

The effect of self reflections through electronic journals (e-journals) on the self efficacy of pre-service teachers

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This study aims both to provide information about the self-reflections of pre-service teachers keeping self-reflective e-journals during the practicum period and to determine the relationship between their self-reflection and self-efficacy levels. Both quantitative and qualitative data were analysed in integration to gain deeper insight into the study. To accommodate the quantitative data, the English for foreign language (EFL) Teacher Efficacy Scale was administered to 40 pre-service English language teachers (ELT), both before and after the practicum period, to measure the differences in their self-efficacy levels. The qualitative data were examined to reveal the most frequently recurring problems among the e-journals and how the data overlapped with the statistical analysis. The results revealed that incorporating reflective e-journals into the field-based experience process helped pre-service teachers become active decision-makers, contributors and efficient, confident teachers.

Keywords: e-journal; practicum; reflection; self-efficacy

Introduction

Teachers' knowledge of their field of study is supposed to go beyond the theory itself if they are to be effective in the classroom. Because of this reason, most of the teacher education programmes have emphasised the value of integrating theory into practice through micro teaching and real classroom settings during the practicum period for many years (Walkington, 2005; Kaplan, Rupley, Sparks & Halcomb, 2007). Owing to this, many educational programmes such as the ones in South Africa are in the process of changing their goals. The pace and the complexity of educational transformation increase the need for intensive pre-service training programmes for teachers in many countries as well (Bagwandeem & Louw, 1993). In the same way, the emphasis on fieldwork by observations, teaching opportunities in real settings and practicum all underline the importance of raising competent and effective teachers (Chiang, 2008; Fox, Campbell & Hargrove, 2011).

Among these, the practicum is believed to play a crucial role in the professional development of pre-service teachers' because the practicum is the most essential process and practical stage during which the pre-service teachers can have the opportunity to bridge the gap between the theory given in their textbooks and the teaching experience in real classroom settings. In this way, it helps pre-service teachers to compensate for the discrepancy between theory and practice. Throughout the practicum, supervisors guide the lesson plans, observe pre-service teachers' teaching sessions and

give feedback on their teaching practice. Still, considering the ever-changing and continually more demanding nature of education systems and the alternatives presented by technology, it seems essential to improve the notion of classical practicum process. In many actual cases, pre-service teachers get feedback about their teaching behaviour from their supervisors, but limiting their initial experience only to practice may lead pre-service teachers to become “unthinking conformists” (Valli, 1997:73). During the process, supervisors play a very dominant role, whereas pre-service teachers are passive listeners of the feedback given instead of thinking about their own initial teaching experiences. Moreover, pre-service teachers generally write about their initial teaching experiences in order to meet the course requirements rather than to reflect their inner thoughts with the aim of deeper analysis (Fox et al., 2011). Conversely, understanding how pre-service teachers really perceive their initial teaching experience enhances the gaining of valuable insight (Kerka, 2002; Walkington, 2005; Cherian, 2007; Farrell, 2012) for teachers. Owing to this, effective and reflective teaching has long been regarded as one of the most desirable goals of teacher education (Amobi, 2005) and there has been an increasing emphasis on the development of reflective practitioners during the last two decades (Dart, Boulton-Lewis, Brownlee & McCrindle, 1998). The reflections of pre-service teachers during their first hands-on field-based experiences facilitate self-awareness and enhance professional development by creating opportunities to integrate knowledge and practice into deeper analysis of their own teaching (Kaplan et al., 2007; Brantley-Dias & Calandra, 2007; Chiang, 2008; Oga-Baldwin, 2011). Within this coverage, pre-service teachers tend to understand more about the teaching and learning process by questioning their initial experience. To enhance the development of strong beliefs linked to real world practice, pre-service teachers should reflect on their initial experiences to improve their instructional strategies and to achieve professional growth (Herndon & Fauske, 1996; Walkington, 2005). In general, studies on reflection reveal that encouraging reflective thinking must be an integral part of pre-service teacher education programs (Numrich, 1996; Bain, Ballantyne, Packer & Mills, 1997; Moon, 2003; Lee, 2004; Kaplan et al., 2007; Chiang, 2008; Oga-Baldwin, 2011; Cohen-Sayag & Fischl, 2012).

To achieve this aim, several approaches have been applied in teacher education to enhance reflectivity. Studies in the field have suggested that journal writing can be one of the most influential approaches, which clearly reinforces personal thought and self-reflection (Herndon & Fauske, 1996). Journals can promote reflectivity by activating the thinking and awareness of pre-service teachers about the way they teach. A growing self-awareness and professional improvement both seem to be a natural part of journal keeping (Brock, Yu & Wong, 1992). Journals are useful tools not only for understanding the highlighted factors that pre-service teachers reflect on, but also to provide a rich source of data to understand how pre-service teachers improve personally. Reflective journals encourage their knowledge construction by combining theory with practice through experiences in real classrooms (Lee, 2008).

When all these assumptions are taken into consideration, the main purpose of teacher education seems to help become reflective in order to develop self-confidence and efficacy among future teachers. When discussing the efficacy of a teacher, efficacy is the belief in one's own teaching capacity and ability to meet the needs of the students by achieving the desired goals (Tschannen-Moran & Hoy, 2001). Pre-service teachers' efficacy beliefs affect their motivation in reaching the goals established, and the level of objectives achieved (Tschannen-Moran & Hoy, 2001; Chiang, 2008). A strong sense of efficacy in teachers promotes positive teaching behavior and attitudes in the learning and teaching environment. Field research shows that the perceptions of teachers about their efficacy have a powerful impact on their teaching abilities (Numrich, 1996; Tschannen-Moran & Hoy, 2001; Lee, 2005; Chiang, 2008). However, limited research has been done to investigate the effects of self-reflections on the self-efficacy beliefs of pre-service teachers (Chiang, 2008; Lee, 2008). Within this framework, the primary aim of the current study is to focus on the changes in the self-efficacy of a group of pre-service English Language teachers after they have been keeping self-reflective e-journals during the practicum period. There have been few studies on the dimensions of self-efficacy in second/foreign language education and these have only resulted in limited findings and implications (Chiang, 2008), so the present study also intends to identify the changes in the sub-dimensions of self-efficacy in order to identify the one that has developed the most at the end of the process.

Literature review

Several studies conducted with teachers have underlined the importance of reflection in teacher education (Nicholl & Higgins, 2004; Pavlovich, 2007; Donaghy & Morss, 2007; Stewart, Keegan & Stevens, 2008). Most of these studies have been done by pre-service teachers in which they have collected precious tools from their experiences (e.g., Numrich, 1996; Nel & Müller, 2010; Farrell, 2012; Gut, Beam, Burgess & Wan, 2012). The common features of these studies are the results obtained regarding the effect of reflections on the personal and professional development of future teachers and these research endeavours discuss the positive effect of reflective practice, which is one of the pivotal variables in teacher education.

Dart et al. (1998) focus on the changes in pre-service teachers' way of thinking after keeping journals. They analysed 27 subjects' journal entries and the results revealed the positive contributions of journal keeping to the personal and professional development of pre-service teachers. Moreover, in his study of 31 subjects, Amobi (2005) suggested that teacher educators should encourage reflective thinking of pre-service teachers. In the study, the pre-service teachers' pre and post instructional reflections were examined. This demonstrates that reflective thinking facilitates professional development. Apart from these, Degago (2007) analysed the journal entries of 10 pre-service teachers during the practicum phase and reported the perceptions of

the subjects. The results emphasise that pre-service teachers not only deepen their understanding, but also engage in reflective thinking after keeping journals regarding their initial teaching. Brantley-Dias and Calandra (2007) used video recordings to support pre-service teachers' reflection and their results reveal that edited video segments encompassed reflection. More recently, Lee (2008) worked with a group of 13 pre-service English language teachers and found that pre-service teachers' found keeping journals invigorating, although it was not a compulsory part of the practicum period. They kept journals during the "Subject Instruction Course" which aims to equip the teachers with the knowledge of skills in English language teaching. Her study reveals that journal keeping is a powerful tool that can enhance reflection, and she suggests that journal keeping should be compulsory in the practicum period. In addition, Chiang (2008) implemented her study on 13 pre-service teachers to find out the effects of fieldwork on teacher efficacy. The results indicate that reflecting real classroom experiences helps pre-service teachers understand their weaknesses and strengths and ensures teacher efficacy. All these studies show the importance of reflective teaching in teacher education and, from this, it is clear that reflection facilitates professional growth. In the light of these findings, the current study guides to watch their initial experiences at first and then write their self-reflections. This process helps the researcher to draw a reflective picture of the practicum period with the data obtained from the inner voices of pre-service teachers.

Among the various kinds of journals, e-journals were chosen in the current study as these lessen the paper work and reflect a higher average number of reflective words (Kaplan et al., 2007). Moreover, although there are many insights offered by e-journals, pre-service teachers cannot remember each moment of their experiences. Hence, this situation creates the need to back up the e-journals with recordings of the actual lessons. Video recordings provide an opportunity for the pre-service teachers to observe and reflect their initial experiences. Brantley-Dias & Calandra (2007) state, edited video of their teaching can provide them with the required engagement to enhance reflective thinking by recalling the process of teaching. Within this coverage, the pre-service teachers in the study watched the video recordings of their experiences before writing down their reflections to provide rich source of reflective data.

Examining the dimensions of self-efficacy after keeping reflective e-journals provides teacher educators with a deeper understanding of the future teachers' professional development, so the current study also intends to investigate the efficacy of pre-service teachers with regard to planning, instruction and management. Hence, this study aims to characterise the effect of self-reflections through e-journals on the self-efficacy of pre-service teachers. In order to do this, the current study mainly investigates both the effect of self-reflections on the self-efficacy of pre-service teachers, and the changes between the dimensions such as planning, instruction and management to enlighten the contributions of reflective teacher education on self-efficacy.

Although it is known that reflective practice should be an inseparable part of

teacher education, there has been very little research done to find out the effect of self-reflection on the self-efficacy of pre-service teachers (Chiang, 2008; Lee, 2008). Therefore, the present study aims to provide both additional information about the self-reflections of pre-service teachers and to shed light on the relationship between self-reflection and self-efficacy by using both qualitative and quantitative data. To this aim, the following research questions were formulated:

1. Are there any significant differences between pre- and post-test scores of the experiment and control groups' self-efficacy levels?
2. Are there any significant differences between post-test scores of experiment and control groups' self-efficacy levels?
3. Are there any significant changes in the self-efficacy of pre-service teachers after keeping self-reflective e-journals in terms of planning, instruction and management during the practicum period?
4. What are pre-service teachers' perceptions about keeping self-reflective e-journals?

Method

Design

A mixed-methods approach was used in the current study. Creswell (2002) calls attention to the significance of the mixed-methods approach by emphasising the importance of qualitative analysis since it describes the rationale of the quantitative results. In this study, both quantitative and qualitative data were analysed in integration to gain deeper insight. Specifically, quantitative data were analysed to support and explain the data provided by the qualitative analyses. The qualitative data revealed the most frequently recurring problems among the e-journals and how the data overlapped with the statistical analysis. Quantitative data were analysed to understand the effect of keeping e-journals on the self-efficacy levels of pre-service teachers. It is considered that the results gathered from qualitative and quantitative data complement each other and provide a richer ground for discussions than any other single method (Chiang, 2008).

Setting

During the 2011-2012 school year, the researcher taught a year-long Practicum Course, which was offered as a compulsory course to English Language Teaching undergraduates in Gazi University in Turkey. Traditionally, this course has been offered in a public school of the region, so the participants of this study visited a public school in Ankara where they observed different classes four times a week during the fall semester. During the spring semester, each of the pre-service teachers had the chance to experience teaching for an hour at a particular class each week for 14 weeks. They worked with the cooperating teacher from the government school and the teacher educator from the faculty during the teaching process. The cooperating teacher dealt with the actual classroom activities while the pre-service teachers were preparing their

lesson plans. The teacher educator not only guided the pre-service teachers informally regarding the lesson plans, activities and methods before their teaching sessions, but also observed each lesson and gave feedback immediately after the teaching process.

Participants

Participants in this study included 40 pre-service teachers who took the Practicum Course during the 2011-2012 academic year in the department of English Language Teaching in a large state university in Ankara, Turkey. The researcher fulfilled the technical requirements necessary to demonstrate the use of ethical procedures in researching human participants. The participants were randomly divided into an experimental and a control group. There were 12 female and eight male students in the control group and 14 female and six male students in the experimental group. All the students were in their senior year in the four-year English language teaching programme.

Instrument

In order to measure the self-efficacy levels of the participants, the EFL Teacher Efficacy Scale (hereafter ETES) developed by Chiang (2008) was used because it has been specifically and purposefully developed for use with foreign language teachers. The reliability coefficient of the scale was 0.85 and the reliability coefficient of the sub-scales ranged from 0.72 to 0.75, which indicates a moderate reliability.

The ETES contains 30 items and also three sub-scales: management (eight items), planning (11 items), and instruction (11 items). Chiang (2008) reported a high reliability for the overall scale (reliability 0.92). In this scale, each item is answered by the participants using 4-point Likert type responses (strongly agree = 1, strongly disagree = 4).

Data collection procedures

Quantitative data

The ETES was administered to the 40 participants of this study. To detect the differences between before and after the practicum and experiment-control groups, the scale was administered to the participants twice; once before the practicum and again at the end of the practicum.

Qualitative data

The two qualitative data resources used in the study were: (1) reflective e-journals and (2) semi-structured group interviews.

Reflective e-journals

The researcher, who was also the teacher educator of the Practicum Course, introduced the concept of reflection through e-journals to pre-service teachers at the beginning of the course. It was decided that e-journals focusing on self-reflections of the pre-service

teachers would be used so that reliance on the teacher educator could be reduced, to ensure an opportunity of developing their own teaching skills with the help of their own reflections. Before the practicum period started, pre-service teachers were told that they were expected to write e-journals throughout the course. As e-journal writing is seldom used during the practicum, three class hours at the beginning of the course were devoted, both to provide the required information and to make sure that expectations were communicated clearly. Specifically, pre-service teachers were told to write e-journal entries after each teaching experience and to send them to the teacher educator via electronic mail (e-mail). The pre-service teachers were aware that their e-journals would not be assessed. Throughout the practicum period, each of the participants had the chance to experience teaching 14 course hours during the 2011-2012 spring term, and thus each of them wrote 14 e-journal entries. This made a total of 280 e-journal entries which were collected at the end of the period. All of these experiences were recorded and pre-service teachers wrote their own reflections about management, instruction and planning stages of the lesson, after watching their video recordings to recall their teaching experiences.

Semi-structured group interviews

With the help of the data gathered through semi-structured group interviews, the researcher attempted to find out the perceptions of pre-service teachers about keeping self-reflective e-journals. Relevant interview data were extracted to illustrate the four major aspects including how the participants reacted to keeping e-journals, the perceived benefits and difficulties, their perceptions about the development of their reflective thinking, and any changes in their perceptions after keeping self-reflective e-journals during the practicum. Here, the aim was to collect more data about the views of pre-service teachers and reflections, to provide a context for the study and to enrich the quantitative data.

The researcher interviewed the four focus groups, each of which consisted of five pre-service teachers from the experimental group. The interview was conducted in English and the data were audio-recorded and transcribed to accurately capture the opinions of the pre-service teachers.

Data analysis

Chiang's (2008) self-efficacy form consists of three sub-scales under the names of management, planning, and instruction, thus the pre-service teachers considered these three sub-scales while writing their e-journal entries. The 280 e-journal entries were read and coded by three experts. Consistency in e-journal coding was maintained by having the three experts discuss and compare the results that they had obtained. The coders met and collaborated again for some of the e-journal entries to ensure coding fidelity. At the end of this process, the recurring problems that were mentioned in the e-journals were transcribed and categorised under the heading of management, planning, and instruction.

The equality of self-efficacy levels between the groups was tested by the instrument described below in the section under the title “Instruments”. The analysis was carried out in four steps. First of all, a comparison was made for the total self-efficacy levels of the two groups. It was revealed that there was no significant difference in the total self-efficacy levels of experiment and control groups [$U = 192, z = -.217, p = .83$]. Since the scale was composed of three main sub-scales, the equality of the groups was also examined in terms of these sub-scales. The analysis that was carried out prior to the application showed that there were no significant differences between the students’ self-efficacy levels of management sub-scale [$U = 170, z = -.822, p = .41$], planning sub-scale [$U = 179, z = -.571, p = .57$] and instruction sub-scale [$U = 168, z = -.883, p = .38$]. This finding demonstrates that the experiment and control groups could be assumed to be similar in terms of their self-efficacy levels before the practicum.

Quantitative data were analysed in two steps. First, to detect any differences between the experimental and control groups, the Mann-Whitney U Test was used. This is a non-parametric alternative to the independent-samples t test and is used to test the differences between two independent groups on a continuous measure (Pallant, 2011).

Second, to detect any significant differences between the pre- and post-test of each group, the Wilcoxon Signed Rank Test was used. This is a non-parametric alternative to the paired-samples t test. The Wilcoxon Signed Rank Test (also referred to as the Wilcoxon matched pairs signed ranks test) is designed to be used with repeated measures. That is, it is to be used when the participants are measured on two occasions, or under two different conditions (Pallant, 2011). Because there were just 20 students in each group, a parametric test could not be used and therefore the non-parametric alternatives were used. The significance level was set at $\alpha < 0.5$.

The qualitative data were analysed as follows. First, the 280 e-journal entries were read and re-read by three experts who worked individually. During the process, the most frequently recurring problems were gathered in accordance with the sub-scales of the ETES, namely, management, planning, and instruction. Finally, nine problems related to planning, six related to instruction and seven to management were identified in the e-journals of the pre-service teachers. To ensure the validity of the study, while matching the sub-scales with the recurring problems, two independent inter-raters examined the results. The themes which emerged from the qualitative analysis are set out in Table 1. According to the most frequently recurring problems in e-journals, the frequency of each theme was determined.

To support the results obtained from e-journals, the opinions of the pre-service teachers about the problems that they experienced in the classrooms were discussed during the interview. In addition, their views about keeping e-journals were discussed and their ideas about the process were gathered (see Table 1).

Table 1 The most frequently recurring problems among the e-journals**PLANNING**

1. The visuals that I prepared are not colourful and well printed.
2. I have technological problems in the classroom and they affect my plan.
3. I cannot decide how much homework to give.
4. I have problems about the organisation of the games.
5. I sometimes forget to consider different learning styles.
6. I have problems about determining how many activities I can apply in the classroom.
7. I prepare several puzzles but cannot decide on the difficulty level.
8. I have difficulties in finding activities that appeal to the learners' interest.
9. I have difficulty in integrating drama in my lesson plans.

INSTRUCTION

1. I have difficulty in determining my role in each activity.
2. I have difficulty in planning homework as fast learners generally start completing them in the classroom.
3. My visuals cannot be seen by the students sitting at the back.
4. I sometimes don't know when to give instruction before or after distributing handouts.
5. I have difficulty in determining the level of my students. Sometimes they don't understand my instructions.
6. The learners don't like writing. I don't know how to motivate or reinforce the learners to work on this skill.

MANAGEMENT

1. I have problems about controlling the students.
2. I have problems about involving the students.
3. I have difficulty in motivating the learners.
4. I have problems in managing pair and group work activities.
5. I have difficulty in starting a lesson after the break time.
6. I have difficulty in memorising the names of the students.
7. I do not know how to deal with mainstreaming students.

Results

In the following sections, the findings of the study will be presented as tentative answers to the research questions posed alongside the implementation of the reflective e-journals.

Students from both experimental and control groups took the ETES twice as the pre- and post-test. Cronbach's α values show .85 for the pre-test and .84 for the post-test.

First research question

The first research question sets out to determine whether there are any significant differences between pre- and post-test scores of the experiment and control groups.

The Wilcoxon Signed Rank Test was calculated to compare the mean scores of the 20 participants in each of the groups for pre- and post-test. The experiment group's pre- and post-test results revealed a significant increase in self-efficacy levels as a result of writing e-journals ($z = -3.622, p = .000$). When doing the analysis for the sub-scales, there were also significant increases in the management ($z = -2.747, p = .006$), planning ($z = -3.293, p = .001$) and instruction ($z = -3.445, p = .001$) domains of the self-efficacy levels of the experiment group students.

The control group's pre- and post-test results revealed no significant difference in self-efficacy levels ($z = -1.389, p = .165$). When doing the analysis for the sub-scales, there were no significant differences in the management ($z = -.481, p = .631$), planning ($z = -1.329, p = .184$) and instruction ($z = -1.491, p = .136$) domains of the self-efficacy levels of the control group students either.

Second research question

The second research question set out to determine whether there were any significant differences between the post-test scores of the experimental and control groups.

The Mann-Whitney U Test was calculated to compare the means of the 20 participants of the experimental and control groups. The analysis was carried out for total scale and for three sub-scales.

The Mann-Whitney U Test revealed a significant difference in the total self-efficacy levels of experimental ($n = 20$) and control ($n = 20$), $U = 118.500, z = -2.212, p = 0.027$, groups. Since the scale was composed of three main sub-scales, the comparison of the experimental and control groups was also examined in terms of these sub-scales. The analysis that was carried out prior to the application showed that there were no significant differences between the students' self-efficacy levels of the management sub-scale ($U = 130, z = -1.903, p = .57$) and planning sub-scale ($U = 150, z = -1.367, p = .17$). However, there was a significant difference in the instruction sub-scale ($U = 121, z = -2.139, p = .032$).

Third research question

The third research question set out to determine whether there were any changes in self-efficacy of pre-service teachers after keeping self-reflective e-journals during the practicum period.

The data collection period was divided into three time periods which were the first, middle, and last four weeks of the practicum. The reflective e-journals written during these periods were analysed in detail and the most frequently recurring problems were determined. The emerging problems were categorised in accordance with the three sub-scales found in the self-efficacy form. The average encountered frequencies of the most recurring problems gathered from the four weekly periods (first, middle, last) were compared and the results are given below.

Regarding the management dimension, it was observed that the most recurring problems waned during the last four weeks. The results reveal that keeping self-

reflective e-journals resulted in a decrease in the frequencies of the second, the third and the fifth problem. During the first four weeks, the pre-service teachers reflected that they encountered problems regarding the involvement and motivation of the students throughout the lesson. However, during the last four weeks of the teaching period, the number of times they encountered the same problem was reduced to 50%. Another main problem of the pre-service teachers related to management was the need to calm down the students after break time. Again, the data obtained from the e-journal entries of the last four weeks reflected that only a few pre-service teachers still reported the same problem. This would suggest that the pre-service teachers managed to formulate the solutions to the problems that they encountered in the management dimension of the teaching phase at the end of the fourteen weeks practicum period (see Figure 1).

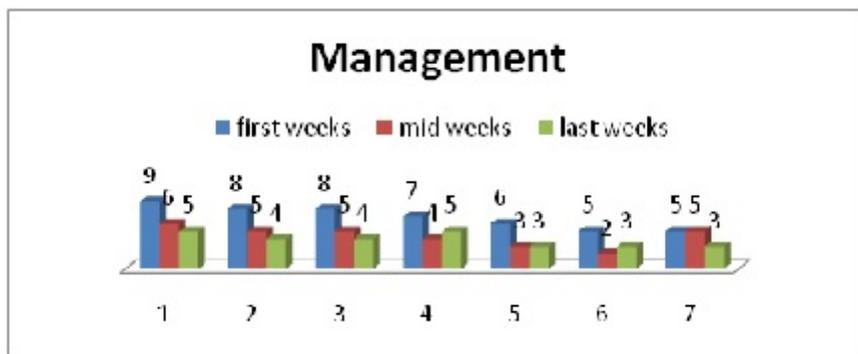


Figure 1 Pre-service teacher's management dimensions of self-efficacy level changes during weeks

In terms of the instruction dimension, it was noted that the most frequently recurring problems waned during the last four weeks. The results reveal that keeping self-reflective e-journals resulted in a decrease in the frequencies of the second, fourth and the sixth problem, while there was no mention of the fourth problem in the last four weeks of the practicum. Five of the pre-service teachers reflected in the first week's e-journal entries that they had difficulty in determining their roles as a teacher in each activity. However, during the last period only three of them still expressed that they experienced that same problem. In addition, five of the pre-service teachers were faced with the problem of organising learners' homework and determining the level of homework from the learners, whereas only two of the pre-service teachers reported that they had the same problem during the last four weeks of the practicum period. Although pre-service teachers initially had problems with giving instructions at the beginning of the period, they all realised how and when to give instructions at the end of the application. It can be deduced that the pre-service teachers developed strategies

to deal with the problems that they encountered regarding the instruction dimension of the teaching phase at the end of the fourteen weeks practicum period (see Figure 2).

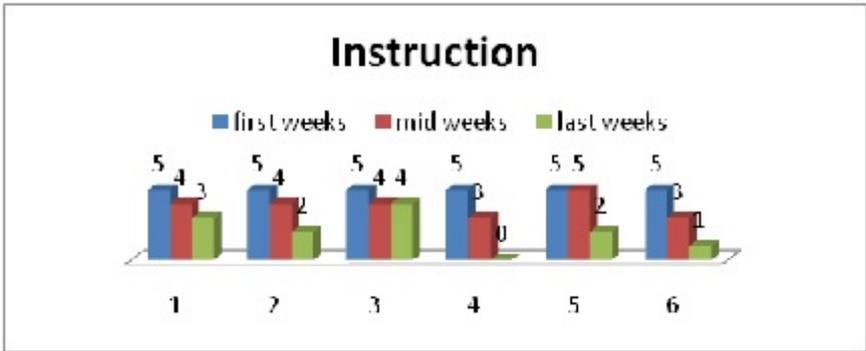


Figure 2 Pre-service teachers' management dimensions of self-efficacy level changes during weeks

Regarding the planning dimension, it was seen that the most recurring problems were reported less during the last four weeks of the practicum period. The results reveal the decrease in the frequencies of the seventh, the eighth and the ninth problem while the reports of problems seven and eight completely disappeared in the last four weeks of the practicum. Throughout the process, the first and the second problem increased, while they decreased at the end of the practicum period. As for the fourth and the sixth problem, it was clear that there was a decline during the middle four weeks of the application. However, at the end, the results underlined that the pre-service teachers were facing the same problems.

Four of the pre-service teachers reported having problems in the classroom with using visuals. However, only one pre-service teacher mentioned the same problem during the last weeks. Within the first four weeks, most of the pre-service teachers identified the problems they had regarding both the organisation of the games and the amount of the activities they could apply in the classrooms. The e-journal entries written in the mid-weeks of the practicum period reflect that there was a decrease in the mentioned problems. However, the data obtained from the last four weeks' e-journals emphasised the same problems, because the pre-service teachers tried to include more challenging games and activities into their lesson plans.

Although most of the pre-service teachers stressed in the e-journal entries that they had faced problems in determining the level of the activities and appealing to the learners' interest at the beginning of the period, they had no difficulty in preparing activities at the end. The results suggest that the pre-service teachers found the answers to most of the problems that they encountered in the planning dimension of the teaching phase by keeping the self-reflective e-journals throughout the fourteen weeks practicum period (see Figure 3).

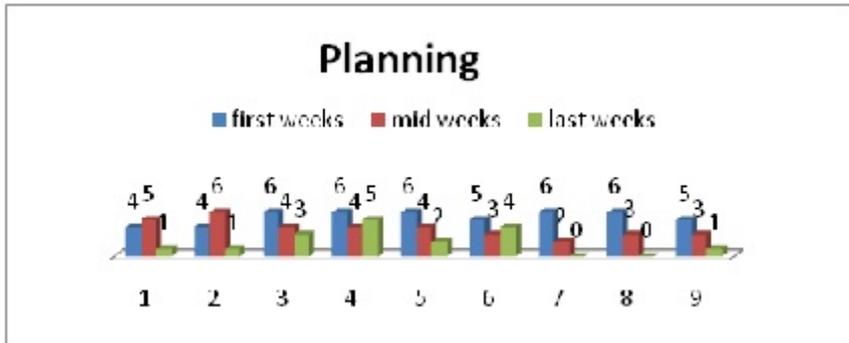


Figure 3 Pre-service teachers' planning dimensions of self-efficacy level changes during weeks

Fourth research question

The fourth research question set out to determine the perceptions of pre-service teachers about keeping self-reflective e-journals. Four questions were asked to each focus group, the questions and the results are given below.

First, the opinions of the pre-service teachers on keeping e-journals during the practicum period were asked.

Of 20, 18 said they enjoyed writing e-journal entries. One of the students pointed out:

“Writing e-journals is very enjoyable. Especially I like watching my own teaching experience before writing. I feel that I’m the boss of my own teaching so this responsibility forced me to do my best.”

Second, the researcher asked what the pre-service teachers thought about the benefits and difficulties of keeping e-journals. All the pre-service teachers found keeping an e-journal helpful in becoming not only self-reflective but also self-confident, so they all appreciated the beneficial side of keeping e-journals. For example one pre-service teacher stated

“I used to get feedback from my teacher educator so at first I found it a little bit scary to assess my own teaching experience without the instructor’s feedback. I felt pressure. Later on it developed my self-confidence as I started to change things in the classroom according to my own decision.”

Third, the researcher asked what the pre-service teachers thought about having their own reflective thinking development during the process. All the students mentioned the positive change in their reflections. One of the pre-service teachers answered as follows:

“At first, it was very difficult for me to understand how I can evaluate my own teaching. Later on I started to watch the recordings twice. The first one was to see how I manage the students; the second one was for the instructional strategies.”

I wrote about the planning phase, also. Afterwards, I saw the positive change in my teaching. At the end, I started to change things in the classroom according to my reflections, which was a great experience."

Fourth, the researcher asked what the pre-service teachers thought about the changes in their self-efficacy level in terms of management, planning and instruction after keeping self-reflective e-journals. Two of the answers were as follows:

"When I consider the management stage observing the students during the pair and group work activities is very challenging for me because most of the students want to be paired with the popular ones in the classroom, so although I experienced 14 weeks of teaching."

"I still have problems about managing group work and pair work activities."

The interview results reflect that pre-service teachers welcomed the integration of e-journals into the practicum period. All the pre-service teachers realised the benefits of keeping e-journals for the development of reflective thinking.

Discussion

The findings of this study indicate that writing reflective e-journals throughout the practicum period heightened the self-efficacy level of the pre-service teachers. The results obtained from this study are similar to those of Lee's study (2008), where 13 pre-service teachers kept journals during their practicum. In addition, the pre-service teachers of the current study pointed out the significance of gaining higher self-confidence as language teachers. They believed that e-journals would nourish their self-confidence and enable them to be reflective, which in turn would help them to acquire more effective teaching qualifications. Likewise, in the teacher retention study (Yost, 2006), the novice teachers emphasized the positive relationship between reflection and self-confidence.

It is acknowledged that some limitations of the present study raise cautions. First, the present study focuses on the pre-service teachers' own thoughts from e-journals and interviews to interpret the reflections of the practicum period. Because of this, the researcher attempted to eliminate a possible risk that might have arisen concerning the validity of the study by analysing different data sources to strengthen the results. Secondly, since the individual differences could have influenced the perceptions of the pre-service teachers, the researcher chose the most frequently recurring problems among the e-journal entries as being the ones which would provide reliable data. Thirdly, pre-service teachers did not get feedback on their e-journal entries to enhance the significant benefits of e-journal writing without the intensive involvement of a reflective supervisor. Conversely, during the practicum, the teacher educator both tutored the pre-service teachers' lesson plans, activities and methods before teaching, and participated at each lesson and gave feedback immediately after the teaching process. Meanwhile, the cooperating teacher assisted the actual classroom activities while pre-service teachers were preparing their lesson plans. Further research could address how the process of reflection can be introduced into other courses to promote

reflective thinking and to lead to higher levels of self-efficacy among future teachers. Studies prior to this one have touched upon this idea, but more diversified investigation of these variables is required.

The results of this study indicate that there was an improvement in the total self-efficacy level of those keeping reflective e-journals when compared to pre-service teachers who did not. Therefore, it can be said that integrating reflection into the practicum period builds up the efficacy level of pre-service teachers. This is extremely significant because teachers with a strong sense of efficacy are found to be better at planning their lessons (Allinder, 2001), and tend to apply current methods to involve all the students in the teaching process (Tschannen-Moran & Hoy, 2001). Furthermore, teachers' sense of efficacy is directly related to student achievement (Beard, Hoy & Hoy, 2010). Similar to the current study, Yost (2006) underlines the importance of keeping journals in raising the self-efficacy of pre-service teachers.

Through semi-guided interviews (Lee, 2008) and reflections (Chiang, 2008; Kaplan et al., 2007), the pre-service teachers of the current study mentioned several problems regarding management, planning and instruction. They began to raise questions concerning the solutions to these problems and most of the pre-service teachers who kept reflective e-journals implemented different strategies to cope with these problems. This suggests that teacher education programmes should be based on not only what to do in the classroom, but also how to do it well and how to improve it. In his study, Oga-Baldwin (2011) states that reflection is an excellent tool for teachers to both understand any deficiencies of their teaching and cope with the problems occurring in a classroom. Integrating reflective e-journals into the practicum period facilitates creation of solutions by infusing the feeling of ownership among pre-service teachers. Lee (2008) supports this idea by underlining journals as a guide for pre-service teachers both to question their own teaching and to increase awareness by personalising the process. Almost every participant of the study agreed that e-journal writing constituted the most efficacious part of the course. Likewise, Lee (2008) reported that most of the pre-service teachers found the process of journal writing not only beneficial but also supportive, which contributed to their reflective thinking as well. Not surprisingly, the participants of another study (Dart et al., 1998) found reflective journals advantageous in creating a positive change in their teaching behavior. Creating the opportunity for the pre-service teachers to reflect systematically on their initial teaching experiences multiplies the success of the practicum period. For example, the participants' e-journal entries indicate that they had problems in planning their lessons at the beginning of the process, afterwards they still had a lot to learn but they had deepened their understanding about the process of becoming reflective, and had diversified their teaching, considering the needs of the learners through self-realisation.

Apart from this being beneficial in advancing their efficacy level and self-confidence, writing reflective e-journals was also found to be helpful in enhancing instructional strategies of pre-service teachers (Chiang, 2008). The findings indicate that their keeping of reflective e-journals during the practicum period helped them to

develop better instructional strategies when compared to the pre-service teachers continuing the practicum without writing reflective e-journals. The current study concluded that pre-service teachers keeping self-reflective e-journals become more effective in most of the instructional strategies such as developing, adapting and organising activities, preparing lessons appropriate to the learners' level and giving instructions clearly.

The present study reveals the abundant outcomes of integrating reflective e-journals into the practicum period and emphasises the significance of scouting future teachers to be reflective. Moreover, pre-service teachers can become better problem-solvers as they develop in their self-efficacy levels. Not all the pre-service teachers in this study were fortunate enough to find solutions to the problems occurring in the classroom at the beginning but what they did was to keep on searching for the right answer throughout the practicum process. On the other hand, the findings also suggest that the field experience and critical reflection should be interwoven throughout training.

Conclusion

Reflective practice in teacher education has been determined to be one of the essential components in preparing future teachers better (Cole, Raffier, Rogan & Schleicher, 1998; Dart et al., 1998; Pavlovich, 2007) and the results of this study display the enhancement of self-efficacy levels by integrating reflective e-journals into the practicum period.

The collation of reflective e-journals systematically written by pre-service teachers, the interview results, video recordings, feedback given by the cooperating teachers and the teacher educators, as well as the observations all served to heighten the efficacy levels of these future teachers. These results were obtained only in the 14 week practicum period, which confirms the advantage that can be enhanced by encouraging self-reflection among the other field-based courses.

In the current study, having pre-service teachers systematically write reflective e-journals after watching their own video recordings during the practicum period created a more fruitful training atmosphere as well as increasing the self-efficacy level of the pre-service teachers and helping them to develop better instructional strategies. The findings underline the advantages of such a practicum period over a traditional one. This study was implemented rigorously and some remarkable results were obtained. This highlights the necessity of integrating reflective journals into the teacher education process.

The lack of self-confidence among novice teachers is frequently given as one of the reasons of attrition. It is clear that giving them the opportunity of professional growth during the practicum period facilitates self-confidence among pre-service teachers as they get the chance to observe and to evaluate their own performance by video recordings and reflective e-journals. Increasing the self-realisation and guiding the pre-service teachers to become both reflective and aware of their own teaching help

the candidates gain some of the required instructional strategies. Effective instructional strategies which take into account the needs of the learners are a prerequisite for an efficient learning and teaching atmosphere. If this is the case, teacher educators should create more opportunities for pre-service teachers to build appropriate instructional strategies. Similarly, pre-service teachers mentioned the positive behavioural change in the classroom and they claimed that the positive climate was created through writing reflective e-journals after watching their own teaching moments, which also supported their self-efficacy. However, almost all the participants of the study referred to the demand of having more chances to become reflective thinkers. The present study reveals the abundant outcomes of integrating reflective e-journals into the practicum period and notes the significance of persuading future teachers to be reflective. Moreover, pre-service teachers can become better problem-solvers in accordance with the development in their self-efficacy levels. Not all the pre-service teachers in this study were fortunate enough to find solutions to the problems occurring in the classroom at the beginning but what they did was to keep on searching for the right answer throughout the practicum process. On the other hand, the findings also suggest that the field experience and critical reflection should be interwoven throughout training.

Within the duration of the traditional practicum period, the performances of the pre-service teachers are assessed only by the teacher educators or the cooperating teachers. Without the opportunity to challenge professional growth, pre-service teachers merely follow their supervisors and stick to the demands of the teacher educators as their performance is assessed. Meanwhile, the decision makers are the supervisors rather than the pre-service teachers. Recording their teaching experiences in the classroom and writing reflective e-journals guided the candidates to become self-aware and self-confident, which led to increased student achievement. Engaging with reflective e-journals in the field-based experience process motivates the pre-service teachers to become active decision-makers, contributors and efficient, confident future teachers.

Given the potential benefits of reflective e-journal keeping during the practicum period, this study is significant in that it could be one of the stepping stones to widespread e-journal keeping used in teacher education programmes.

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