



## Cross-examining E-mentoring vs. Face-to-face Mentoring: The Performance and Attitudes of the Iranian EFL Teachers in Focus

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### Abstract

This survey study aimed to examine the efficiency of a mentoring software used for e-mentoring Iranian EFL teachers by investigating (1) if the application of the mentoring software vs. traditional mentoring made any difference in the instructors' methodology of teaching writing and (2) the attitudes of the users towards the application of the mentoring software. In so doing, traditional mentoring and software mentoring were used for mentoring three groups of Iranian EFL teachers (N=30) teaching writing to three groups of learners. The teachers for Group 1 were mentored through traditional mentoring, the teachers for Group 2 were mentored through e-mentoring software and the teachers for Group 3 -the control group- received no mentoring treatment at all. The results of the observation checklists demonstrated that the mentoring style of the teachers in Group 2 had better instructors' methodology of teaching writing on average (G1: 18.16, G2: 57.8, G3: 14.13) and the results of the survey on the opinions of the users towards the application of the mentoring software through a close-ended questionnaire (the total average of mean score: 3.355) showed positive attitudes. The study concluded that the outcome of the application of the mentoring software was effective and helped EFL teachers match the mentoring process of the teachers in Group 2 by better results in comparison to traditional mentoring.

**Keywords:** EFL Mentoring, E-mentoring Software, Teacher Education, Traditional Mentoring

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## 1. Introduction

Quality of Second Language Teacher Education (SLTE) makes an important difference in students' learning and their achievement (Cochran-Smith, 2003). SLTE provides "teachers' professional knowledge for teaching English as a foreign language (TEFL)" (König, Lammerding, Nold, Rohde, Strauß, & Tachtsoglou, 2016, p.320) and is positioned amid many internal and external forces (Richmond, Bartell, Andrews, & Neville, 2019). One of such forces according to Tatto, Richmond and Andrews (2016) is "to help secure quality programs and improve the overall quality of education" (p. 249). That is because "different communities or networks operate using different rules and instruments to achieve intended goals, a persistent problem with respect to teacher education policy and practice is a lack of coherence leading to contradictions in the system" (Tatto, Richmond, & Andrews, 2016, p.247).

Pecheone and Whittaker (2016) also believe that we need to "establish performance standards that ensure that new teachers are well-prepared because well-prepared teachers inspire student learning" (p.8).

According to Mok (2007) without *high-quality* teacher education, we cannot demand for high-quality teachers and teacher education institutions need to seek ways to constantly develop program design and delivery, academic staff, support services, administrative procedures; but unfortunately according to Knight, Lloyd, Arbaugh, Gamson, McDonald and Nolan (2014) "little attention has been paid relatively in the past to an important factor of teacher education—the quality of teacher educators" (p. 268). Therefore, to "implement teacher education in the proper path" (Liston, Whitcomb, & Borko, 2009, p. 107), it is important not only "to inform new teachers about the workplace *standards* in teacher training programs, but also to help implement them within the unique contexts of their schools" Delaney (2012, p.185). "Mentors or supervisors can facilitate the implementation of standards by acculturating the new teacher into school policies" (Delaney, 2012, p. 185). Scheeler, Ruhl and McAfee (2004) also believe that "teachers who attempt to try to implement new teaching methods must receive consistent *feedback* about the impact of their new practices on student learning" (p.397); this may be accomplished through "feedback provided by *mentors* or *supervisors*" (Warhuus, Blenker, & Elmholdt, 2018, p.29).

Despite the significance of SLTE and quality assurance, there are still many concerns in SLTE (Guo, Tao & Gao, 2019) in "empowering teachers with sufficient professional knowledge to support their reflection for professional development" (Guo et al., 2019, p. 135)

In Iran though because of "the ethnical, social, and political differences" (Safari & Rashidi, 2015, p. 201) there exist some concerns such

as “low quality training systems” (Alhossaini & Ketabi, 2013, p. 535) in SLTE; weak implementation of “mentoring in pre-service and in-service teacher education in Iran” (Alhossaini & Ketabi, 2013, p. 532) does not create “a good mentor-mentee *structure* that can provide opportunities to learn from experienced teachers” (Soleimani & Zanganeh, 2014, p. 1809).

Therefore, there is concern in Iran about how public and private language institutes are preparing language teachers to face the challenges of this century (Beigi Rizi, Barati, & Moeinzadeh, 2019). “The pre-service teachers’ perceptions are actually not in line with current pedagogic concerns in foreign language education” (Sahragard, & Saberi, 2018, p. 457) and EFL teacher trainings need “more consideration, due to the low-quality training systems available to teachers” (Alhossaini & Ketabi, 2013, p. 535); such concerns initiate from the fact that many teachers lack adequate skills when they come out of training (Behroozi & Amoozegar, 2014).

Many of these concerns such as mentoring structure and process (Wright, 2010) can be alleviated by the application of technology (Hoessein, 2015). “E-mentoring and traditional mentoring should not be compared at all; traditional mentoring is unlikely ever to be replaced. However, new technologies may provide a useful adjunct to the mentoring boundaries” (Griffiths & Miller, 2005, p. 390); because it offers many options that can be used to provide “continuous interactions and reflective influences through the duration of the program” (Griffiths & Miller, 2005, p. 390).

Despite positive learning outcomes for protégés through traditional mentoring (Allen & O’Brien, 2006; Eby & Lockwood, 2005) and successful protégé learning and satisfaction outcomes through e-mentoring relationship, research literature has not shown persuasively that data use through mentoring software, results in improved EFL teachers’ achievement and satisfaction (Cinkara & Arslan, 2017, p. 50). Therefore, this study tries to find a way to alleviate, refine or modify the concerns the EFL teacher education and mentoring in Iran might have been dealing with for a long time (Beigi Rizi, Barati & Moeinzadeh, 2019). It also attempts to shed more light on “designing new mentoring interventions” (Dawson, 2014, p. 137). Consequently, to increase the quality of EFL mentoring on the one hand and to create a virtual *structure* in mentoring on the other and to overcome aforementioned weaknesses, the present study explored and introduced a new mentoring and pedagogical innovation—using a multi-module mentoring software as an auxiliary companion for mentors and the supervisors to *help* EFL language teachers. The software which was the outcome of this research is called EFL Mentoring Relationship Management (EMRM). It was implemented in this study and was being developed to hand support the mentors, the pre-service and in-service teachers. Based on the purpose of the

research, another main goal of this study was also to find enough proof for the success or failure of the aforementioned mentoring software.

## 2. Literature Review

The demand for English language teaching has created enormous requirement for teaching materials and resources (Richards, 2006) and “quality language teaching” (Finch, Theakston, & Serratrice, 2018, p. 10); but SLTE structure and process (Wright, 2010) creates various obstacles at both “*pre-service*” (Kelly, 2006), “*in-service* levels” (Russell, Bebell, O'Dwyer, & O'Connor, 2003), in “teacher training” (Motallebzadeh, 2012; Yamada, 2018) and “teacher professionalism” (Oder, 2008) that EFL teachers do not necessarily have to deal with. In order to control such problems Richards (2008) has suggested maintaining quality teaching in teacher education context because it can directly affect the performance of the teachers. Zhu, Deng and Li (2014) also support quality control to deal with issues related to “the mode of teaching” and one of their recommendations is that “the mode of teaching should be conducted on the precondition of quality control or guarantee” (p.163).

In Iran though, Safari and Rashidi (2015) believe that “teacher educators have lost the right path and that the present situation does not let the Iranian EFL teachers as the transformative agents create changes in their classes” (p.26) and the main reason is “the lack of the pre-service and in-service classes for English language teachers” (Safari & Rashidi, 2015, p. 25). Consequently, according to Behroozi and Amoozegar (2014) “Iranian students after nearly seven years in schools the education they receive neither enables them to speak fluently in English language nor help them to interact with other people” (p.206)

Interests in feedback to teachers in teachers education in “general education” (Izadinia, 2013) and “language education” (Clarke, 2008) directed the researchers to believe that it is important “to provide *feedback* to teachers on both newly acquired and ingrained teaching behaviors” (p. 59) through traditional mentoring.

Traditional mentoring according to Athanases (2013) is an essential developmental change for new teachers to change their views from a focus-on-self towards a focus-on-*learners*. It is also “a process of socializing”, (Du & Wang, 2016), “supporting” (Jucovy, 2001), “modeling” (Baker & Maguire, 2005) and “challenging” (Johnson, 2002) in-service and pre-service teachers. Traditional mentoring indicates “a one-to-one interaction, and most of mentoring studies have been focused on understanding mentoring as a single, primary relationship” (Higgins & Thomas, 2001, p. 225) and “the

responsibility of field-based teacher education falls on *mentors* and supervisors” (Koerner, Rust, & Baumgartner, 2002, p.46).

In the context of mentoring EFL teachers there are many worries in Iran; for example low quality and quantity of the in-service programs is an important concern (Boniadi, Ghojzadeh, & Rahmatvand, 2013). The next one is that many training programs are held through “one-shot *workshops*, but it was recommended to conduct the training programs throughout a school year and offer EFL teachers’ opportunity to discuss their experiences with a qualified mentor” (Mahdavi & JafarZade, 2014, p.224). Consequently, the mentors need to “strengthen partnerships, create quality mentoring and support programs” (Soleimani & Zanganeh, 2014, p. 1808) because “a good mentor-mentee *structure* can provide opportunities to learn from experienced teachers” (Soleimani & Zanganeh, 2014, p. 1809). One way to strengthen partnerships, create quality mentoring and support programs is to observe the classroom which is “a tool to measure teacher effectiveness” (Little, Goe, & Bell, 2009, p. 17). It is also the most controversial issue in teacher education (Richmond, Salazar, & Jones, 2019).

Despite many developments in traditional mentoring of language teachers in the history, it has become increasingly “obsolete in the 21st century” (Laycock, 2009). As a result of the growing trend of mentoring (Livingstone & Naismith, 2018) in most of the educational institutes and the advent of *mentoring software*, the relationship between the mentors and the mentees is becoming increasingly interconnected. Recently many researchers such as Delaney (2012) and Wesely (2013) have introduced some innovations in the mentoring process in sustaining and supporting mentoring relations. They figured out that after “initial teacher training, teachers often continue to advance their practice through participation in online communities” (Delaney, 2012, 191).

Due to expanding applications of digital programs, school districts, departments of education, universities, and professional organizations have all formed virtual applications in numerous ways including webinars, podcasts and online programs for teachers (Ginsburg, Gray, & Levin, 2004). That is because computerized programs have made professional development inexpensive for schools (Abbott, Greenwood, Buzhardt, & Tapia, 2006) and the factors that were traditionally obstacles to professional development (Elges, Righetini, & Combs, 2006) are now easily available to teachers (Walker, Downey, & Sorensen, 2008).

E-mentoring has a two-fold dynamic relationship function that can form an important learning structure to help both mentors and mentees (Kyrgidou & Petridou, 2013). The various practical advantages of software for mentoring are well-documented; for example, the e-mentoring program of

Kasprisin, Single, Single and Muller (2003) exhibited improved outcomes. Kahraman and Kuzu (2016) also focused on supporting pre-service teachers with their e-mentoring program which was used in four basic stages: “preparation, matching, interaction and finalizing” (p.80); their program helped learners, academic officials and graduates “share their knowledge and experience with each other and developed their social networks” (p.82). Alemdag and Erdem (2017) also believed that their program created various kinds of advantages for the improvement of both mentees and mentors; they also showed that with e-mentoring we can influentially help new teachers. To increase the quality of language teaching profession, Hoesein (2015, p. 491) used online support through mobile technology; their data confirmed “the improvement of classroom instructions across multiple instructional classroom criteria” (p.491). Harris, Cheng and Gorley (2015) also described the design of a mentoring program and examined the experiences of mentees’ and mentors’ by using web conferencing and collaboration technologies. They determined that “delivery through a combination of web-conferencing and collaboration technologies was most effective; mentors learned from mentees and other mentors; regular and full mentee participation was an identified issue” (Harris, et al., 2015, p.193).

Professional development through e-mentoring programs must not only be functional but also it should develop the classroom practice of the teachers and finally develop students’ outcomes (Snow-Renner & Lauer, 2005). Unfortunately, “little is known about the effectiveness of computerized professional development programs in relation to the improvement of teacher classroom practice” (Dede, Ketelhut, Whitehouse, Breit & McCloskey, 2009, p.9).

Therefore, because of the aforementioned problems in traditional mentoring of Iranian EFL teachers, the researchers of this paper intend to introduce a mentoring software called EFL Mentoring Relationship Management (EMRM). Although “data-based decision making (DBDM)” is increasingly improved, the perception varies relatively among nations as educational systems and policies are varied (Scheer & Visscher, 2018). This software was developed in line with the educational policies of the institute in which the software was applied.

The research questions addressed by the present study are as follows:

1. Does the application of EMRM mentoring software vs. traditional (Personal) mentoring make any difference in the instructors' methodology of teaching writing?
2. What are the attitudes of the users towards the application of the EMRM mentoring software?

### 3. Method

#### 3.1. Participants

In this study the convenience sampling method was used because they were the participants who happened to be available for study. The sample of the present study was the EFL teachers from five private language institutes in Zarrinshahr, Isfahan, Iran. They consisted of 30 EFL teachers, 25 (83%) females and 5 (17%) males among which 17 ones took part for the first research question and 13 ones took part for research question two. The reasons for the selection of these participants from these institutes are that (1) the institutes not only had a mentor for the EFL teachers but also they taught writing in their curriculums. (2) only one of the institutes was also equipped with the mentioned EFL mentoring software (EMRM) in the process of mentoring which is the focus of this study; (3) the institute was also equipped with the intranet network needed for the application of EMRM software. The participants of this study were Iranian native speakers and their average age was 34.18. The demographic data in table 1 shows which participants were connected to which groups of mentoring.

**Table 1**

*The Participants' Demographic Data*

Characteristics	All Respondents			
	RQ1			RQ2
Groups (Institutes)	G1_TRAD Institutes 1,2	G2_SOFT Institute 3	G3_CTRL Institutes 4,5	Institute 3
Gender (%)				
Females	4 (66.67%)	5 (100%)	4 (66.67%)	12 (92%)
Males	2 (33.33%)	0	2 (33.33%)	1 (8%)
Nationality (%)				
Iranian	100%	100%	100%	100%
First Language (%)				
Persian	100%	100%	100%	100%
Average age	30	39.6	33.33	33.8

#### 3.2. Materials and Instruments

##### 3.2.1. Instrument 1

The first instrument is the EMRM software. The reliability of the software has been confirmed by two expert judges in terms of software structure, functionality and its user friendliness. It was also certified with quality control team of the institute which was using the software for its EFL mentoring system. In this study the EMRM software is used as a local intranet database to transfer information from the EFL teacher to the mentor

and vice versa. It is a desktop-windows-based product. The application was created by using Microsoft Access (2010). It is a database management system (DBMS) with a “graphical user interface and software-development tools” (MS Access Help, 2010). This application can readily be offered to private and public language institutes for helping the mentors, supervisors and language teachers. This software can also be developed by other software management systems and environments.

In contrast to traditional mentoring, the mentors using EMRM, provide feedback, create assessment and feedback systems that give mentors specific information on what they are doing and what effect their actions have on students’ performance through the teaching period; it also does not end in just a few workshops between the mentee and the mentor. These characteristics are not available through traditional mentoring. The information of EMRM software which can be edited by the mentor’s permissions creates a *structure* for providing ‘constant’ support and establishing ‘constant feedback’ systems (See Appendix 1). In short, the characteristics of EMRM are as follows. EMRM (1) creates a mentoring structure (framework) for effective mentor-mentee relationship (Soleimani & Zanganeh, 2014), (2) helps mentors to inform new teachers about the standards and helps them implement the standards within their schools’ contexts (Delaney, 2012), (3) helps mentors to insert the research-based methods (Gersten, Morvant, & Brengleman, 1995) and research-based strategies and various high-quality plans, files & materials for presentations, tests etc. into the software (Rață, 2013, p. 194) for the instructors to apply into classroom practice, (4) helps mentors to use a reflective approach to mentoring through the use of structured journals (Williams & Watson, 2004) by which the instructors announce the mentors what activities they have applied in practice, (5) helps mentors to create immediate or post-observation meetings (Williams & Watson, 2004) by the information received from the instructors, (6) it creates opportunities for delayed or immediate post-lesson debriefing by the classroom observers (Williams & Watson, 2004), (7) creates opportunities for collecting information (a history log) about the improvement of pre-service and in-service teachers’ profession (Delaney, 2012), (8) creates opportunities for group mentoring (Harris et al., 2015) by which other mentors can give feedback to the instructors.

### **3.2.2. Instrument 2**

The instrument for RQ<sup>1</sup> included a 13-item checklist (Appendix II). In order to compare the instructors' methodology of teaching writing, the researchers adapted the framework from Seifoori, Mozaheb and Beigi (2012, p.112). Two expert judges agreed separately on the items and the quantity of items in the checklist. The researchers observed the classroom teachers and completed the checklist through the class time. It collected data for research



questions one. The checklist began with a short introduction on the aims and goals of the research. The researchers told the participants that the checklist was produced to observe the instructors' methodology of teaching writing. The first section of the checklist collected the applicant's personal information such as age, sex, university course, the degree of education, language teaching experience. The second section, focused on the observer's opinion about the instructors' methodology of teaching writing. For the Likert scales, based on Dörnyei (2003) the observers were asked to show their level of satisfaction by choosing a number from 1 (extremely dissatisfied) to 5 (extremely satisfied)." (Dörnyei, 2003, p. 37).

### **3.2.3. Instrument 3**

The third instrument included an 18-item close-ended questionnaire and used a 5-point Likert scale. It was created to gather data of the attitudes of the users towards the application of the EMRM mentoring software. The researchers used a set of semi-structured interviews with ten users of the software and designed a questionnaire which was also reviewed, edited and validated by the decisions of two expert judges in teacher education to make sure if its "face and content" were valid (Dörnyei, 2003). The researchers piloted the questionnaire by five volunteer respondents before they were used in this research. The questionnaire of the main study had an acceptable Cronbach's Alpha of 0.876 for internal instrument consistency.

Every individual item of the questionnaire had a 5-point Likert scale and was in the English language. The EFL teachers were asked to tick the best option indicating the extent to which they agreed to the items corresponding to the reality of the software performance. The time allocation, as determined by the pilot study was 30 minutes for the questionnaire.

It began with a short introduction to the aims of the research. The researchers told the participants that the questionnaires were made to collect the attitudes of the users towards the application of the EMRM mentoring software. The first part of the questionnaire collected the applicant's personal information like age, sex, university course, the degree of education and the experience in language teaching. The second part of the questionnaire was about the participants' attitudes and opinions about different functions of the EMRM mentoring software.

### **3.3. Procedure**

Two close-ended questionnaires were used for data collection procedure. The researchers also followed "the basic ethical principles of data collection issues in survey research" according to Dörnyei's (2003, p. 91) recommendations of ethical issues used both in survey research and through the whole data collection procedure. At first the participants were divided into 3 groups: The teachers in group one (G1\_TRAD) were traditionally

mentored, the teachers in group two (G2\_SOFT) were mentored through EMRM software and the teachers in group three (G3\_CTRL), the control group, were not mentored at all. The classes in the three groups lasted twenty sessions and each session lasted one hour thirty minutes. The EFL language teachers in all three groups had attended the same preparatory teaching training courses prior to the experiments; this was done in order to have similar teaching methods among the teachers. The preparatory course was adapted from Philips (2001, p.474). The only difference was the mentoring styles of each group in the work place.

In group one (G1\_TRAD) traditional mentoring was offered based on the routines of the institute 1. The *mentor* mentored the EFL teachers through four visits during the course period. The mentor just reviewed the teaching methodologies and replied the teachers' questions orally. In so doing the mentor personally observed the teacher's performance in the classroom and communicated the feedback after the observation. For example such sentences were given by the mentor to the teacher; "the first step before teaching the construction of an outline is to help learners to decode the topic to determine what the intended outline is" or "Writing topics generally give very clear clues about how the answer should be constructed"

The teachers in group 2 (G2\_SOFT) were mentored by using the EMRM (there was no face to face meetings). In this group the teachers were trained how to use the software prior to the beginning of the experiment. They used the pre-planned files for teaching writing. They also selected the pre-loaded information from the combo boxes available on the software when the students were busy completing a task. They were the activities the teachers had applied in the classroom for teaching writing to the learners. The selected information was also sent to the mentor through the software and the mentor could observe the activities the teachers had announced. For example such sentences were given to the mentor by the teacher after the teacher had seen the lesson plan and applied it in the classroom: Step 1: "Teaching decoding of a topic" and step 2: "Teaching the construction of an outline". So if a teacher first selected and taught step 2 instead of step 1, the mentor could use the *mismatch* to mentor the teacher by sending a message that he/she should have finished step 1 first and then should have started step 2 in his/her lesson plan. In another part of the software the teachers assigned and added notes about the learners' homework by selecting the pre-loaded information from the combo boxes available on the software after a task was assigned for the learners to perform for their next session. The mentor could also use such information to mentor the teachers on learners' after class tasks and activities. The mentor used the *software* for mentoring the teacher from his office and had no face to face mentoring; the mentoring information and tips were communicated through (1) the intranet messages between the teachers, the

mentor and the automatically created software messages, (2) the preplanned and preloaded information and files which had already been fed to the software by the mentor and the researchers (3) the *feedback* sent or received by the teacher or the mentor. The teachers in group three (G3\_CTRL) were considered as control group and their teacher received no mentoring treatment at all. The teacher in this group had similar teaching methods as the other groups.

According to the first research question, the first stage included an observation research. The researchers needed to obtain enough information through a 13-item checklist (instrument 2) describing the instructors' methodology of teaching writing among the groups in focus. The researchers had already pre-arranged the observation sessions with the EFL teachers, mentors and the managers of the institutes in the three groups. The researchers participated in the EFL classes held in these institutes as an observer without interfering in any issues and audio-recorded the sessions in which the EFL teachers taught EFL writing to the students and the mentoring sessions in which the mentor mentored the EFL teachers. Based on the teaching contents and plans and the arrangements between the researchers and the EFL teachers, the researchers attended four sessions of each class, two sessions until the middle of the term (sessions 5 & 6) and two sessions until the end of the term (sessions 15 & 16) in order to obtain enough information in this regard. There were 17 EFL teachers; thus, the researchers observed and recorded 68 sessions in the said institutes. The researchers employed and completed one checklist for each teacher through four observation sessions. Therefore, 17 checklists were finally completed for the study. After the researchers compared these EFL instructors' methodology of teaching writing, the similarities and differences were found.

As for RQ2, the *attitudes* of the EFL teachers about the application of the EMRM mentoring software were also evaluated in this study through a survey research. Before the application of the software the instructors who were supposed to use it in their EFL classes, were trained how to use the software in details. Finally, the participants who had used the software in their EFL classes were invited to fill in the evaluation questionnaire (instrument 3) to provide data regarding their attitudes towards the application of the EMRM mentoring software in the classroom. The questionnaire was prepared in paper. The researchers delivered the paper copies in person. The participants completed the questionnaires and delivered them in person to the researchers to be processed.

The participants were told that they would be given a questionnaire to collect data about the software. They were asked to show if they disagreed or agreed with each statement by ticking only one response to the right side of each item. They were given enough time to respond. The participants were

also told that when they finished responding the questionnaire, they would hand it to the researchers. The candidates were informed that there was a 30-minute time limit for completing the tasks and that while answering questions, they could ask any questions in relation to the items, the content of the survey items or the words or expressions of the items in the questionnaire.

On completion of the questionnaires, each respondent informed the researchers that they had finished the completion of the survey. The questionnaire was in English language and seemed not to need any introduction; nevertheless, a brief explanation was given privately to individual participants about what they needed to do to complete it. They were also allowed to ask their questions.

### **3.4. Data Analysis**

Data analysis procedures were adapted from Brown and Rodgers (2002). The researchers summarized the data received from the close-ended questionnaires in the statistical style of sum, percentage and average for the data collected through instrument 2. The questionnaire in instrument 3 used 5-point Likert scale. In this study in order to save space, the researchers classified the replies into two groups. First the participants who “agreed strongly” or “agreed” with the statements were grouped under “Agree”, and second the ones who “strongly disagreed” or “disagreed” were grouped under “Disagree”. The researchers also considered the possible negative items of the questionnaires.

The data obtained from the research questions were analyzed quantitatively with version 21.0 of the SPSS. First, the reliability estimate for the third instrument in RQ2 was calculated to find Cronbach’s Alpha. Due to the nature of the instrument for RQ1 the reliability estimate was not computed because it was a checklist. Secondly, the researchers measured the item statistics such as the mean and the standard deviation. They also used the number of the participants and the inter-item correlation matrix.

Thirdly, the researchers used descriptive statistics such as mean, percentage, and range to analyze the qualitative data which was gathered through the descriptive questionnaires. The researchers used tables and graphs to show the results of the qualitative data analysis. Mean and percentage were calculated for each item. The final results of the data analysis are presented based on the research questions respectively.

## **4. Results and Discussion**

### **4.1. Results**

The analysis of the results of the observation checklist for RQ1 concerning the difference in the instructors' methodology of teaching writing

in mentoring EFL teachers with the software vs. traditional mentoring (%23.53 males and %76.47 females) showed that the participants in institutes with mentoring programs on average (G1\_TRAD, Avg=18.16) and G2\_SOFT Avg=57.8) demonstrated better performance than G3\_CTRL (Avg=14.13) (see table 2) on the methodology of teaching writing based on the items of the research instrument.

**Table 2**

*The Specifications of the Results of the Checklist in RQ1 Based on Each Participant*

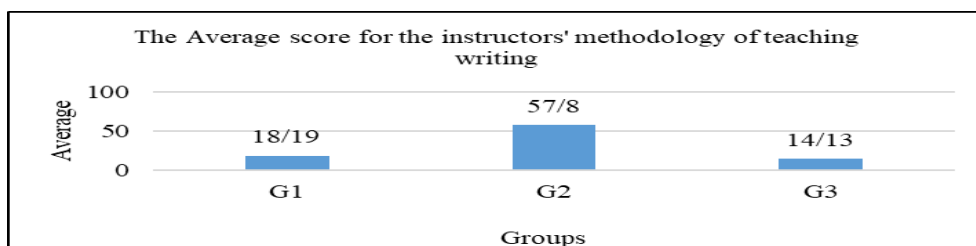
Participants	Institutes	Groups	Group Description	SUM	Percentage %	Average
1	HZ	G1_TRAD	+ Mentor - Software	20	31.00	18.16
2	HZ			19	29.00	
3	HZ			19	29.00	
4	SV			15	23.00	
5	SV			21	32.00	
6	SV			15	23.00	
7	PP	G2_SOFT	- Mentor + Software	58	89.00	57.8
8	PP			54	83.00	
9	PP			59	91.00	
10	PP			58	89.00	
11	PP			60	92.00	
12	AD	G3_CTRL	- Mentor - Software	15	23.00	14.13
13	AD			17	26.00	
14	AD			15	23.00	
15	PD			13	20.00	
16	PD			13	20.00	
17	PD	13	20.00			

*Note.* The sum, the percentages and the average of all scores of the checklist items (1 to 13) for each participant.

The participants of the second group (G2\_SOFT) who had been mentored with the software also had better performance than the first group (G1\_TRAD) who had been mentored in traditional mentoring (see table 2 and figure 1).

**Figure 1**

*The Performance of the Instructors' Methodology of Teaching Writing*



The analysis of the observation checklists (Items 1 to 13) related to the instructors' methodology of teaching writing showed that the participants of the second group (G2\_SOFT) who had been mentored with the software had better performance in comparison to other groups (G1\_TRAD and G3\_CTRL) (see table 3 and figure 2) because they were up-to-date with new approaches and strategies to writing in ESL/EFL contexts (G1\_TRAD=30%, G2\_SOFT=72%, G3\_CTRL=23.33%), dedicated enough classroom time to writing while planning the curriculum (G1\_TRAD:40%, G2\_SOFT:80%, G3\_CTRL:26.67%), involved the students more in different forms of writing (G1\_TRAD:26.67%, G2\_SOFT:88%, G3\_CTRL:20%), gave the students enough knowledge about writing (G1\_TRAD:33.33%, G2\_SOFT:84%, G3\_CTRL:20%), motivated learners by using real-life & authentic texts (G1\_TRAD:30%, G2\_SOFT:88%, G3\_CTRL:20%), taught the students to be strategic writers (G1\_TRAD:20%, G2\_SOFT:88%, G3\_CTRL:20%), used pair and group work as supplementary activities for teaching writing (G1\_TRAD: 36.67%, G2\_SOFT:88%, G3\_CTRL: 26.67%), used recent technologies in their classes (G1\_TRAD: 20%, G2\_SOFT: 100%, G3\_CTRL: 20%), used recent corpus-based learning in their classes (G1\_TRAD:20 %, G2\_SOFT: 92%, G3\_CTRL: 20%), used integrative approaches while teaching (G1\_TRAD: 26.67 %, G2\_SOFT: 92%, G3\_CTRL: 20%), introduced the concept of discourse for students (G1\_TRAD: 23.33%, G2\_SOFT: 96%, G3\_CTRL: 23.33%), integrated the concept of discourse into writing programs (G1\_TRAD: 23.33%, G2\_SOFT: 96%, G3\_CTRL: 23.33%), considered learners' needs and then chose the best assessment (G1\_TRAD: 33.33%, G2\_SOFT: 92%, G3\_CTRL: 23.33%).

**Table 3**

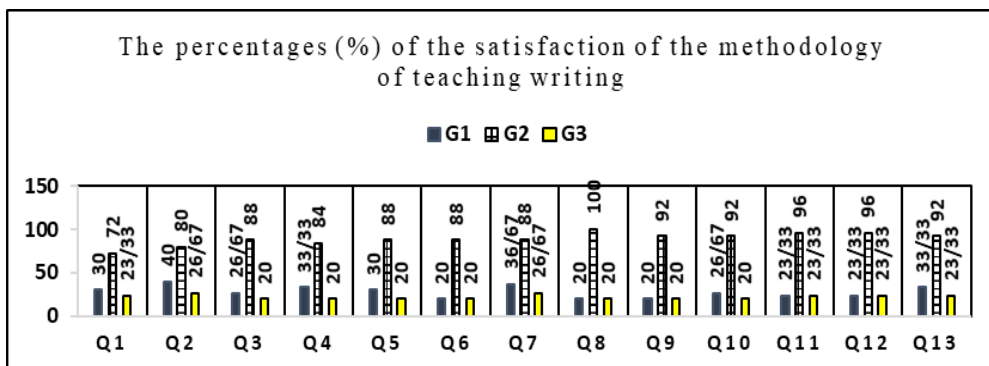
*The Specifications of the Results of the Checklist for RQ1 Based on Check List Items for Each Group*

Checklist items	Groups		
	G1_TRAD	G2_SOFT	G3_CTRL
1	30	72	23.33
2	40	80	26.67
3	26.67	88	20
4	33.33	84	20
5	30	88	20
6	20	88	20
7	36.67	88	26.67
8	20	100	20
9	20	92	20
10	26.67	92	20
11	23.33	96	23.33
12	23.33	96	23.33
13	33.33	92	23.33

*Note.* The numbers refer to the percentages (%) of the satisfaction of the methodology of teaching writing for each item in each group based on the checklist.

**Figure 2**

*The Percentages (%) of the Satisfaction of the Methodology of Teaching Writing*



The results related to RQ2 showed Cronbach’s Alpha and the mean scale scores of the survey followed by insights into attributes and information about the attitudes of its users of the EMRM mentoring software. According to table 2 the survey had acceptable Cronbach’s Alpha greater than .70 for internal instrument consistency (see Table 4).

**Table 4**

*The Characteristics of the Survey*

Survey	No. of Items	No. of Participants	Total Average of Mean Score	Cronbach’s Alpha
The attitudes of the software users	18	13	3.355	0.876

In order to answer the RQ2, the researchers summarized the data obtained from the questionnaire, in the form of percentage. The questionnaires used 5-point Likert scale. To save space in this study, the researchers classified the replies into two groups. First the participants who “agreed strongly” or “agreed” with the statements were grouped under “Agree”, and second the ones who “strongly disagreed” or “disagreed” were grouped under “Disagree”. The results are summarized in Table 5.

The analysis of the items related to the attitudes about the software (Mean item score range: 2.23 - 3.92; SD range: 0.27 – 1.87, Table 5) indicates the school policies used for teaching writing are available to the teachers (92.31%). The school announcements used for teaching writing are available to the teachers (92.31%). The mentors present the main steps of the lesson plans to the teachers in details (100%). The lesson plans are saved for later use for other teachers (100%). The lesson plans are reviewed and updated (84.62%). The mentors present the strategies and techniques of

teaching writing to the teachers (92.31%). The presented strategies and techniques of teaching writing have references (100%). The presented strategies and techniques of teaching writing are saved for later use for other teachers (100%). The presented strategies and techniques of teaching writing are reviewed and updated (92.31%). The mentors present the teaching materials to the teachers through the software (92.31%). The teachers' teaching materials are presented through the software (92.31%). The teaching materials are saved for later use for other teachers (92.31%). The teaching materials are reviewed and updated in the software (84.62%). The mentors regularly observe the teachers through the software (84.62%). The teachers give their structured journal (as performance feedback) to the mentor (92.31%). The teachers give mentors written feedbacks of what output activities, assignments and projects have been assigned to the students (92.31%). The mentors give feedback on the teachers' structured journal (performance feedback) (61.54%). The EFL teachers give feedbacks to the EFL mentors feedbacks (76.92%).

**Table 5***Item Statistics of the Survey*

Item No.	% *	Mean	SD
1	92.31	3.31	1.109
2	92.31	3.46	1.127
3	100.00	3.69	.480
4	100.00	3.92	.277
5	84.62	3.15	1.463
6	92.31	3.54	.660
7	100.00	3.85	.376
8	100.00	3.92	.277
9	92.31	3.23	1.092
10	92.31	3.38	1.121
11	92.31	3.62	.650
12	92.31	3.69	1.109
13	84.62	2.92	1.382
14	84.62	2.92	1.382
15	92.31	3.46	1.127
16	92.31	3.46	1.127
17	61.54	2.23	1.878
18	76.92	2.62	1.557

*Note.* \* % Percentage of the participants who "Agreed" or "Strongly Agreed" to the items



## 4.2. Discussion

### 4.2.1. The Observation Checklist Items

The data analysis of the checklists revealed that the EFL teacher participants of the second group (G2\_SOFT) who had been mentored with the software had better performance in the methodology of teaching writing than other groups who had been mentored in traditional mentoring (e.g. G1\_TRAD) or had not been mentored without a mentor (e.g. G3\_CTRL).

The three groups are the miniatures of the kinds of mentoring recommend by (Langhout, Rhodes, & Osborne, 2004, pp.303-304, Table 6) for providing mentoring *support*, *structure*, and *activities* for effective mentor-mentee relationship. In this study we identified three different mentoring styles among the three groups of the study in terms of “*support*, *structure* and *activity*” of a mentoring-relationship (Langhout, Rhodes, & Osborne, 2004, pp.303-304); in group one the mentor provided low *support*, low degrees of *structure*, and *activities*. In group two the mentor provided higher levels of *support*, *structure*, and *activities* through the EMRM software. In group three due to lack of mentors, no mentoring *support*, *structure*, and *activities* were observed.

**Table 6**

*The Effectiveness of Mentor-mentee Relationship in This Study*

Groups	Mentoring support	Mentoring structure	Mentoring activity
1. Traditional Mentoring	Low	Low	Low
2. Software Mentoring	High	High	High
3. No Mentoring	– *	–	–

*Note.* \* – means no mentor-mentee relationship

This study supports Dieker, Rodriguez, Kraft, Hynes, and Hughes- (2014) in dealing with the routines that may be repeated across several teachers using the same instructional context; the advantages of software mentoring over traditional mentoring are that many mentor-mentee relationships in terms of *support*, *structure*, and *activities* are pre-planned and presented digitally and the mentors do not need to spend time to repeat the routines for the mentoring sessions (Dieker et al. 2014), so there were more time for more essential activities of mentoring; the mentoring “cyclical processes” (Dieker et al. 2014, p. 29) in *structure* and *the documentation of mentoring support* and the mentoring *activities* also virtually existed for other teachers and mentors to be used in future.

This kind of mentoring in group two which connected EFL language teachers to the mentor “in novel and complex ways” (Lu & Heng, 2009), also supported Fisher, Schumaker, Culbertson and Deshler (2010), Walker, Downey and Sorensen (2008), Wells, Lewis, and Greene (2006) because the mentoring software made professional development accessible to teachers. In terms of mentoring *support* this research supports Kahraman and Kuzu (2016) because it also focuses on “supporting the professional development of teachers with e-mentoring approach”.

The foreign language learning in this study (groups one and three) created difficulties that mentors, teachers and learners in 2<sup>nd</sup> language settings do not necessarily need to cope with; this supports Zhu, Deng and Li (2014) who believe that “there exist some notable problems concerning the mode of teaching and one of their suggestions is that the mode of teaching should be conducted on the precondition of quality control or guarantee” (p.163). In this study mentoring in the second group was performed on the preconditions of control quality. Quality control was an important factor in group two and had a direct relationship with the efficiency of the EFL teachers and their correspondence to the mentoring *support, structure, activities*.

The results also support Kahraman and Kuzu (2016) where the e-mentoring structure was used in four stages of “preparation, matching, interaction and finalizing” (p.80); the research on software mentoring in this study in group two also followed the same mentoring performance. It can be inferred that according to the mentoring *support, structure, and activities* for effective mentor-mentee relationship, the EFL teachers were (1) well *prepared* and (2) *matched* with environment of software mentoring in terms of phases of performance for the methodology of teaching writing through mentoring with the software. The application of the software had positive influence on their methodology of teaching writing.

#### **4.2.2. The Beliefs about EMRM Mentoring Software**

Data analysis based on the participants’ *attitudes* about the software revealed the EFL teachers had a positive attitude about the *structure* and the *process* of mentoring with EMRM software and it was believed to be *effective*; this supports Kahraman and Kuzu (2016), Walker, Downey and Sorensen (2008) and Wells, Lewis and Greene (2006) who believe software mentoring makes professional development accessible to teachers.

It can be inferred that mentoring opportunities in terms of mentoring *support, structure and activities* which are lacked or cannot be possibly present in traditional mentoring, created positive attitudes among the participants of this study. Now we know that how the *process* of a feedback-based mentoring *structure* with the software creates positive attitudes to help mentors direct the software mentoring sessions.

The factors which were not convenient to professional development in traditional mentoring are no longer barriers in mentoring with EMRM software; this supports Archibald and Gallagher (2002) and Elges, Righetini and Combs (2006); for example in this study, (1) “in traditional mentoring the mentors’ policies used for teaching writing were not available to the teachers, (2) the mentors’ announcements used for teaching writing were not available to the teachers, (3) the mentors did not present the main steps of the lesson plans to the teachers in details, (4) the lesson plans were not saved for later use for other teachers, (5) the lesson plans were not reviewed and updated, (6) the mentors did not present the strategies and techniques of teaching writing to the teachers, (7) the presented strategies and techniques of teaching writing did not have references, (8) the presented strategies and techniques of teaching writing were not saved for later use for other teachers, (9) the presented strategies and techniques of teaching writing were not reviewed and updated, (10) the mentors did not present the teaching materials to the teachers in the mentoring sessions, (11) the teachers’ teaching materials were not presented in the mentoring sessions, (12) the teaching materials, if any, were not saved for later use for other teachers, (13) the teaching materials were not reviewed and updated in the mentoring sessions, (14) the mentors did not regularly observe the teachers, (15) the teachers did not give their performance feedback to the mentors, (16) the teachers did not give mentors written feedbacks of what output activities, assignments and projects had been assigned to the students, (17) the mentors did not give feedback on the teachers’ performance feedback, (18) the EFL teachers did not give feedbacks to the EFL mentors feedbacks.”

The next thing is that mentoring through the *software* supports Rață (2013) in the way the mentors and EFL teachers deal with planning (Lesson plans), Williams and Watson (2004) for the implementation of mentoring structure (strategies and techniques of teaching writing), Delaney (2012), Encinas and Hernández (2015) and Harris, et al. (2015) for teaching materials, teachers’ observation, assessment (feedback & assessment using structured journal).

Based on Kahraman and Kuzu (2016) it can be inferred that according to the mentoring support, structure, and activities for effective mentor-mentee relationship, the EFL teachers and the EFL mentor interacted well through the software within the environment of software mentoring in terms of phases of performance for the methodology of teaching writing through mentoring with the software; this also supports Soleimania and Zanganeh (2014). The application of the software had positive influence on the attitudes of the users of the EMRM mentoring software. It can also be inferred that the software helped the EFL language teachers share their educational experience and knowledge with each-other and the EFL mentor and develop their

professional networks which support Delaney (2012), Encinas and Hernández (2015) and Harris, et al. (2015).

The results of this research question also support Harris, et al. (2015) where they said “mentors learned from mentees and regular and full mentee participation was an identified issue” (p.193); because the delivery of EFL mentoring through the combination modules in the EMRM mentoring software was also effective.

## 5. Conclusion and Implications

According to the results of this study, the successful performance of the mentoring software in the methodology of teaching writing vs. traditional mentoring and the positive attitudes of its users, the EMRM mentoring software can contribute to EFL mentoring relationship which suggests invaluable implications for education system. The implications could be more emphasis on mentoring EFL teachers as well as increased awareness for valuing quality control and the related issues. Based on research findings, one implication is that the Iranian traditional mentoring can also be accompanied with the application of EMRM mentoring software to alleviate the concerns in traditional mentoring; this companion software together with traditional mentoring can help mentors create *new mentoring interventions* in mentoring “*support, structure and activity*” (Langhout, Rhodes, & Osborne, 2004, pp.303-304) of a mentor-mentee relationship. Through software mentoring the mentors can help design, organize, implement and maintain the educational and administrative structure and process for the EFL teachers’ methodology of teaching language skills and components for (1) the EFL mentoring programs, (2) the in-service EFL teacher training programs and (3) the evaluation & feedback system of the EFL teachers and teacher educators.

The next *implication* is that many researchers worried about teacher effectiveness (Hannan, Russell, Takahashi & Park, 2015, Martin & Dismuke, 2017 and Preston, 2016). The results of this research have direct and indirect implications for teacher training for both pre-service and in-service programs.

Although the invention of this mentoring software was time consuming and needed some code writing knowledge, it was affordable for this research so in this case this research also supports Abbott, Greenwood, Buzhardt, & Tapia (2006) and Wentling et al. (2000) in terms of its affordability for Iranian schools and universities which is another implication of the study.

The next implication is that different issues which were “barriers to professional development in the past” (Archibald & Gallagher, 2002; Elges, Righettini & Combs, 2006) are not serious concerns with this mentoring software. Effective application and implementation of technologies in

language education depends on high-quality language teacher professional improvement and constant support (Lemke & Fadel, 2006; O'Dwyer, Russell, & Bebell, 2004; Penuel, 2006) for in-service and pre-service levels, this mentoring software can also help mentors create standard language teacher professional development and constant support.

One of the limitations of this study is that in this study the EMRM mentoring software was implemented only for five EFL classroom teachers and one EFL mentor in a private language institute in one city not in various schools and language centers around different cities in Iran, consequently, the results of this paper cannot also be generalized to other public-schools, universities, language institutes and participants in other cities in Iran.

In this study the instructors' methodology of teaching *writing* was examined in order to narrow down the topic of the instructors' methodology of teaching English thus the results of this paper cannot also be generalized to teaching other language skills and components. The next suggestion was to survey the attitudes of its users (the EFL teachers and the mentor(s)) towards the application of the EMRM mentoring software; in this research the attitudes of only thirteen users in one language institute in one city were surveyed;

According to Kahraman and Kuzu (2016) who believe that a mentoring software should help *finalize* the mentoring process, we need further research to prove if the application of the software also will have positive influence on the quality of the EFL *learners'* writing ability and if its application vs. traditional mentoring results in significantly varied accuracy, fluency and complexity in the texts developed by EFL learners.

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## Appendices

### Appendix 1: The structure of the EMRM software

Table 1. *The main structure of the EMRM software based on the investigations in this research*

Software	EFL Mentoring Relationship Management (EMRM)	
Desktop	The Mentor's Application	The Teachers' Application
<b>Purpose</b>	To feed the EFL Mentoring Relationship Management data and to view the data received from teachers for decision making purposes.	To feed the needed data (feedback) for the mentor and view the data fed by the mentor for teaching and supporting.
<b>What is fed into the software?</b>	For language teachers, any data that the mentor decides to be suitable for the language teachers to know and apply in the classroom such as teaching strategies, learning strategies, evaluation strategies etc. In the feedback modules, the added information is used not only as a criterion for language teachers but also as a criterion for mentors to guide, advise and evaluate the EFL teachers.	
1. Classroom Lesson plans	The main steps of the lesson plans are fed to the software by the mentor (or teachers) before the teachers start teaching.	The lesson plans can be viewed by the teachers any time prior to the beginning of the class. Using this module, the teachers know exactly what steps to follow for each session of the class.
2. How to teach	The mentor feeds the software in advanced for all the possible strategies and techniques of teaching skills, sub skills and other language components for all levels of language teaching and learning by <i>research-based references</i> . Every "how to teach" strategy or technique is labeled with a suitable name. Research based references are also provided for each individual strategy or technique.	The teaching strategies and techniques of teaching components and skills are viewed and applied if needed by the teachers.
3. Teachers' performance feedback on the lesson plans	The mentors can view the performance feedbacks fed by the teachers for each single session and each class.	While teaching, the performance feedbacks are fed to the software by the EFL teachers. For every step of a lesson plan the teachers clarify what activities, strategies and techniques they prefer to use for teaching. They just choose the most suitable labels (which have already been fed by the mentor in the "how to teach" module) by clicking on the combo boxes available on the software.
4. Output activities (Students projects)	<i>Output activities setup</i> : The mentor feeds the software in advanced for all the possible activities, assignments	<i>Output activities for students' assignments and projects</i> : The teachers can clarify what activities, assignments

	and projects the students need to deal with after each session to be chosen and delivered to the teachers the following sessions. The mentioned activities can also be addressed by research-based references provided for each individual strategy or technique. Every “output activity” is labeled with a suitable name.	and projects the students need to prepare and practice for the following class sessions. The teachers can add the labels to the software by just choosing the most suitable labels (which have already been fed by the mentor in the “ <i>Output activities setup</i> ” module). The EFL teachers can save the presented activities, assignments and projects by clicking on the combo boxes available and selecting the labels suitable for students’ activities.
5. Teachers’ materials	<i>The teachers’ materials: materials</i> such as extra activities, power point slides, documents, quizzes, and other files can be entered to the software for future use by mentor’s permission.	The teachers’ materials such as extra activities, power point slides, documents, quizzes, and other files can be viewed in the software which was fed by the mentor (’s permission).
6. Mentor’s materials	The mentor’s materials such as extra activities, power point slides, documents, quizzes, and other files can be entered to the software for teachers’ future use by the mentor’s permission.	The mentor’s materials such as extra activities, power point slides, documents, quizzes, and other files can be viewed and used by teachers.
7. feedbacks on Performance	<i>EFL mentors’ reports to EFL teachers:</i> the EFL mentor can give feedbacks on Teachers Performance, and teachers’ messages through writing feedback reports.	<i>Teachers’ Feedbacks for EFL mentors:</i> the EFL teachers can also communicate and give feedbacks on EFL mentors.
8. development	<i>This software is open to development:</i> New modules according to the mentor’s or the admin’s needs can also be added.	

## Appendix 2: The checklist for evaluating the methodology of teaching writing (RQ1)

Please read each item carefully and indicate to what extent you are satisfied with them. You can show your level of satisfaction with these changes by choosing a number from 1 (extremely dissatisfied) to 5 (extremely satisfied). Your responses are kept confidential and will solely be used for research purposes.

**Full Name:**   **Age:**   **Field:**

**Degree:**   **Teaching experience:**

No.	Methodology of Teaching Writing
1	The teacher is an avid reader who is up-to-date with new strategies and approaches to writing in ESL/EFL settings.
2	The teacher dedicates enough time to writing while planning the curriculum.
3	The teacher involves the students in different forms of writing.
4	The teacher gives the students enough knowledge about writing.
5	The teacher motivates students by using authentic and real-life texts.
6	The teacher teaches the students to be strategic writers.
7	The teacher uses pair work and group work as supplementary activities for teaching writing.
8	The teacher uses recent technologies in his/her classes.

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9	The teacher uses recent corpus-based learning in his/her classes.
10	The teacher uses integrative approaches while teaching.
11	The teacher introduces the concept of discourse for students.
12	The teacher integrates the concept of discourse into writing programs.
13	The teacher considers students' needs and then chooses the best assessment.

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