instructions because he was not aware of whether the instructions would be understood or not. He certainly believed that he needed to model the instructions so as to make sure that everyone would understand them. However, in the second recording, he was quite aware of what he was doing at the time of teaching. To specify, he stated that he recognized how well he was giving the instructions. That is to say, he was doing pretty fine in giving and checking the instructions.

> I was very aware of giving the instructions. More importantly, I was able to monitor if I was doing well or not. In order to make sure, I had to check the instructions, which I did in a conscious manner.

As opposed to the first recording in which Marv was not aware of what he was doing, in the second recording he was mostly aware of each specific action he took during teaching.

> Unfortunately, I was not able to control the class as effectively as I could. No matter what I was trying to do, I was a kind of alone here in class. The good news is that I was absolutely aware of it.

As Marv remarked above, he was aware enough to say that he was alone teaching no matter what he was trying to do. This could be considered to be important because he was keeping track of his own progress more effectively.

> Even though I was more aware of my teaching in comparison to the first recording, I strongly believe that I could have done it much better, especially the interaction between my students.

4.2.2.2.8 Virginia

Like other participants, Virginia noted that she seemed not to be quite aware of her teaching practice in her first recording. To illustrate, she did not recognize that she talked too much. She could have encouraged her students to talk more.

> I now can see that the class was much too teacher-centered. This is not what I think about my teaching, to be honest. When I noticed that (while watching my video), I got a kind of shocked because I always thought the other way around.

As opposed to the first recording, in her second recording, Virginia seemed more aware of her teaching actions. To clarify, she noted that she was not speaking as much as she did in the first recording. Another important aspect she mentioned was that she failed to elicit the topic while teaching. She could only understand this while watching her video. However, she was aware enough to recognize that she was giving the instructions not properly. Having recognized this, she was ready to compensate for it, and she immediately changed her instructions so as to enable her students to understand them.

> (Referring to a particular scene) I did not know that I was unable to give the instructions very properly. They were kind of much too complicated to understand, unfortunately. More importantly, they were not paying attention to my instructions. I had to wait for them to get the attention, which, a bit later, I did.

Moreover, she found out that her students had a difficulty in following the content during the class as there were no smooth transitions available. In other words, her students did not understand what they were expected to do when she was giving the instructions. In her second recording, however, she noted that the moment she understood that her students got a kind of confused, she rephrased her words so that they could understand the instructions.

In a general sense, the comparison between the first and second recording simply showed that there were a great many differences in terms of teaching metacognitive awareness. The participants ended up being metacognitively more aware of their own actions in the planning, monitoring, and evaluating phases rather than developing their knowledge of cognition. Before their first recording, the student teachers thought that they were pretty aware of their own teaching practice. However, the data that emerged from the study obviously suggested that it was not the case at all. Most of the

participants believed that there was amount of mismatch between their beliefs and their practice. The items related to monitoring their own teaching skills were mostly chosen as *"agree"* or *"strongly agree",* which indicates that the student teachers were of the opinion that they were able to monitor their teaching practice. When they were watching their videos, they seemed to change their views in that the reality was not the way they considered (Peacock, 2001; Shireen Desouza, & Czerniak, 2003; Marek & Laubach, 2008). The relevant research studies display that beliefs have an important impact on teachers' practices. The studies also show that there is a list of mismatches between their beliefs and practices. To illustrate, I. Lee (2009) investigated mismatches between teachers' beliefs and written feedback practice. Similar to our conclusions, Lee found out that there were ten mismatches emerging from their beliefs and practice. Only after the student teachers noticed the differences between their two recordings did they realize that there was indeed an improvement in their metacognitive awareness.

4.2.3 Interpretation of the Findings in Relation to Hypothesis 1

As is easily seen in the relevant literature, metacognition plays a key role in the effectiveness of the learning process. In other words, it is widely acknowledged that metacognitively aware learners tend to become more successful in that they are able to plan, monitor and evaluate their learning processes. As far as the question of how they become metacognitively aware learners is concerned, it is generally believed that teachers themselves have a crucial duty to foster metacognition in classroom environments. In the research literature, however, there have been a few studies on the importance of metacognition in pre-service teacher education (Anders & Richardson, 1991; Birdyshaw, Pesko, Wixon, & Yochum, 2002; Duffy, 1991, 1993, 1998, 2002, 2005). These studies include only articles written on this issue with no empirical evidence supporting this. Unlike their findings, Bowman, Galvez-Martin and Morrison (2005) draw an analogy between learning and teaching with regard to metacognition in that metacognitive processes allow students to become more strategic and thoughtful learners (Williams, 2000). In a similar fashion, these metacognitive processes also do lead teachers to become more strategic and thoughtful about their own teaching skills (Pultorak, 1993). To be more precise, it is evident that teachers themselves need to

display metacognition in order to help their own learners become metacognitively aware of their own learning. It is this point that this research focuses on.

The design of the study was the pre-test-post-test experimental research without a control group. The study lasted 14 weeks with only 8 student teachers. The results of the (experimental) study indicated that the (experimental) group displayed a high degree of teaching metacognitive awareness ($p < 0.001$, The Wilcoxon Matched-Pairs Signed-Rank =,000, $Z = - 2,521$) according to the findings of the The Wilcoxon Matched-Pairs Signed-Rank Test. Derived from the Mann-Whitney U value test, also the effect size measured for the (experimental) group was quite a large one ($r = 0,785$). In the post-test, the (experimental) group displayed a significant increase, which simply indicated that the (experimental) group displayed a significant improvement. To be more precise, the study showed that the use of social networking in pre-service language teacher education had a significant impact on the development of teaching metacognitive awareness in student teachers. Related to that, it was also proved that metacognitive awareness can be developed in pre-service teacher education by using social networking sites along with different kinds of reflection tools. Zohar (2006) mentioned that teachers, like students, need to monitor and regulate their cognitive activities, and must identify appropriate strategies, make moment-to-moment decisions to ensure students' learning. The student teachers' reflections, by and large, displayed that they were given enormous opportunities to plan, monitor, and evaluate their own teaching practices by thinking deeply about the appropriate teaching strategies. Supporting the results of the study by Baylor (2002) who examined pre-service teachers' metacognitive awareness of instructional planning through pedagogical agents including instructivist agent, constructivist agent and agent character, the current study produced results like a change in perspective, more reported reflection, and questioning the validity of the teaching methods in action. The stimulated recall sessions indicated that the student teachers were mostly involved in the development of reflection via the question of "why" in a variety of ways. As Sparks-Langer, Simmons, Pasch, Colton and Starko (1990) pointed out, the "why" question was essential in the development of reflection in pre-service English teachers. The enormous opportunities given to the student teachers to engage in reflective thinking help them link theory to practice by allowing them to try to balance learning and teaching styles with content. It was not always easy for them to reconcile theory and practice in their own experiences. Blainer and Cantrell (1982) stated that

pre-service teachers can be guided to develop effective reflective abilities, learning how to reflect about their teaching in an objective and analytical way under controlled teaching conditions. In this study, the student teachers were in need of being guided through reflective abilities which may aid them to develop their metacognitive awareness. In a research study conducted by Kaminski (2003) with pre-service teachers in mathematics on their reflective practice, it was concluded that the student teachers' learning experiences changed in a number of explorations, the student teachers' planning to teach mathematics and changes in student teachers' views and in their attitudes to teaching mathematics also changed greatly as a result of the study . The current study produced more or less similar results to those of the Kaminski's study. Koçoğlu, Akyel and Erçetin (2008) examined whether the use of paper and electronic portfolios fostered the development of the reflective thinking ability of five ELT (English Language Teaching) student teachers at a university in Turkey. Even though the study mentioned above does not produce any results namely an increase in reflective thinking as a consequence of the use of e-portfolios in pre-service language teacher education, the current study indicated that not only were the student teachers exposed to different strategies, which provided opportunities to increase their metacognitive awareness, but also they were given opportunities to provide solutions to the problematic areas in their own teaching. Therefore, we can conclude that the "hypothesis one" was verified in this study.

4.2.3.1 The Factors Contributing to Teachers' Metacognitive Awareness

This study verified that employing a social networking site along with other reflection tools in a teacher education programme contributed to the development of teaching metacognitive awareness, which constituted the experimental aspect of this research. In addition to the quantitative data, the researcher collected certain qualitative data in order to have a deeper understanding of how this development occurred. It would be reasonable to mention that the student teachers developed their teaching metacognitive awareness because they were given enormous opportunities to plan, monitor, and evaluate their own teaching practice. Viewing their videos had a great influence on this development. This was the first time the student teachers had ever been involved in such a process that enabled them to establish an effective use of their

metacognition. The following factors that led student teachers to develop their teaching metacognitive awareness were categorized.

4.2.3.1.1 Weekly Reflections

During the study, student teachers were simply expected to make a summary of their acquisition related to that week and of how this acquisition could be reflected in their own teaching practices. This section presents a summary of weekly reflections as well as how these reflections could contribute to student teachers' metacognitive awareness. On the basis of the questions including "What I have learned this week is…", "What I have difficulty in figuring out this week is that…", "What I need to focus more on is that…", and "I believe I may use this information (name the information, strategy, etc)…", the following extracts are given.

> Last week, we talked about the role of the teacher in speaking class. I learned that the teacher should be prompter. The teacher gives some discrete suggestion when students can not think of what to say. She should be participant. The teacher's participant in role plays or speaking activities may help the activity go along. However, the teacher should not be dominant or do the whole activity. Moreover, she should be feedback provider. It doesn't mean correcting all the mistakes. Teachers should give delayed feedback or immediate feedback depending on the task type. The teacher may encourage self or peer correction.

As is easily seen from student teachers' weekly reflections, the student teachers made a brief summary of what they covered during the week, which allowed them to reflect, to think over and to re-evaluate their knowledge about the specific session. Furthermore, these reflections played a key role especially in developing student teachers' metacognitive awareness because this was evident from the notion of change they mentioned repeatedly about their thinking and attitude towards their profession. There was a general agreement among the student teachers that the micro teaching demonstrations that they prepared and performed for methodology classes were influential in that they had a chance to ask questions concerning their own teaching practice.

> I suppose I need to focus more on error correction. Our trainer said we should be careful when student is talking about something emotional. She also mentioned that we shouldn't focus on errors if we are not practising grammar structures.

These weekly reflections were so effective to lead the student teachers to focus on their weaknesses during their teaching practice that they all believed these reflections played a key role in shaping their teaching practice. Moreover, lesson plans uploaded before the sessions through the exhanges of opinions led to critical reflection and self-monitoring, which caused a habit of thinking back to their purpose and the flow of the lesson (Usuki, 2001).

> As a teacher candidate, I know my aims and abilities. Therefore, I always shape my attitudes in micro teachings in parallel with my aims and abilities"

Likewise, one of the student teachers in her reflection said that she knew her abilities and aims, which always shaped her attitudes accordingly. Weekly reflections allowed her to question whether her teaching practice would go hand in hand with teaching aims and abilities. It would be possible for them to make a possible connection between the theory and practice. It can be easily argued that weekly reflections were influential in bridging the theory and practice together.

> I believe I am going to use real life situation writing during my writing classes. Our trainer said "in real life, do they say write a paragraph?" again we are coming to the same point. Real life situation. The writing assignments shouldn't make students think that that is a lesson.

As one can easily see, weekly reflections helped student teachers construct a kind of repertoire in which they could keep what they like about their and others' teaching performance.

4.2.3.1.2 Peer-evaluation

In addition to weekly reflections student teachers had to write themselves, they were also required to complete peer-evaluation forms where they were encouraged to report what they like/dislike about their peers' performances. The statements that were expected to guide them were as follows. What I like about her/his performance is that…, What I dislike about her/his performance is that…, I suppose I can make use of the strategy (name the strategy, action, etc...). In this regard, this section presents a summary of peer-evaluation along with how those can contribute to the effectiveness of their teaching metacognitive awareness.

> I liked your pre-activity. You showed some pictures and elicited the topic well and pictures were quite enjoyable and interesting, we all enjoyed. Moreover, you asked some personal questions and I liked it. It was a good way to make students speak.

As this piece of evaluation indicated, one of the student teachers mentioned the good sides of the performance of her classmate. This allowed her to focus more on her classmate's performance with a more critical view, which obviously led her to use the effective teaching strategies.

> You elicited the functional language by using certain questions, it was really cool but I think there was a problem. There was lots of information and students may have difficulty in remembering them. This kind of information may make students confused.

As is easily observed in the statement above, one of the students commented that there were some issues that one of her classmates pointed to develop in relation to his own teaching. It can be easily argued that peer-evaluation played a key role in helping student teachers observe their own weaknesses and strengths concerning their own teaching. In order to help them identify the importance of mutual interaction the members participated in this process to see their teaching practices from different viewpoints. As Wenden (2001) emphasizes, this mutual interaction set out the basis as metacognitive knowledge and regulation for the teacher development. In addition to that, they were encouraged to think critically about others' teaching practice so that they could be more focused on the performances.

> Your game was a good one but there were some problems with it, though. First of all, your instructions were good but I think you were a little nervous or you were not prepared well. I think because of them you had difficulty in explaining the game, and you did not explain the game as you wanted, I suppose. Moreover, there were some problems about how student chose lie or truth. Firstly, I did not understand whether we decided as a group or individual in groups. If you controlled the turn for each group to say LIE or TRUTH, the game would have been more comprehensible and controlled. Thus, as a whole I liked it, because it was enjoyable.

This peer-evaluation enabled one of the student teachers to look at his teaching performance from different angles, which developed the way he thought. Giving suggestions was very efficient in that they all contributed to the development of teaching practice. All in all, collaborative awareness (Usuki, 2001) occurred as a result of this exchange of ideas. In other words, this interaction might occur through strengthened awareness of responsibility and self-direction. Awareness, in this regard, seems to have close ties with (teacher) autonomy because it is expressed as an actual thinking process.

4.2.3.1.3 Facebook as a StorageTool

It was widely agreed that Facebook, in this research, made a great deal of contributions to student teachers' metacognitive awareness in that it was employed as a kind of a storage tool through which they kept their track of progress very efficiently. To clarify, this research revealed that the student teachers were given a great opportunity to reflect on their own teaching progress mainly because Facebook helped them do so. To be more precise, Facebook was mostly used as a portfolio in which they planned, monitored and evaluated their own teaching.

> Facebook helped me see my positive and negative aspects in teaching. Thanks to Facebook, my friends and I can watch my demo video and comment on my performance during the presentation. So, I am being more aware of my strengths and... weaknesses and I get a chance to improve my weak points and continue to use my strong points in teaching.

As is easily seen from one of the student teachers' remarks above, Facebook played a key role specifically in helping them recognize their weaknesses and strengths because of the feedback provided. More importantly, on the basis of the feedback provided, the student teachers had a great chance to compensate for whatever they had missed. Likewise, as an inevitable consequence of social learning, Facebook also contributed to the effectiveness of teaching practice through the interaction between student teachers.

> Facebook enables me to watch my demo video, see the comments and read feedback about my performance and thanks to this now I know more about my teaching knowledge and get a chance to see the positive effects of Facebook in my teaching.

To another student teacher, very similarly, Facebook enabled him to view the videos, comments and discussions, which obviously shaped the way he thinks about his teaching. In other words, the fruitful discussions held online encouraged the student teacher to consider different dimensions concerning their own teaching. To clarify, it was a combination of several aspects that led them to develop their own metacognitive awareness. The remarks of another student teacher revealed that Facebook turned into a kind of forum in which any kind of knowledge related to teaching languages could be effectively reflected so as to take more advantage of each piece of knowledge.

> Classmates' plans and videos, evaluating them and seeing what others think about that. If this can be generated to all classroom activities and events and Facebook has turned into a kind of forum in which any kind of knowledge, even the feelings are shared, we can take more advantage of it as this will make it more interesting for us.

Another important contribution of Facebook to student teachers' metacognitive awareness was that it enabled them to develop their critical thinking skills in that they were encouraged to find other ways of making their teaching better. By doing so, spending some time on Facebook viewing their friends' videos encouraged them to reflect on their own thinking processes concerning their own teaching. The student teachers were deeply involved in critical thinking ability to criticize and improve their teaching skills.

> Thanks to Facebook, I improve critical thinking actually. As I see my friends there I try to find other ways to make that presentation better. By criticizing others, one can evaluate her ideas about his presentation and say "I think I should not ...do that one...it did not work in X's presentation.

4.2.4 Interpretation of the Findings in Relation to Hypothesis 2

Discussed in light of the findings of qualitative data, the reflections of pre-service English teachers in the social networking were seen to improve their teaching practice. In the relevant research literature, there are studies which specifically investigated the impact of different tools such as peer-evaluation, blogs, and e-portfolios on (student) teachers' (metacognitive) awareness. Nonetheless, when it comes to the question of whether these tools improved actual teaching practice, not many studies are available in the literature. Even though teachers report that teacher education programmes designed to help them teach more consciously caused them to think differently and creatively, this effect is rarely observed in their instruction (Duffy et al., 2008; Tobin, 1993; Watts, Jofili, & Bezerra, 1997). This study was specifically carried out to close this gap in the literature.

The findings gathered in the qualitative fashion indicated that the student teachers developed their teaching practice as a result of the reflections through time. In a similar research design, Adamy (2007) examined the impact of providing students with a framework when completing a performance-based task as a part of their program electronic portfolio. Using an experimental design with two groups, one of which used the reflective framework whereas the other did not, the study concluded that the students in the experimental design did not make more significant reflections than the control group. Contrary to expectations, the students in both groups discussed the

procedures they went through in collecting and analyzing the data relevant to their teaching. What our research study concluded was that the student teachers who employed social networking as a kind of e-portfolio developed both teaching metacognitive awareness and their teaching practice. This can easily be reflected in the student teachers' comments related to whether this study improved their teaching abilities or not.

> My teaching abilities were developed a lot more than I could ever imagine. However, I believe they are not developed enough as yet. There are some areas I need to work on as time goes by.

As is easily seen in the comment above, one of the student teachers felt that her teaching practice developed as they progressed. Obviously, there were some processes they went through during the entire study. At the very beginning of the study, the student teachers were feeling confused even though they were pretty sure that this study would contribute to their teaching in a variety of ways. As the study continued, the student teachers realized that they were getting more aware of their teaching practice with a lot of questions especially posed during their teaching performance. This awareness process led student teachers to take a deeper look at their thinking processess about their own teaching. More precisely, this was the period in which student teachers were given a great opportunity "to think about their thinking", which can be best conceptualized through "metacognitive awareness". From the remarks below, one can easily conclude that this awareness brought about good teaching practice in reality. That is to say, this awareness process necessitated changes in their behaviors as student teachers.

> I thought my teaching abilities were developed in time. First step was to realize what I was doing concerning my teaching, which led me to think about my thinking related to teaching. Second step was to take specific actions. But, before that I was able to control my actions that led to practice.

It can be easily argued that the student teachers were able to control their teaching actions concerning the effectiveness of teaching practice before the practice process. This process mainly consisted of specific actions to take related to teaching practice.

> I strongly believe that this awareness process led me to compensate for what I do during my teaching. That is, I do realize that I am able to teach more effectively than I used to do.

After the period of awareness and control, the student teachers developed their teaching practice as a result of this study. Thus, we can conclude that "hypothesis two" was verified.

4.2.5 Teacher Autonomy: A Destination or a Start?

Even though there are various dimensions of teacher autonomy in the relevant literature which we looked at section 2.3.2.1, this study focused on the dimension of the ability to plan, monitor and evaluate one's own teaching. Many educators use the terms metacognition and autonomy interchangeably in related contexts (Perry, Phillips, & Dowler, 2004; Perry, Phillips, & Hutchinson, 2006; Winne & Perry, 2000; Zimmerman, 2000; Zimmerman & Schunk, 2001). Likewise, Holec (1981) believes that the concept of autonomy is more connected with a learner's metacognitive awareness of self-responsibility as a learner. In the context of teacher education, we can confirm that metacognitive awareness is important in the development of self-directive awareness of one's own responsibility, which is, for sure, connected to teacher autonomy. In essence, throughout the study in which they were given limitless opportunities to analyse their beliefs on language learning, the teacher's role, effective language learning strategies, monitoring their teaching, and mutual evauations, student teachers had been gradually increasing their autonomy as individuals through the opportunities mentioned above. This does not necessarily mean that the student teachers became autonomous teachers a all. However, the results of the study indicated that they developed their (metacognitive) awareness as an autonomous teacher. In a framework developed by Usuki (2001), it is easily observed that self-directed and collaborative awareness can be best achieved through the combination of metacognitive knowledge and regulation. In a similar fashion, this study specifically focused on self-directed and collaborative awareness by means of the weekly reflections and peer-evaluation. Metacognitive awareness, a combination of both metacognitive knowledge and regulation, leads to teacher autonomy. Similarly, a true understanding of teacher autonomy is the ability of teachers "to be aware of their own teaching as well as their students' needs and the means by which teachers are able to support learner autonomy" (Usuki, 2001, p. 257). Castle (2006, p. 1096) believes that autonomous teachers, along with other characteristics, know why they do what they do. Furthermore, they make better teaching decisions by doing their own thinking about the educational processes. As Castle (2006) states, the

student teachers displayed autonomous skills including the ability to make spontaneous decisions in regard to the activities conducted at the time of teaching, and to adapt themselves to their environments easily. In a similar vein, Daoud (2002) investigated whether the action research improved teacher and learner autonomy in EFL contexts. In line with the results of the current study, it was concluded that teacher action research contributed to teacher autonomous learning. Similarly, the use of social networking paved the way for student teachers to develop their metacognitive awareness, which is a link to teacher autonomy in a way. Smith (2003) identified opportunities and constraints in a pre-service training programme in the process of developing teacher-learner autonomy. Even though Smith's study did not specifically focus on metacognitive awareness, he concluded that the goal of teacher-learner autonomy in pre-service training was reached despite some constraints on the way. In consistent with the results of Smith's study, the current study also displayed that the student teachers developed their metacognitive awareness, which can be associated with teacher autonomy, more specifically in the form of planning, monitoring and evaluating their own teaching performance. Overall, the findings of the research displayed that teacher autonomy should be perceived as a goal in pre-service teacher education, which constitutes "a start" rather than "a destination".

Our research indicated that the use of social networking resulted in greater metacognitive awareness in terms of both knowledge of cognition and regulation of cognition. This has resulted in an increase in their awareness as an autonomous teacher with the capacity for autonomous learning in their future contexts. More broadly, the student teachers enjoyed a lot of opportunities to increase their metacognitive awareness for their own autonomy thanks to the reflection tools that enable them to practice autonomous skills.

CHAPTER 5

SUMMARY AND CONCLUSION

5.0 Introduction

This chapter first provides a summary of the current study. It presents once more the background, the aim, the participants involved, and the nature and structure of the data collection process, and the types of data analysis used to answer the research questions. The implications for practice and for further research that this study gave rise are discussed.

5.1 Summary of the Study

This study aimed to investigate the impact of social networking on pre-service English teachers' metacognitive awareness as well as their teaching practice. In order to reach this aim, at the very beginning of the semester, the researcher identified eight student teachers by employing opportunity sampling method to get the most appropriate results. Following this, during the first meeting, the student teachers were given information about the study to be carried out. They were encouraged to open a social networking account, Facebook, where they could share their lesson plans, reflections, comments and other materials concerning their methodology class and a social publishing site, Scribd, where tens of millions of people share original writings and documents. Before the semester began, Metacognitive Awareness Inventory for Teachers (MAIT) was modified by making small changes on the inventory by the researcher. KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) was employed so as to identify the validity of the inventory and the value for Barlett TKest was identified as significant. This calculation proved to be appropriate for the factor analysis. As for the reliability of the inventory, Cronbach's Alpha was utilized to find out whether the inventory in the context of research was reliable or not. It was revealed that the values vary from 0, 79 to 0, 85, which indicated that the inventory was observed to display high alpha scores. Subsequent this process, the inventory was administered to eight student teachers as a pre-test. During the entire semester, the following actions were taken to conduct the study. The trainees were asked to note down the personal

input that have, or may have, an impact on their teaching practice. When they were doing teaching demos, the group members were expected to take notes concerning their peers' performances. The weekly personal reflections and peer-evaluations were uploaded on Facebook each week. They were recorded when they were doing teaching demos. After a short time, the stimulated recall sessions were conducted with the student teachers on the basis of the questions prepared and piloted earlier. By the end of the semester, the Metacognitive Awareness Inventory for Teachers (MAIT) was administered to the eight student teachers as a post-test. After the inventory was administered, retrospective accounts were gathered from the student teachers to get a more detailed description of the improvement of their metacognitive awareness, and to get a clearer understanding of whether the use of social networking developed student teachers' teaching practice.

In relation to the first research question, the analysis of the (experimental) group in terms of pre-test and post-test findings revealed that the (experimental) group developed their teaching metacognitive awareness significantly after the treatment. However, this increase was observed in the regulation of cognition rather than the knowledge of cognition. In other words, the participants ended up being metacognitively more aware of their own actions in the planning, monitoring, and evaluating phases rather than developing their knowledge of cognition. As for the second research question, the student teachers' qualitative data showed that the reflections of pre-service English teachers in the social networking improved their teaching practice. This has resulted in an increase in their awareness as an autonomous teacher with the capacity for autonomous learning in their future contexts. More broadly, the student teachers enjoyed a lot of opportunities to increase their metacognitive awareness for their own autonomy thanks to the reflection tools that enable them to practice autonomous skills.

5.2 Implications and Suggestions

The study itself has revealed three important implications. On the basis of the findings of this research, using social networking in pre-service language teacher education can offer direct benefits to both teacher educators and student teachers. It is also emphasized that this may help student teachers develop their reflective skills to look at their own teaching practices more constructively. The results may also be of relevance to teacher educators in better understanding the potential contribution of social networking to not only student teachers' metacognitive awareness but also teaching practice. More broadly, these findings confirm the usefulness of using social networking in pre-service language teacher education. Social networking can be considered to be an effective way of promoting metacognitive awareness, specifically reflective practice in teacher education. This can be achieved if use of social networking can be embedded as a part and parcel of student teachers' professional developments. It is highly believed that student teachers develop this interactive tool to support their own Professional career upon the completion of their BA education. This practice enables students to get professional support from their peers and trainers. Therefore, it would be a good idea to give student teachers opportunities to develop their own autonomy as teacher trainees since such an act in turn would make it easier for them to foster their future learners' autonomy. On the other hand, ELT programmes should modify their syllabuses in such a way as to materialize the aforementioned ideas.

The results of the current study highlight several points worhty of further investigation. One possible recommendation could be the analysis of the qualitative data in terms of other dimensions. The qualitative data collected during the study were vast and diverse. However, in order to answer the research questions, they were only analysed in terms of metacognitive awareness and reflection skills. That is to say, mostly the cognitive processess behind student teachers' behaviors were analysed. Second, the study was limited to the eight student teachers. Indeed, the involvement of any more participants would have made the data unmanageably large. Consequently, it would be more interesting to have had a bigger variety of participants to see whether gender makes a difference. Third, a follow-up study could be carried out with the eight student teachers in the future. Only when these student teachers become teachers in the future, could the analysis of their metacognitive awareness and teaching practice be

made to see the real effects of their pre-service teacher education on their teaching. Finally, another area that could be researched is the relationship between the levels of teachers' metacognitive awareness and their students' actual learning achievement.

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APPENDICES

Appendix A- Metacognitive Awareness Inventory for Teachers (MAIT)

The MAIT is a list of 30 statements. There are no right or wrong answers in this list of statements. It is simply a matter of what is true for you. Read every statement carefully and choose the one that best describes you.

Thank you very much for your participation.

Cem BALÇIKANLI

Gazi University, ELT Department

1= Strongly Disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree

1. I am aware of the strengths and weaknesses in my teaching.	1 2 3 4 5
2. I try to use teaching techniques that worked in the past.	1 2 3 4 5
3. I use my strengths to compensate for my weaknesses in my teaching.	1 2 3 4 5
4. I pace myself while I am teaching in order to have enough time.	1 2 3 4 5
5. I ask myself periodically if I meet my teaching goals while I am teaching.	1 2 3 4 5
6. I ask myself how well I have accomplished my teaching goals once I am finished.	1 2 3 4 5
7. I know what skills are most important in order to be a good teacher.	1 2 3 4 5
8. I have a specific reason for choosing each teaching technique I use in class.	1 2 3 4 5
9. I can motivate myself to teach when I really need to teach.	1 2 3 4 5
10. I set my specific teaching goals before I start teaching.	1 2 3 4 5
11. I find myself assessing how useful my teaching techniques are while I am teaching.	1 2 3 4 5
12. I ask myself if I could have used different techniques after each teaching experience.	1 2 3 4 5
13. I have control over how well I teach.	1 2 3 4 5
14. I am aware of what teaching techniques I use while I am teaching.	1 2 3 4 5
15. I use different teaching techniques depending on the situation.	1 2 3 4 5
16. I ask myself questions about the teaching materials I am going to use.	1 2 3 4 5
17. I check regularly to what extent my students comprehend the topic while I am teaching.	1 2 3 4 5
18. After teaching a point, I ask myself if I'd teach it more effectively next time.	1 2 3 4 5
19. I know what I am expected to teach.	1 2 3 4 5
20. I use helpful teaching techniques automatically.	1 2 3 4 5
21. I know when each teaching technique I use will be most effective.	1 2 3 4 5
22. I organize my time to best accomplish my teaching goals.	1 2 3 4 5
23. I ask myself questions about how well I am doing while I am teaching.	1 2 3 4 5
24. I ask myself if I have considered all possible techniques after teaching a point.	1 2 3 4 5

Appendix B – A Sample Page on Facebook

Appendix C- A Sample Lesson Plan Uploaded on Facebook

Stage	Aims of the stage	What T does and what Ss do	Materials	Grouping	Timing
Pre-speaking	▪to introduce the topic ▪to activate background knowledge ▪to motivate Ls and encourage them to speak ▪to create predictions and to arouse curiosity	T shows pictures , asks some questions about pictures and Ss answer them.	Appendix 1 Visuals and realia, some pictures related to the topic	Whole class	5’
Pre-speaking	▪to make Ls think about the topic ▪to make Ls remember what they have learned	T shows the grammar structure Ls have learned before. Ts summarizes the rules and the fuctions of the structure and gives some examples.	Appendix 2	Whole class	3’
While-speaking	▪to create expectations and predictions ▪to improve Ls’ creative thinking ▪to encourage Ls to speak ▪to develop Ls’ speaking skills. ▪to make Ls practice language structure	T explains the game. T makes Ls be groups of six. Each group chooses one S. Those chosen Ss are detectives and the rest members are witnesses. T gives each group a situaiton. The witnesses suggest concrete evidences without mentioning the situation and detectives try to deduce it from evidences.	Appendix 3	Groups of six	20’
Post-speaking	▪to make Ls to be creative ▪to demonstrate their skills ▪ to develop Ls’ writing skills ▪to enable Ls to use the functional language they just have learned	T wants Ss work in pairs. T explains Ls what to do. Ss write a dialogue according to given situation. Then Ss act it out.	Appendix 4	In pairs	7’

APPENDIX I

What is this?
Is there anyone who uses it?

What is this?
Why do people use it?

*Do those two items recall you anything?
* Generally who uses them?

Why do people need detectives?
Is there anyone who went to a detective?

Did you see this movie?
What is it about?

What are they doing?

APPENDIX II

MODALS
(Expressing degrees of certainty

- We use ***"must"*** and ***"can't"*** if we don't know the truth certainly but if we have some powerful evidences and proofs. We use ***"must"*** in positive sentences and we use ***"can't"*** in negative sentences.

For exmple;

* - Why is the baby crying?
- She ***must be*** hungry. She hasn't eaten anything for three hours.

* - Tim says he is very hungry.
- No, he ***can't be*** hungry. He ate a huge meal just half an hour ago.

APPENDIX III

GAME: Students work in groups of six. Each group chooses one stundent to come to the board. Those student will be “detectives” and the rest member of the each group will be “witnesses”. Teacher have several situations and groups will choose a situation. The decetives don’t see the situations. Each group suggest orally, evidences (sounds, sights, smells, etc…) without mentioning the situation itself. According to evidences, the “detectives” try to deduce. Each team takes turns. The “detectives” will change in each turn. If “detectives” guess the situation truly, his group will get one point. At the end of the game, which group has more points will win the game.

SITUATIONS:

- The child must be ill.
- It must be a public holiday.
- Someone must be at the door.
- He can’t be in a good mood.
- The weather can’t be cold.
- …….
- …… etc.

Appendix D– A Sample Weekly Reflection

What I learnt was that how to teach speaking in my class. And we saw some kind of speaking acitivities. All of them have both advantages and disadvantages. It was useful to see their advantages and disadvantages because ı can decide whether it is a good activity or not or ı can change this activity to make it more effective. I like role play activity. In that acitivity, Ss work in pairs. One of them is mother or father and the other one is child. The parent goes holiday leaving the child at home and they want their child to do some works such as; do shopping, feeding cat etc. On the other hand child has some plan and s/he talks about her/his plans. It is a good activity because each student in pairs has equal participation. It is an enjoyable activity indeed and arouses interests of Ss. But the disadvantage of the activity is that it is limited. Ss uses limited and given sentences. It does not allow Ss to improve their creativity. I believe ı may use this activity in my speaking class with some changes. I think I should focus on the role cards because they are very important. I should prepare role cards which not only have the information Ss need but they also make Ss more creative.

I don't like the activity named reading a dialouge aloud. In that activity, there is a dialouge with some pictures and Ss read it from their books aloud in pairs. One of them plays Mandy (the girl in the dialogue), the other one plays Detective. I don t like it because I think it is not a real speaking, it is reading, reading aloud. I suppose that I will not use this activity in my class since it does not develop Ss' speaking skills.

Moreover, last week, we talked about what makes a good speaking class. I learnt that in a good speaking class we have tolerated learners who motivate the shy students and who make an effort to speak English to have more involvement in target language. I learnt the importance of those students in a class. Furthermore, I learned that a good speaking class should have a teacher who tolerates and insists on learners' speaking English so that Ls can use the language. Also, teacher should encourage them to speak. I learnt that the atmosphere in a good speaking class should be relaxing and encourage every student to participate in acitivities more. We also talked about what kind of activities a good speaking class should have. They should be interesting and varied. Also they should have lots of pair and group work so that each student can get a chance to speak. This information is beneficial, ı think. I believe I may use this information. I mentioned above in my teaching because they help me create a good speaking class. They may help me be a good teacher in my class.

Appendix E- A Sample Peer-evaluation

I liked your introduction part. Your pictures were really pretty and motivating. You used our pictures. In a real class, it will work a lot, because students will be motivated easily when they see their pictures on the board. Moreover, you asked our experiences as a salesman in kermes in order to elicit topic. It was also effective.

You tried a lot to find a game. Your game was really the best one and different from others. It included functional language. It was a real-like situation and useful to practice functional language. It is also very appropriate for students, because students walk around the class, which lead them to feel more motivated to buy or sell and all the students participate in the game at the same time, which provides students with equal speaking practice. Thanks for sharing this game with us; I'll use it in my class☺

Your instruction was a bit long, but you explained well and made it clear. I hope, your students will have no difficulty in understanding it in a real class.

It may be difficult to control whether all the students use English or not and activity, but you were really quick and walked around the class to control it.

You are really good at speaking English and I love listening to you. However, you were a bit nervous in this presentation. You should look at us in your presentations instead of my professor. I know you look at her gestures, because you try to understand what she thinks about your presentation. Please be careful about this point.

Finally I always say I really enjoy watching you especially your gestures. I strongly believe you'll be a great teacher and your students will be lucky because they'll have an English teacher who doesn't have speaking anxiety ☺

Appendix F- Questions Used during Stimulated Recall Sessions

1- How do you think the class went?
2- What do you think worked very well in this session?
3- How can you use what worked well in your next class?
4- If you could teach the same class again, what would you do differently?
5- What you would do the same way?
6- What will you remember about this class?
7- I noticed that you (describe the strategy… called students by name, moved all around the classroom, lectured from your notes, didnt answer student question), why did you choose this strategy?
8- Did the students respond as you had expected? Were you satisfied with the student response?
9- What were your objectives in doing (describe the strategy… called students by name, moved all around the classroom, lectured from your notes, didnt answer student question)?
10- Did you feel that you were successful in meeting these objectives?
11- Did you model the things you wanted to?
12- You seemed (negative, posiitve, distracted, enthiuastic) about the activity? What was going through your mind?
13- Could you have asked something different besides (strategy and activity) to get the responses you desired?
14- What areas do you want to improve?
15- How might you do that?
16- What did you learn from this class?
17- What made this class different from others?
18- How did you feel about your students during the class?