

Technology Use in Reflective Teaching: A Practicum Research Project

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ABSTRACT The aim of this study is to combine the practice of reflective teaching and technology. With the help of a group created on Facebook which was accessible only to the group members taking part in the reflective teaching process, an interactive discussion environment was created and the student teachers commented on each others' performances based on the diaries prepared after each practice. After analyzing the student teachers' diaries and their peers' comments in terms of their focus and issues discussed, it was observed that the student teachers could recognize the problems they encountered quite easily and they could identify the difficulties their peers experienced while teaching; however their evaluations of the reflective practice were not comprehensive or remedial.

INTRODUCTION

Reflective practice was first introduced to the practitioners by Donald Schon as a way to refine one's own artistry or craft, which involves considering one's own practices while trying to put the theory into practice with the guidance of the experienced professionals (Schon 1996). Reflective teaching has been used as an effective scaffolding tool to enrich the teaching practices of teachers and to prepare pre-service teachers for teaching. By many researchers, it has been viewed as "a paradigm that dominates teacher education around the world" (Lee 2007: 321), and regarded as "the dominant paradigm in the literature of teacher education and development for the past three decades" (Yesilbursa 2011: 103).

Reflection helps teachers and pre-service teachers have a deeper understanding of their teaching practices and might lead to better teaching practices as teachers might get the chance to evaluate their own weaknesses and strengths through the lenses of reflection. With the help of reflective teaching, the teaching activity is recalled, considered and assessed so as to deal with the basic characteristics of teaching experience and to bring about the possible modifications in it. In this way, it will be easier for student-teachers to go beyond the great amount of theoretical information about the nature of teaching that they have studied in their methodology-based courses at university and move

towards the practical application of these theoretical concepts.

Reflective Practice

Quing (2009) states that reflective teaching is based upon the assumption that it is possible for teachers to improve their understanding of teaching and the quality of their own teaching with the help of critical reflection on their teaching practices. The basic procedure includes data collection about teaching either by teachers or student-teachers, examining the attitudes, beliefs, assumptions and teaching practices and using this data as a basis for critical reflection (Richards and Lockhart 1994). This procedure makes it possible for practitioners to cope with the routine demands of teaching and bring about some change in their field (Quing 2009).

Since the term reflection includes the concept of 'change' as its basic component, reflection in teaching generally includes the active participation of mentors or colleagues, whose comments or feedback is of particular importance as well as the self-evaluation of the performer. As Schon (1983) stated, creating a long-lasting change in the teacher's behavior might be made possible with the help of trying something new, reflecting on its consequences, and then, trying it again with alterations as needed and desired.

It is possible to conduct reflective teaching in pre-service or in-service levels depending on the necessities of the practitioners, which will

probably lead to a lot of advantages such as beneficial challenges to the traditional views about teaching, realizing and respecting the variety in turning the theory into practice. As Harris (1998) states, some important concepts such as inquiry, reflection and continuous growth, which are the important elements of reflective teaching, are closely related to effective teaching and all of them will improve the classroom practice of teachers as they will enable teachers or trainee teachers to stop and question what they know and what they actually do in the classroom. In addition to this, it may bring about lots of advantages when applied correctly, such as:

- ♦ enabling teachers to analyze, discuss, evaluate and change their own practice, adopting an analytical approach towards teaching,
- ♦ fostering teachers' appreciation of the social and political contexts in which they work, helping them to recognize that teaching is socially and politically situated and that the teacher's task involves an appreciation and analysis of that context,
- ♦ enabling teachers to appraise the moral and ethical issues implicit in classroom practices, including the critical examination of their own beliefs about good teaching,
- ♦ encouraging teachers to take greater responsibility for their own professional growth and to acquire some degree of professional autonomy.
- ♦ facilitating teachers' development of their own theories of educational practice, understanding and developing a principled basis for their own classroom work,
- ♦ empowering teachers so that they may better influence future directions in education and take a more active role in educational decision-making (Calderhead and Gates 1993: 3).

As can be understood from the aforementioned statements, reflective practice may increase the teachers' awareness of what is happening in the classroom and current and prospective teachers may "collect data about teaching, examine their attitudes, beliefs, assumptions, and teaching practices, and use this information obtained as a basis for critical reflection" (Richards and Lockhart 1994: 1).

Reflective teaching can be done with the help of different mediums such as peer observation, recording lessons, reflective inquiry groups, collaborative action research, and written ac-

counts of experiences which include self-reports and teacher diaries. In this study, the teacher diaries and technology were combined to craft a more effective tool of inquiry. Compared with other methods, utilizing teacher diaries might help us understand what participants think about their own performances and how they feel after the teaching practice from the first-person point of view.

Teacher Diaries and Journals

Reflective teaching is a means of self-assessment, and reflective practice implies a systematic process of collecting, recording and analyzing our thoughts and observations and making some changes in our practices based on the insights gained from reflections (Tice 2010). More specifically, it can be defined as "looking at what you do in the classroom, thinking about why you do it, and thinking about if it works - a process of self-observation and self-evaluation" (Tice 2010: 2). In recent years self-reflection has been combined with peer observation and feedback where a colleague (or peer) visits the classroom to collect information and give feedback about his/her peer's performance.

Self-reflection is one of the most important components of reflective teaching process, which may give lots of evidence related to the teachers carrying out reflection. They can do it in many different ways, one of which is "diaries of performers". Student teachers' diary studies can be useful sources of information for teacher educators as they can make it possible for them to identify the underlying factors affecting their success or failure (Cole et al. 1998; Numrich 1996).

Teacher diaries might be a good way of reflection because they are purely personal and simple. After each teaching practice, the student teacher writes his/her own reflections about what happened in the classroom, and also might describe their own reactions and feelings and those they observed on the part of the students. With the help of the diaries, the student teachers might pose questions about what they have observed in the classroom and might invite others to contemplate on the teaching practice.

The student teacher diaries may be combined with suggestions and/or feedback from tutors and/or peers of the student teachers, and can be referred to as "interactive group journals". These journals might integrate reflective practice with

social interaction; therefore, they are invaluable sources “which capture the ideas and synergy of a group by allowing individual members to share, express, and reflect on process as well as progress” (Cole et al. 1998: 556-557). This study used the concept of interactive group journals and applied it into a technological platform to enhance cooperation and support.

The use of reflective teaching has been investigated in many different settings and in different ways up to now. Kettle and Sellars (1996) studied the professional development of third-year students who were prospective teachers. They analyzed both the students’ written reflections and interviewed them, and found out that the student teachers were able to question the already existing theories and their personal views about teaching and their own practices. In a similar study, Numrich (1996) found out that teachers were able to reconsider their previous notions related to teaching and reconstruct a teaching framework which could incorporate their previously contradictory elements with the help of increasingly deep reflection, which includes teacher diary records describing and reacting to the instructional units, reports of observations, transcripts of monthly meetings, and information from questionnaire responses written before and after the tryout period.

With the spread of technological applications and the use of different tools, the studies related to reflective teaching have also changed direction and studies associated with the use of technology for reflective teaching purposes have become more apparent lately. Kocoglu (2008) asserted that the use of technology facilitated the professional development of student teachers in many different settings. With this idea in mind, Ray and Coulter (2008) focused on teacher blogs in terms of the reflective content they possess and pointed out that blogs including experiences of teachers have the potential to lead to changes in practice. Likewise, Yang (2009) explored the use of blogs as a reflective stage in the training processes of 43 English as a Foreign Language (EFL) student teachers. This time the student teachers used the blogs as a platform to reflect on their learning processes and to evaluate the influence of blogs on their own professional growth. The results of his study showed that the student teachers were the active discussants of the teaching theories and their implications through blogs and they

considered technology a useful platform for reflecting and communicating with each other. Similarly, Stiler and Philleo’s (2003) participants responded to the use of blogs positively, and their entries were more analytic, evaluative and longer than formerly reported alternative means.

Cole et al. (1998) added a new dimension to research based on reflective teaching as in their study, the interactive dimension replaced the use of blogs. In their study, student teachers were given a computer diskette and each of them wrote about basic issues, concerns, questions or insights related to teaching. Later on, a group member was chosen to write the journal’s first entry and the Interactive Group Journal was passed among group members, each of whom made a contribution to the previously stated items in the diskette. This group journal served as a forum for collaborative inquiry, as a way to build professional computer-based community because recipients found the necessary opportunity to instantly explore, exchange and consider ideas for practice. They were able to give immediate responses since they did not experience any kind of delay due to the lack of time or being away from one another.

Similar to Cole et al. (1998), in this study, the main aim was to establish a professional community where the participants would create a forum for collaborative activity. However, instead of using computer diskettes, on-line diaries were used in order to collect data. Two research questions guided this study:

- (1) What were the characteristics of the diaries of the student teachers and comments of their peers in terms of (a) identification of the problems encountered during teaching practice, (b) proposing suggestions to these problems and (c) evaluating themselves and their peers?
- (2) What was the role of technology in this process and how did the participants react to it?

MATERIAL AND METHODS

This case study examined the reflective practices of the student teachers. A group of student teachers who registered for a Practicum course at a major Turkish public university’s English Language Teaching program were the participants. According to the assignments given in the course, each student teacher taught

English twice in a public high school which was one of the collaborators of the university-high school practicum project. This was a real classroom setting which students were quite familiar with due to the courses (for example, Teaching Observation, Community Service) they had taken prior to the study. The teacher of the high school English class was an experienced English teacher with more than 15 years of experience. While one of the student teachers was teaching, two or three of his/her peers observed the teaching practice and took notes. Then the performing student teacher posted his/her diary online, and other participants commented on both the diaries and teaching practices of the student teacher. At the end of the study, each participant filled out an exit survey. The instructor of the Practicum course was also an active participant of the process and gave feedback on site and online whenever necessary.

Participants

The participants of this study were student teachers in an ELT (English Language Teaching) program attending a public university in Turkey and their instructor (mentor). There were 12 student teachers that registered for the Practicum course. Of these 12 participants one of them was a male and 11 were female. The mean age of the participants was 21.7. Participants had taken courses about ELT methodology prior to the study, and also a Teaching Observation course that they had attended for 16 weeks. The instructor of the course was one of the Faculty Members of the program who had more than 10 years experience in Language Teaching and mentoring.

Data Collection Procedure

This study included multifaceted reflection. Data for this study came from student teacher diaries (posts on Facebook) and comments of the other participants and the mentor on teacher diaries, and an evaluation questionnaire given after the study. The researcher operationalized peer and mentor feedback as “information supplied to trainees concerning some aspect of their performance on a task, by a peer or a tutor, with a view to enhancing practice” (Brandt 2008: 39). It is believed that the combination of teacher diaries (self reflection), mentor’s and peers’ si-

multaneous feedback might be an effective way of enhancing teaching and learning processes.

A closed group on Facebook was created by the researcher, and participants were invited to join the group by the administrator. Each student teacher was informed about the posting procedures and was asked to post their diaries online after their teaching practices. They were given information about the reflection process. To ensure the privacy of the participants and confidentiality of the diaries, the Facebook group access to non-group members was restricted and names of the participants were disguised in this article.

The translation of a sample student teacher diary is shown in Excerpt 1.

Excerpt 1: Translation of a sample student teacher diary

Student 5: I do not think that we learned properly how to teach grammar to high school students. We only focused on young learners... and this was a worrisome situation for me and what I worried was what I encountered :) I taught grammar to high school students for the first time and I felt that I accomplished something. I know it is a weird feeling :) I do not know what happened and if I could teach... but I think I did a good job. I used a little bit Turkish and a little bit English, I gave many examples and I wanted to look self confident about what I taught. I hope I did a good job. Thank in advanced for your comments.

Comment 1: You did a good job honey, there was not a different way to teach in my opinion. You have some pronunciation mistakes which were not so important. It is better if you are careful about them.

Comment 2: Introducing passive is a difficult task but in my opinion you taught well. We sometimes do it quickly because of the way we teach and we skip some subjects. At the beginning, I thought that the examples you gave were not enough but after you did the exercises, I saw that they were sufficient, congratulations: You really taught the passive (voice) in my opinion.

Student teachers were asked to post their diaries online in a Facebook group after they taught a class. They were also asked to be as open and sincere as possible, and think about their strengths and weaknesses that they felt throughout their teaching practice.

Computer-mediated communication was chosen as a medium for this study with the idea that the use of technology could enable wider access and practicality to teacher diaries. Since working with computers, internet, and especially some particular websites facilitating social communication has become an indispensable part of people's lives, student teachers' participation in this project was more than the researchers had expected.

To learn more about the experiences of the participants in this project, an exit survey was administered at the end of the study. The participants were asked to express their opinions about the effects of technology in their reflection process. Particularly, they were asked to rate their impressions from 1 to 5, 1 being low or very dissatisfied and 5 being high or very satisfied in a Likert scale questionnaire. For the most part, the perceptions of the students about the integration of technology in this reflective practice were investigated in this exit questionnaire.

RESULTS AND DISCUSSION

Previous research on reflective teaching suggests that a rigorous reflective practice should include three components: (a) looking at what you do, (b) why you do it, and (c) if it works. The student teachers in this study were informed about these principles and asked to contemplate on their teaching practices considering these three criteria. During the analysis of the student teachers' online diaries, evaluation focused on if they could (a) identify problems, (b) propose suggestions and (c) evaluate themselves. A similar procedure was used for the analyses of peer comments and feedback. The researcher checked if the peers could identify their problems in their classmates' performance, if they could provide any suggestions and evaluate their classmates' performances.

Identification of Problems

Based on the analysis carried out, it was observed that most of the student teachers could identify the problems that they encountered during their teaching practice. In other words, they could understand the basic obstacles they encountered while teaching quite efficiently. Some problems they could identify were: the level of difficulty in the materials presented, class-

room management problems, problems about the classroom procedures, time management problems etc. Some participants' posts about the problems they encountered are listed below. Please note that the original posts were in Turkish but the excerpts given here are in English because of the audience of the article.

Participant 5, Performance 1: The problem that I observed during the activity was that I assumed that the students knew the words occurring in the sentences.

Participant 4, Performance 1: I had difficulty in managing the class. At the beginning of the lesson, writing and sticking the pictures on the board to prepare the activity took a lot of time and meanwhile, the students were free and they lost their interest.

Participant 3, Performance 1: In the classroom I taught, there were problematic students; therefore, I had difficulty in managing the class.

Participant 2, Performance 1: I think there was a problem in my matching activity. The ones who found their cards did not listen to the others and talked.

As can be seen in these excerpts, the participants of the current study could mostly identify the problems they encountered while they were teaching. Most of the student teachers explicitly addressed the problems they had. Classroom management was one of the most commonly identified problems. Due to the number of the students in the classes the student teachers taught their lessons, the management of the classes and problems about discipline were at the top of the problem list.

Proposing Suggestions

In the second level of examination, the suggestions to overcome these problems have been analyzed. At this level, it was observed that some student teachers could provide suggestions to overcome their own problems whereas some others needed help from their peers or the instructor of the course.

Participant 12, Performance 2: If I had known beforehand, I would have prepared group-work or pair-work activities. I had chosen whole class activities because I thought managing the class would be easier in this way.

Participant 5, Performance 1: The problem that I observed during the activity was that I assumed that the students knew the words oc-

curing in the sentences. Perhaps it would have been better if I had explained the sentences with pictures at the beginning of the class because I had to explain them to each group of students during the activity.

As it is seen in the excerpts given, Participant 12 and Participant 5 identified the problems they had during the activities, and also provided suggestions to overcome these problems. The problem that Participant 12 had was about the nature of the activity she employed and she felt that it would have been better if she had prepared a different type of activity.

Some other participants identified their problems but they did not provide any suggestions and/or solutions to these problems. In these cases, their peers helped them find different ways to tackle the difficulties they had while teaching.

Participant 8, Performance 1: I did my best to manage the class.

Comment 2: You had difficulty in managing the class and attracting their attention. When you named a student, you went near him. That was nice but it was a conversation between just you two. The rest of the class did not hear it. I think it would have been better if you had warned the class to listen to each other and speak loudly.

Participant 11, Performance 1: I brought an authentic text with pictures to attract their attention.

Comment 2: If they had read the text silently before coming to the board for acting it out, there would not have been any problems, I think.

Analysis of the Comments

Another step of analyses included the evaluation level of the student teachers. Particularly, the topic of interest was to see whether student teachers could evaluate their own performances and/or their peers could help them about the appropriateness of their performances. While investigating the student teachers' evaluation levels, the work of Nystrand and others (Nystrand 1997; Nystrand et al. 2002; Wells and Auruz 2005) were followed. Based on their classification, evaluation level can be low or high depending on the content. It is argued that for the level of evaluation to be defined as high, the evaluation had to be more than "Good," "Good idea," or a mere repeat of a previous comment. It

should add a new dimension to the comment either with the help of a question or introduction of a new point.

A general examination of the student teachers' posts revealed that most of their self-evaluations stayed at the low level. They either did not provide any form of evaluation or they used phrases such as: 'Overall everything was good', 'It was quite disappointing' etc. The excerpts below illustrate the point.

Participant 8, Performance 2: This week was disappointment for me. I did not like my own performance.

Participant 13, Performance 1: I was not stressed. I think I managed the lesson well. Of course, I had some problems.

Participant 5, Performance 1: This week was difficult for me but I think I finished it without a serious problem.

Student teachers' peers' evaluations were quite similar; they generally stayed at a similar level. It was observable that most of the peer comments were positive, and included phrases such as 'your performance was quite successful', 'you managed the class well', 'I congratulate you about your performance' etc. At this point, it is possible to mention the participants' wish for not hurting each other while commenting on each other's performances.

Results of the Exit Questionnaire

The main topic of concern in the exit questionnaire was the use of Facebook for this study. The participants were quite content about the use of Facebook because they believed that it was easy to access and it provided a familiar environment for them. The results of the questionnaire were given in Table 1.

Table 1: Results of the exit questionnaire

Facebook was an effective/useful medium for this activity	4.50
It was easy to access to Facebook	4.75
Seeing my friend's profile pictures was helpful or motivating.	4.50
I felt comfortable while posting my diary online	4.60
I felt comfortable while commenting on my friends' diaries	4.40
Creating a closed Facebook group was helpful	4.10

As can clearly be seen from Table 1, the participants of this study believe that technology

had a positive effect on their reflection process. They stated that they felt comfortable while posting their diaries online and commenting on their friends' diaries. Another important reason of comfort might be the fact that the group on Facebook was a closed group; therefore, only the members invited by the administrator were able to take part in it. This might have increased the warm and safe atmosphere of the group.

CONCLUSION

In this study, the contents of student teachers' on-line diaries were examined as a part of reflective practice. Technology was carefully incorporated into the process of reflective teaching so as to eliminate the problems of time and location among the participants of this study. With the help of an online community, the participants of this study identified the problems they faced during their teaching practices, proposed suggestions to these problems and tried to evaluate themselves and their peers.

The results of this study revealed that student teachers could recognize the problems they encountered quite easily. In their diaries, they listed the basic obstacles of their teaching practices and they could also speculate about the difficulties their peers experienced while teaching. The participants in this study could also propose partial suggestions to these problems. Their suggestions were usually practical and helpful in their content. However, evaluation part of the reflective practice was not comprehensive or remedial. Low level evaluation was abundant in the diaries of student teachers and comments of their peers.

On another level, the use of technology facilitated the professional development of student teachers. The student teachers enjoyed the benefits of technology as they participated in the reflection process. They were able to reflect upon each other's teaching immediately as computers and internet have become an inseparable part of their daily lives. Moreover, computers and social sites like Facebook made it possible for student teachers and their course teacher to build a professional community that is able to model and practice teaching as inquiry. The participation of student teachers' university lecturer in their dialogues in their online diaries also facilitated the process of reflection because student-teachers were able to get immediate feed-

back from their faculty advisor. As in this current study, if journal reflections are responded to in a dialogue with a faculty advisor, negative experiences in student teaching or other teaching environments might be overcome more easily. For this reason, the participation of the faculty advisor was one of the most important components of this study.

RECOMMENDATIONS

The participants of the current study were 12 student teachers that registered for the Practicum course in a Turkish public university. A bigger study with more participants in different settings can be conducted to have a better understanding of the reflective processes of student teachers studying in different teacher training programs. Moreover, with the facilitative power of the technology, practicing teachers can be encouraged to take part in this type of research as the practitioners of reflective teaching. This might help practicing teachers observe and re-evaluate their own teaching practices.

As it is discussed in the previous section, the evaluation part of the reflective practice, in the current study, was not comprehensive or remedial. In other words, low level evaluation dominated the diaries of student teachers and comments of their peers. To help student teachers learn how to evaluate their own practices and those of their peers, the principles of reflective teaching, especially those related with the evaluation phase, can be taught explicitly and in more detail with the modeling of the teachers of the Practicum courses.

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