JOURNAL OF LANGUAGE EDUCATION AND RESEARCH

Journal of Language Education and Research, 2023, 9 (2), 444-473

Research Article

The Impact of Online Reflective Practice-oriented Assessment on the Self-efficacy of Turkish EFL Pre-service Teachers: A Case Study

Işıl Günseli Kaçar *

ARTICLE INFO

Received 26.08.2023
Revised form 22.09.2023
Accepted: 22.09.2023
Doi 10.31464/jlere.1350604

Keywords:
Online
reflective
practice-based assessment
self-efficacy
EFL pre-service teachers

ABSTRACT

The purpose of this mixed-methods case study is to explore the impact of online reflective practice-based assessment, virtual mentoring and video-mediated self-assessment on the self-efficacy of Turkish pre-service teachers of English as a Foreign Language (EFL) in a practicum course in the 2021/2022 academic year. The Turkish version of Teachers' Sense of Efficacy scale by Çapa et al. (2005) was used to collect the quantitative data. The Paired Samples t-test was employed in the quantitative data analysis. Semi-structured interviews, reflection journals, and video-mediated post-teaching self-assessment forms were utilized in the qualitative data collection. Thematic content analysis was used to analyze the qualitative data. Findings indicated while verbal persuasion and enactive mastery experiences were considered the main self-efficacy sources for pre-service EFL teachers, affective states were also found influential in their self-efficacy perceptions. The study revealed the favorable impact of virtual mentoring and video-mediated self-assessment on pre-service EFL teachers' self-efficacy development.

Acknowledgments I would like to thank all the EFL pre-service teachers and virtual mentors involved in the study.

Statement of Publication Ethics The researcher observed ethical principles such as confidentiality, informed consent, as well as anonymity and obtained the ethical approval for the research study from METU Human Ethics Center on 21.12.2020 with the protocol number 383-ODTÜ-2020.

Authors' Contribution Rate : The study does not have a co-author.

Conflict of Interest : There is no conflict of interest.

Reference Günseli Kaçar, I. (2023). The impact of online reflective practice-oriented assessment on the self-efficacy of Turkish EFL pre-service teachers: A case study. *Journal of Language Education and Research, 9*(2), 444-473.

This manuscript is an extended version of the one presented at GLOB ELT conference in 2015.

* Dr, ORCID ID: https://orcid.org/000-0003-3043-5040. Middle East Technical University, the Department of Foreign Language Education, isil@metu.edu.tr

ISSN: 2149-5602

Introduction

There has been a surge of interest in the role of reflection in teacher education for the last two decades (Kourieus, 2016). In a linguistically and culturally diverse English Language Teaching (ELT) landscape of this post-method era, teachers are expected to be reflective practitioners with a strong sense of agency and context-sensitive pedagogy who can construct their "own theory of practice" (Kumaravadivelu, 2001, p. 537). The new post-method teacher profile requires the skillful undertaking of multiple roles ranging from a knower, well-versed in context-specific linguistic, cultural, and social variables, to an enabler, equipped with procedural knowledge for effective classroom practices, and a facilitator, promoting student engagement.

In the 21st century education, a considerable emphasis has been placed on teacher quality (Darling-Hammond, 2000). It is the teacher self-efficacy (TSE) that mostly affects teacher quality and the quality of instruction in a particular learning environment (Bandura, 1997; Choi & Lee, 2018). TSE can be defined as "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran & Woolfolk-Hoy, 1998, p.233). It is thought to impact not only teachers' practices but also students' performance (Poulou, 2007). In fact, TSE beliefs are considered to predict teachers' pedagogic competence and dedication to teaching (Silverman & Davis, 2009).

TSE beliefs tend to be established among experienced teachers, and deeply ingrained in time, immune to change or any type of close scrutiny (Woolfolk Hoy & Spero, 2005). Pre-service teacher education programs enable prospective teachers to develop their self-efficacy beliefs. Previous studies investigating prospective teachers' self-efficacy (STSE) development indicated that STSE levels are expected to increase during the practicum (Woolfolk Hoy & Spero, 2005). Conversely, some studies revealed either negative changes or no significant changes in the STSE beliefs (Brouwers & Tomic, 2000). Thus, it is of great importance to support student teachers in pre-service teacher education programs so that they can develop powerful and positive self-efficacy beliefs (Pendergast, et al., 2011). In this respect, the exploration of how to promote pre-service teachers' self-efficacy beliefs is crucial.

Literature Review

Previous Studies Related to the Teacher Self-Efficacy

As a construct stemming from the social cognitive theory by Bandura (1997), TSE has been the focus of interest in ELT for over three decades (see Gencer & Çakiroglu, 2007). It is considered to be changeable during teacher preparation and the first years of teaching (Woolfolk Hoy & Spero, 2005). As student teachers gain more teaching experience, they fine-tune their perceptions of self-efficacy, shifting from a global understanding of TSE with an emphasis on the general idea of teaching and teaching competencies to a differentiated sense of self-efficacy (Polou, 2007; Van Dinther, et al, 2011). TSE influences their teaching effort, their professional goals and aspirations as well as students' learning outcomes (Rupp & Becker, 2021). Previous research with in-service

teachers indicated that it is closely connected to teacher involvement, pedagogical stance, and receptivity toward innovative, diverse, and active teaching practices. (Schwarzer & Warner, 2014).

Teachers with high levels of self-efficacy were shown to display a great deal of commitment as well as persistence when encountered challenges (Tschannen-Moran & Woolfolk Hoy, 2001). High levels of TSE were found to facilitate competent self- and action regulation (Pajares, 2002). Highly efficacious teachers tend to attach more importance to student interaction and autonomy (Choi & Lee, 2018). However, low levels of TSE are associated with an authoritarian orientation to classroom management (Gencer & Cakıroglu, 2007).

In accordance with the social cognitive theory, *mastery experiences, vicarious experiences, verbal persuasion* and *psychological/affective states* were demonstrated to contribute to the teacher efficacy (Bandura, 1997). The research evidence confirms the contribution of these sources to the self-efficacy of pre-service teachers in teacher education programs (Van Dinther et al., 2011). However, how prospective teachers process and make sense of the self-efficacy information from various sources still remains an uncharted territory (Van Dinther et al., 2015). Mastery experiences and perceived successful teaching performances are likely to reinforce efficacy beliefs, empowering teachers' confidence regarding the success of their future teaching performances (Poulou, 2007; Woolfolk-Hoy & Spero, 2005; Yüksel, 2014). They are considered the most powerful contributor to TSE development (Tschannen-Moran & Hoy, 2007). Verbal persuasion is another important source for TSE development (Tschannen-Moran & Hoy, 2001) that may involve interactive experiences in the form of coaching and mentoring (Wyatt & Dikilitaş, 2016). It can be provided by school-based mentor teachers and the university supervisors (UnSs) via post-teaching conferences, yet these conferences do not go beyond offering support and criticism concerning the pre-service teachers' activity/lesson planning and their post-teaching reflections (Atay, 2007). In fact, the virtual mentoring practices were integrated into the current study context to enhance preservice teachers' TSE. The dynamics between school-based mentors and pre-service teachers, the quality of support from these mentors, the school community, the UnSs, and the number of field experiences were demonstrated to be the significant predictors of TSE (Aydın & Woolfolk Hoy, 2005). Vicarious experiences, which are derived from observational experiences via other students or teachers (Bandura, 1997), were also viewed as another source of TSE (Wyatt & Dikiltaş, 2016). With respect to the link between the pre-service teachers' affective states and TSE, some studies found a positive relationship (Sevimel & Subaşı, 2018), while others indicated no relationship between both variables (Poulou, 2007; Yüksel, 2014).

The practicum period is considered to play a pivotal role in prospective teachers' professional development and in the development of TSE (Flores, 2015). This period provides them with an opportunity for bridging the gap between theory and practice that promotes pre-service teachers' professional development (Maskit, 2013). Previous studies in the EFL pre-service teacher education contexts emphasized the student teachers' anxiety related to the feedback and evaluation aspects of the practicum (e.g., Paker 2011), a

commonly reported problem in the study context. Another anxiety-provoking factor during the practicum is related to unclear or unrealistic teacher selves due to pre-service teachers' lack of teaching experience and their emergent teacher identities (Eröz-Tuğa, 2013). Prospective teachers' lack of clarity about their expectations adds to their practicum pressure (Eröz-Tuğa, 2013), which is concerned with the pre-service teachers in the current study. In fact, the development of TSE beliefs can be traced back to pre-service teacher education programs and they are considered "the most pliable early in learning" (Tschannen-Moran & Woolfolk Hoy, 2007, p. 947).

Contradictory findings exist regarding the relation between prospective teachers' field experiences and their perceptions of self-efficacy. Regarding the relationship between field experiences and self-efficacy in the Turkish context over the practicum period, Atay (2007) found an increase in pre-service teachers' sense of efficacy regarding classroom management and student engagement but a decrease in their sense of efficacy in instructional strategies. In the same vein, Yüksel (2014) indicated significant changes before and after the practicum period. The study attributed the changes in their self-efficacy levels to enactive mastery experiences and social persuasion, while no significant contribution of vicarious experiences and physiological/affective states was reported. Also, Alcı and Yüksel (2012) reported a significant correlation between pre-service EFL teachers' performance, their self-efficacy and metacognition. Alagözlü (2016) indicated that prospective EFL teachers' self-efficacy, their self-reported proficiency level and pedagogical strategy use were considered the predictors of self-concept. In addition, Çelik and Zehir Topkaya (2017) pointed out that pre-service EFL teachers demonstrated a relatively high levels of teaching efficacy and an increase in their teaching efficacy perceptions whereas Çankaya (2018) indicated that prospective teachers' self-efficacy levels were slightly lower than in-service teachers, confirming the favorable influence of teaching experience on self-efficacy.

In contrast to the aforementioned studies indicating the favorable impact of the field experiences on the STSE development, other studies (e.g., Gencer & Çakıroğlu 2007) found that field experiences were not conducive to STSE beliefs. The underlying motive was related to the lack of quality feedback provided by school-based mentor teachers. Unless it contains information as to the extent of the acceptability of task performance and the suggestions for task improvement, feedback is not viewed as a salient efficacy source for student teachers (Van Dinther et al, 2015). It is maintained that feedback should be both "balanced" and "recognizable" (Van Dinther et al., 2015, p. 25). The former refers to the positive feedback full of affirmative comments on the strengths and weaknesses of pre-service teachers and the suggestions for the improvement of their teaching performance The latter, however, refers to the feedback connected to pre-service teachers' own experiences, affirming their own perceptions and judgements about their own development (Van Dinther et al., 2015). In fact, a virtual mentoring project was integrated into the practicum course to cater for the student-teachers' need for a "balanced" and "recognizable" feedback and the current study investigated the influence of such feedback on the self-efficacy beliefs of prospective teachers (Van Dinther et al., 2015, p.25).

Video-Mediated Self-Asssessment and STSE

The video-mediated online self-evaluation tasks are regarded as an effective source of self-efficacy information source for prospective teachers (Eröz-Tuğa, 2013; Segers, et al., 2008; Van Dinther et al., 2015). As formative assessment focuses on the improvement of student learning by enhancing student motivation and learning outcomes (Black & William, 1998), pre-service teachers' formative assessment practices are likely to affect their mastery experiences. Particularly, the integration of reflective formative assessment tasks via reflective e-portfolios into the practicum classes is likely to promote pre-service teachers' reflections on the practicum, which, in turn, promotes their professional growth (Kuter, et al., 2012). These reflective e-portfolios might include pre-service teachers' lesson plans, teaching activities in the practicum, their self-appraisals of real teaching performances, as well as their reflections on the feedback provided for them by their school-based mentor teachers (SBMs) and UnSs and on their future goals. In Kuter et al.'s (2012) study, pre-service teachers' engagement in a collaborative dialogue with their peers, SBMs and UnSs subsequent to a video-taped microteaching session was reported to raise their awareness towards their weaknesses in their teaching and motivated them to ameliorate these aspects.

As suggested by Eröz Tuğa (2013) and Rosaen et al. (2008), watching their own videotaped teaching performances and self-assessment practices enabled pre-service teachers to examine their teaching performance from a critical perspective and raise their awareness towards their strengths and weaknesses. In fact, Baecher (2011) claimed that watching the videotaped performances may build a more realistic picture of their own performance and promote new ways of thinking for prospective teachers as it displays a comparison of their perceptions on the teaching task performance and their real performance.

The adoption of video-mediated feedback provision in practicum courses can help the UnSs provide more evidence-based constructive feedback for prospective teachers (Galvis & Nemirovsky, 2003). In addition, the student-teachers' involvement in such practices might be the driving force for them to internalize self-asssessment practices and become autonomous as well as reflective practitioners. Being involved in such online self-assessment practices might also contribute to their teacher agency (Eröz- Tuğa, 2013; Rosaen et al., 2008). In fact, the current study set out to investigate the impact of the video-mediated self-assessment practices in the practicum course on student-teachers' teaching self-efficacy.

Just as previous research indicated the critical role of students' use of self-regulation skills in their academic achievement, teachers' self-regulatory behaviors were found to positively influence their teaching practices and their adaptive teaching behavior (e.g., Toussi et al., 2011). Baylor et al. (2011) argued that teachers' self-regulatory strategies can promote their effective lesson planning, task management, and classroom management skills. Teachers without well-developed self-regulatory skills are likely to find it challenging to integrate self-regulatory instructional strategies into their own teaching. Additionally, self-regulation can help teachers gain valuable insights into their students' needs and learning experiences. The video-mediated self-assessment practices in

the practicum course in the study aimed to improve self-regulatory skills for prospective teachers.

Virtual Mentoring (E-Mentoring)

The virtual mentoring practice in the study can be defined as mentoring in an online environment conducted via emails and video conferences ubiquitously (Bierema & Hill, 2005). The incorporation of a virtual mentoring component into the practicum courses in the study might complement the established mentoring system at schools. The virtual mentors are likely to contribute to the professional growth of pre-service teachers via their constructive, comprehensive, and detailed feedbacks. Such feedbacks are believed to support the enactive mastery experiences of pre-service teachers (Tschannen-Moran & Hoy, 2007). The online mentors are also viewed as coaches or guides to help pre-service teachers' professional development via their harmonious relationship with them based on dialogic sharing. Thus, the former might contribute to the vicarious experiences of the latter by sharing their own personal teaching experiences and their ideas about the latter's career choices.

Mentees in virtual mentoring interactions are provided with information easily and an ample amount of professional support (i.e., Smith Risser, 2013). Regarding the factors influencing the success of virtual mentoring, mentors' accessibility and passion about teaching, mentees' clear aims, as well as the mentor-mentee relationship based on reciprocal respect and confidence might be listed (Smith Risser, 2013). If a mentor's communication style is not compatible with that of a mentee, or if he or she is likely to undermine his/her mentee's /mentees' confidence, the effectiveness of virtual mentoring is disrupted (Löfström & Eisenschmidt, 2009),

Previous research indicated that the type of virtual mentoring approach may affect the prospective teachers' professional development (Alemdağ & Erdem, 2017). In contrast to transmissive mentoring where learners receive knowledge inactively, in constructivist mentoring knowledge is co-created with the mentor and mentee (Richter et al.,2013). Novice teachers with constructivist-oriented mentors were reported to have lower levels of burnout, having a higher level of self-efficacy, teaching motivation, and job satisfaction than others in a traditional mentoring program (Richter et al., 2013). In virtual mentoring, pre-service teachers' engagement in video-mediated self-assessment tasks serves as a self-regulation component to help them evaluate their progress in teaching skills, which tends to facilitate their enactive mastery experiences.

As for the type of support virtual mentors provide, "cognitive, affective, and instrumental support" might be listed (Alemdağ & Erdem, 2017, p.136). *Cognitive support* included problem appraisal, the provision of advice for the practicum problems, the evaluation of the possible solutions, (teaching) experience sharing (Alemdağ & Erdem, 2017). It can be considered to foster enactive mastery experiences. However, *affective support* refers to "empathetic, caring, affirming, and encouraging statements" (Alemdağ & Erdem, 2017, p. 136). This support is concerned with verbal persuasion and affective states. *Instrumental support* is concerned with the provision of digital materials and computer hardware support (Alemdağ & Erdem, 2017). The cognitive and affective support were incorporated into the virtual mentoring project in the current study.

Methodology

Research Design

The study adopted a mixed-methods case study design, which incorporates quantitative and qualitative data collection methods and provides detailed insights and evidence for a particular case (Creswell & Plano Clarke, 2018). As the current study explored the impact on the EFL pre-service teachers' self-efficacy of the integration of online reflective practice-oriented assessment and virtual mentoring practices into a practicum course, the adoption of a mixed-methods case study research design is deemed appropriate. Consent forms were obtained from the pre-service teachers prior to their study engagement.

Publication Ethics

For this study, research and publication ethics are complied with via the ethical committee approval obtained from the ethics committee from METU Applied Ethics Research Center. The approval was received on 21 December 2020. The protocol number was 383-ODTU-2020.

Research Context

The setting for the study was the department of foreign language education at a large Turkish state university. The study was carried out in a practicum course called ELT Practicum II, which was offered for the senior Turkish pre-service teachers of English as a Foreign Language (EFL) in the spring semester of the academic year 2021/2022. The aims of the course were threefold: gaining familiarity with different types of EFL learning environments and learner profiles to have authentic teaching experience at primary/secondary schools under supervision, introducing prospective teachers to the professional teacher community, and developing a reflective teacher identity. The course involved a 12-week-long field experience (six hours a week) in two state high schools and two-hour weekly face-to-face class sessions at university. *ELT Practicum II* was the second practicum course offered for the participants in the spring semester following the first one, *ELT Practicum I,* in the fall semester. It involved teacher research tasks, structured classroom observation tasks based on different teaching skills (such as giving instructions, classroom and time management, as well as dealing with disruptive students) and four teaching tasks. The pre-service teachers were asked to videotape their teaching tasks in class and reflected on their teaching performance using a video-mediated self-assessment form produced by the researcher. The researcher was also the course instructor and UnS.

A digital portfolio assessment component was integrated into the practicum course to promote STSE development (see also Van Dinther et al., 2015) It is composed of three phases. During the first phase, formative video-mediated assessment, pre-service teachers collected evidence regarding their practicum teaching activities, as well as four reflective video-mediated self-appraisals related to their competence development in their practicum teaching tasks such as their future learning goals and activities including a reflection

regarding their prospective learning goals and activities (See Segers et al., 2008; Van Dinther et al., 2015). The second phase, feedback, involves prospective teachers' online interaction with their virtual mentors via email, Facebook and Skype meetings for professional development purposes.

Participants

Fourty EFL pre-service teachers enrolled in ELT Practicum II participated in the study. Prior to their involvement in the study, they completed all the ELT Methodology courses offered at the department. They were within an age range between 21 and 27 with a C1 level of proficiency in English. The overwhelming majority of the participants were female (n=32). They were from different parts of Turkey and had diverse social and cultural backgrounds. As for presenting quotations by the participants for the findings, they are coded as P1, P2, P3 and so forth. The terms *prospective teachers* and *student-teachers* are used interchangeably with the term *pre-service teachers* in the article.

Data Collection

The quantitative data in the study were collected via the Turkish version of Teachers' Sense of Self Efficacy Scale (TTSES), which was originally developed by Tchannen-Moran and Woolfolk-Hoy (2001) and adapted to Turkish by Çapa et al., (2005). The qualitative data in the study were collected via weekly reflective journals, video-mediated self-assessment forms, and semi-structured interviews prior to and after the study.

The Turkish Version of the Teachers' Sense of Self-efficacy Scale

The Turkish version of Teachers' Sense of Self-Efficacy Scale (TTSES) by Çapa et al. (2005), was administered to the pre-service teachers twice (at the beginning and end of the study) during the course sessions at university. The scale (see Appendix) utilized 24 items on a 9-point Likert type. The items on the scale ranged from 9 (A great deal "çok yeterli") to 1 (Nothing "Yetersiz"). The scale is considered to be highly reliable with high item-total correlations. The reliability of the whole scale is .93 (.82 for student engagement, .86 for instructional strategies, and .84 for classroom management). The items 1, 2, 4, 6, 9, 12, 14, 22 are related to student engagement and items 7, 10, 11, 17, 18, 20, 23, 24 are concerned with instructional strategies. The items 3, 5, 8, 13, 15, 16, 19, 21 relate to classroom management. Some sample items from the scale are as follows:

- How much can you do to help your students think critically? (Item 2- student engagement)
- How much can you do to control disruptive behavior in the classroom? (Item 3- classroom management)
- How well can you respond to difficult questions from your students? (Item 7- instructional strategies)

Reflective Journals

The pre-service teachers were asked to write weekly entries on their reflective journals. In these journals they evaluated their virtual mentoring experiences, their relationships with their virtual mentors, the style, and the quality of the feedback from their virtual mentors, as well as to what extent and how they incorporated the feedback they received into their subsequent teaching tasks, and the influence of this feedback on their self-efficacy. They were also asked for the new perspectives they developed regarding different aspects of teaching via their online academic and career-related exchanges during the study.

Semi-Structured Interviews

All the pre-service teachers in the study were interviewed individually prior to and following the study. The semi-structured interview is commonly utilized in the social sciences for qualitative research purposes (Creswell, 2007). Despite following a general guide or protocol prepared prior to the interview, it allows for discovery, with some room to follow topical trajectories throughout the conversation (Creswell, 2007). The familiarity of the researcher with the topic made it possible for her to address participants further in-depth questions to elaborate on their comments. The interviews lasted 40-45 minutes and were held in the researcher's office at university. They were audio-recorded with the permission of the prospective teachers. The interviews were held in Turkish, in the native language of the participants, to avoid any linguistic obstacles for their self-expression. During the semi-structured interviews before the study, the pre-service teachers performed a self-appraisal of their strong and weak points in teaching EFL, the aspects of teaching EFL where they would like to develop themselves, and the professional development activities prior to their study involvement. The interviews after the study were concerned with the following points: the participants' online interactions with their virtual mentors as well as the impact of their virtual mentors' feedback and their video-mediated self-assessment practices on their professional development and their sense of TSE.

Video-Mediated Self-Assessment

The pre-service teachers in the study completed formative video-mediated self-assessment forms considering their four teaching task performances at the practicum schools. The guidelines for the self-assessments were provided by the researcher. The pre-service teachers were supposed to perform their self-appraisals based on their video-taped teaching performances. They were asked to provide concrete evidence from their videotaped performance on different aspects of their lesson delivery and to upload their appraisals on the online learning management system EDMODO. The self-assessment form was composed of the following sections: the strong and weak aspects of their teaching, their pedagogical challenges during the teaching task implementations, their virtual mentor teacher's feedbacks on their lesson plans and their teaching performances, their interpretation of the feedbacks as well as the beneficial aspects of the feedback and how to integrate the virtual mentors' feedbacks into their future teaching tasks. Upon completing the form after each teaching task performance, they also held a post-teaching conference with the UnS where they discuss different aspects of their teaching

performance in an interactive dialogic sharing session including the provision of the UnS' constructive feedback.

Virtual Mentoring

The virtual mentoring project was incorporated into the study to ameliorate the feedback quality for the pre-service teachers. The virtual mentors are regarded as complementary for the school-based mentors assigned to the pre-service teachers in practicum. It was integrated into the study to provide balanced and constructive feedback and contribute to the self-efficacy of pre-service teachers. Within the framework of the project, both the pre-service teachers and the virtual mentors paired up with them were asked to establish contact with one another online via email. Both parties sent one another an introductory video initially. The virtual mentors' introductory videos incorporated the following details: their educational background, their teaching experience and professional development activities, their teaching qualifications, their professional goals, their professional challenges in their educational institutions and how they were coping with them, their pre-service practicum experiences. The pre-service teachers, however, were asked to incorporate the following features in their introductory videos: their educational background, their previous language learning and teaching experiences, academic research interests, future career plans, current pedagogical challenges, and their coping strategies during the practicum.

Having exchanged the introductory videos, both virtual mentors and pre-service teachers commenced their online academic sharings on ELT-related topics. A closed Facebook group was created for this purpose. They were also encouraged to use e-mails for online communication. These sharings involved discussions on the pedagogical challenges of the pre-service teachers and their coping strategies, the new ELT trends and approaches and their applicability to their local teaching contexts, the lessons they learned from the practicum. The pre-service teachers sent their lesson plans via email prior to their in-class implementation and received feedback from their virtual mentors. Following their in-class implementations, they also sent their teaching task videos to their mentors online for feedback. Apart from the aforementioned aspects, the virtual mentors were supposed to provide career guidance for the participants during the study via email and online meetings. They were asked to email two questions to their virtual mentors related to their career choices, job prospects and professional development on a weekly basis before their virtual meetings with them.

Data Analysis

The data from the TTSES were analyzed quantitatively using the Statistical Package for the Social Sciences (SPSS) 18.0. To discover the alterations in TSES beliefs of pre-service teachers in time, the responses given to the TTSES were analysed and compared over two periods (i.e., before and after the study) via the Paired Samples t-test.

Thematic content analysis was used in the analysis of the qualitative data from the weekly reflective journals, the online video-mediated self-assessment forms and semi-structured interviews (Zhang & Wildermuth, 2009). It is defined as "a method for identifying, analyzing, and reporting patterns (themes) found within data" (Braun &

Clarke, 2006, p.6). As it provided a rich and thick description of data, it highlights diverse perspectives of research participants, pointing out similar and different features, providing novel and unanticipated insights (Braun & Clarke, 2006).

During the data analysis, two coders were involved for inter-reliability purposes. One of them was the researcher and the other one was a departmental colleague who was an expert on qualitative analysis. Both coders defined the categories and subcategories in the study data (See Table 1 for the coding scheme).

Table 1. Coding Scheme (adapted from Van Dinther et al., 2015)

Categories	Sub-categories	Number of units
Mastery experiences	Mastery-after-action	195
	a) Evidence-based practice	80
	b) Teacher agency	60
	c) Metacognitive self-regulation skills	55
	Mastery-in-action	40
	a) Being addressed as a future colleague (Admission to the professional community of teachers)	40
	Mastery-for-action	58
	a) Cognitive self-regulation skills	30
	b) Metacognitive self-regulation skills	28
	Milestone-mastery	48
	1. Teacher agency	23
	2. Metacognitive self-regulation skills	25
	Mastery-in-action	40
	Being addressed as a future colleague (Admission to the professional community of teachers)	
	Mastery-for-action	58
	a) Teaching success story regulation skills	30
	b) Commitment to teaching	28
Verbal persuasion (persuading experiences)	Clarifying experiences	120
	Discrepancy feedback	
	Affirming experiences	470
	a) Balanced (constructive) feedback	170
	b) Recognisable feedback	140
	c) Progress feedback	160
Affective states (Affective experiences)	1. A rise in teaching motivation	130
	2. Professional empowerment	170
Total number of units		1329

Regarding the qualitative data analysis, a three-step analysis scheme utilized by Van Dinther et al. (2015) was adapted in the study. The basic analysis unit in the study was "a meaningful text segment, including a partial, single or some sentences" that involves EFL pre-service teachers' references to "video-mediated self-assessment" (VMSA) or "feedback from the virtual mentors" (VMF) or their views regarding the influence of these characteristics on their self-efficacy in the data from the video-mediated self-assessment tasks, reflection journals, and semi-structured interviews (Van Dinther et al., 2015, p.48). The initial step in the analysis was grouping the text segments into the categories and subcategories in line with the qualities of VMSA and VMF. As the second step in the analysis, all text segments where participants described the influence of the VMSA and VMF on their self-efficacy were selected to be coded into four categories of self-efficacy sources in the following way (Bandura, 1997):

a) *Mastery experiences* refer to participants' success experiences regarding teacher competences during the practicum period,

b) *Vicarious experiences* include participants' opinions regarding their observations of their teachers and students

c) *Verbal persuasion* includes participants' statements regarding their virtual co-mentors' affirmations and encouraging remarks on participants' competences.

d) *Physiological and affective states* include participants' opinions regarding their sensory and emotional aspects of their experiences

The third step of the analysis is pertinent to the pre-service teachers' VMSA and VMF experiences. At this stage, the self-efficacy sources depicted at the second step were further specified into efficacy information types in a manner aligned with the results of the analysis at the first step (i.e., various VMSA and VMF characteristics). This step was geared towards the exploration of the self-efficacy information sources in the VMSA and VMF that were elicited from the pre-service teachers at the second step. The results of the further specifications of the pre-service teachers' descriptions of the self-efficacy sources regarding the portfolio assessment phases are presented in Table 2:

Table 2. Connection Between the Phases of Formative Assessment and Types of Self-efficacy Information Types (Adapted from Van Dinther et al, 2015)

Types of self-efficacy information		Definition	Portfolio assessment phase		
			1.Video-mediated self-assessment	2.Feedback phase	3.Interview phase
Mastery experiences	Mastery-after- action	Awareness, consciousness and insights of pre-service teachers following a teaching experience in the past	X	X	
	a)Mastery-in-action	Pre-service teachers' feelings of success while being involved in a teaching or an interview activity			X
	b) Milestone-mastery experiences	Strong affirmation indicating one is on the right track professionally		X	
Persuading experiences	a) Clarifying experiences	Pre-service teachers' feedback experiences providing detailed and informative insights into their professional development		X	
	b) Affirming experiences	Pre-service teachers' feedback experiences enhancing their confidence in their future self-knowledge		X	
Physiological/ affective experiences	Affective states	Pre-service teachers' motivating experiences providing them with self-confidence in their own professional development	X	X	X

Initially, both coders triangulated the qualitative data collected from different sources, the reflective journals, semi-structured interviews, and the video-mediated self-assessments, to promote the credibility of the research findings. For the validation and the refinement of the coding scheme, the coders checked the 20% of the qualitative data to ensure the clarity and consistency of the category definitions. Next, they were engaged in an iterative reading of the data actively, searching for meanings and patterns to form the initial codes independently (Braun & Clark, 2006). Then, they worked in the coding process collaboratively, fine-tuning the coding scheme. They negotiated on the coding categories when new codes emerged until consistency in coding was achieved (Zhang & Wildemuth, 2009). Subsequently, they applied the coding scheme to the qualitative data corpus. An agreement of 85% was achieved in the first round of analysis and before the second round of analysis the coders reached a consensus on the coding scheme. Finally, they launched member checking procedures to check the alignment of the transcriptions with the pre-service teachers' interpretations to consolidate the credibility and trustworthiness of the study.

Results and Discussion

The findings related to the main and sub-research questions are respectively presented in this section. Regarding the main research question in the study, the impact on the pre-service teachers' self-efficacy of the integration of online reflective practice-oriented means of assessment into the practicum course in the study, the results of the Paired Samples T-test indicated that the self-efficacy levels of pre-service teachers changed significantly over a period of 14 weeks during the spring semester of the academic year 2021 and 2022 ($p < 0.001$). The significant positive change in the STSE levels (See Table 3) could be attributed to the promotion of the pre-service teachers' reflective perspectives through the video-mediated self-assessment activities. The virtual mentors' provision of balanced, constructive, and recognizable feedback as well as extra affective and pedagogical support for the prospective teachers were also likely to have fostered their development of self-efficacy. The enhanced levels of TSE might also be linked to the participants' level self-efficacy at the beginning of the study. However, due to a restricted number of pre-service teachers in the study, the findings cannot be generalized.

Table 3. Descriptive Statistics Related to TSES

Tests	Means (out of 9)	Standard Deviation
STSE scores before the study	4.57	1.50
STSE scores after the study (STSE scores changed significantly across the two stages *(p < 0.001)*	7. 20	.88

As regards the sub-components of the pre-service teachers' beliefs (Table 4), pre-service teachers felt most efficacious about instructional strategies while they reported a relatively lower degree of self-efficacy related to classroom management and student

engagement (Çankaya, 2018). Pre-service teachers in the study reported themselves as moderately successful, which was also suggested by Çankaya (2018) and Çelik and Zehir Topkaya (2017). This may be attributed to reflective practice-based formative assessment practices and constructive e-mentoring practices in the study. The study findings also indicated that prospective teachers attained higher self-efficacy levels in instructional strategies than in classroom management and student engagement (Çankaya, 2018). The pre-service teachers' tendency to overfocus on their own teaching performance at the expense of student engagement might account for this finding.

Table 4. The Descriptive Statistics Regarding Pre-service Teachers' Self-efficacy Beliefs Regarding the Sub-components of the TSES

Self-efficacy Categories	Pre-service Teachers' Results	
	Mean	SD
Instructional Strategies	7.50	.40
Classroom Management	7.20	.55
Student Engagement	6.90	.59

Regarding the impact of the integration of video-mediated self-assessment practices on pre-service EFL teachers' self-efficacy, the prospective teachers indicated that performing a self-appraisal of their own teaching via videos promoted their reflective abilities (Eröz- Tuğa, 2013). They reported that looking at their strong and weak aspects of their teaching task performance in real classroom settings retrospectively from a critical perspective via self-assesment contributed to their enactive mastery experiences (Bandura, 1997). They added that their engagement in the video-mediated self-evaluation tasks raised their awareness towards the teaching tasks they performed during their internship. They became conscious of what they did well in their teaching tasks against the teacher competences they were supposed to develop during the internship period (Van Dinther et al., 2015), which promoted a sense of mastery. In the study, these types of experiences were regarded as "mastery-after-action" experiences (Van Dinther et al., 2015, p.49). Pre-service teachers emphasized that their engagement in the video-assisted self-assessment contributed to their development of self-regulation skills, intertwined with enactive mastery experiences, a source nourishing TSE (Toussi et al., 2011). They also underscored that online reflective self-assessment experiences helped them turn into facilitators with well-developed self-regulation skills and proactive agents who are motivationally, metacognitively, and behaviorally ready to accomplish their instructional goals (Toussi et al., 2011; Zimmerman, 2000).

The following quote by P12 indicated his perception of a gradual increase in his TSE by developing new instructional strategies on time management as a result of his engagement in the regular video-mediated self-assessment practices:

> *Time management was a big problem for me on my first teaching task. I realized that I needed to develop some strategies to improve my time management. I also found that incorporating two group activities into one lesson was neither feasible nor realistic. I considered the timing issue while preparing my second lesson plan and my second teaching task was a lot better timewise.*

P12 in the aforementioned quote indicated that performing a video-enhanced self-evaluation helped him promote his self-regulated learning strategies (Zimmerman, 2000). He commented that he noticed a gradual development in his metacognitive skills by providing evidence from his own classroom practices in his video-mediated self-evaluation, which may be regarded as conducive to the promotion of his evidence-based classroom practices in the long run. This is consistent with what Schraw et al. (2006) referred to as the 'metacognitive' component of self-regulation, related to "the knowledge of cognition" and "regulation of this cognition" (p.4). The enactment of the metacognitive component of self-regulation skills, which was manifested via P12's reframing his lesson planning strategies, was acknowledged to contribute to the development of STSE (Schraw et al., 2006). P12's comments emphasized the affordances of video as a tool for developing pre-service teachers' ability to reflect and analyze (Savas, 2012).

Video- mediated self-assessment followed by critical reflection raised pre-service teachers' awareness concerning the relatively weak aspects of their teaching (Fernandez, 2010). The pre-service teachers indicated that the addition of video-based self-evaluation practices into the practicum changed their perspectives on professional development. The inclusion of the formative video-mediated self-assessment enabled pre-service teachers to capture evidence regarding their teaching practice, guide their personal inquiry into their professional growth and foster their informed decision-making processes regarding active student engagement (Shepperd & Hannafin, 2008). The following comment is representative in this respect:

"Watching my videotaped teaching task performance helped me discover that I gave a lot more turns to some students than others" (P2).

She reported that watching the video helped her see how engaged students were in the lesson. She noticed that she needed to enhance student engagement in her classes and raise the students' level of classroom participation. Likewise, P10 reported that her video-mediated assessment practices helped her improve her strategies to shape student contribution in class. She remarked that while watching her videotaped teaching she was surprised to notice that she did not ask students any elaboration questions, make enough clarification requests and confirmation checks, or use wait time effectively. P10 concluded that watching her videotaped teaching task performances acted as a pedagogical reality check for her as a prospective teacher since it enabled her to compare her real teaching task performance as reflected in the video with the way she perceived her performance (See Baecher, 2011).

Some pre-service teachers expressed their contentment with their mastery experiences at the end of their internship period when they found that they excelled in practising certain pedagogical skills in real classroom settings or that they enhanced their pedagogical competence in general. For some, these successful mastery experiences in the practicum helped them become "post-method practitioners", who can theorize their own practice, in Kumaravadivelu's (2001) terms, equipped with a strong sense of teacher agency and context-sensitive pedagogy, (p.541). They felt that they took one step further towards becoming reflective practitioners with "pedagogic thoughtfulness" (Kumaravadivelu, 2001, p.541). Teaching experiences informing pre-service teachers of their progress in their teaching skills and indicating their pedagogical competence served as "a milestone for their future professional learning activities" (Van Dinther et al., 2015, p. 52). Such mastery experiences were labelled as "milestone-mastery experiences" in the study because they provided "a source of self-efficacy information for pre-service teachers" (Van Dinther et al., 2015, p. 52). P3 described his mastery experience as follows:

> *For me when my students told me they liked my style of teaching during my final teaching. it was a real experience for me. Now I feel more and more committed to teaching. When I saw them addressing me as "their teacher". I felt a member of a real teacher community experience of success for me. Now I feel more and more committed to teaching.*

In addition to the importance of being able to examine their classroom practices from different angles, some pre-service teachers also emphasized that their involvement in video-mediated self-assessment promoted their awareness towards how their classroom practices affected student engagement in the lesson they taught. As they needed to provide evidence for their reflective interpretations from the lesson in their self-assessment task, pre-service teachers started to acknowledge the importance of evidence-based practices. P19 illustrated this very effectively below:

> *I did not think that my body language was so influential on student engagement. While watching the video recording of my teaching, I noticed that I was listening to my students with my arms folded. When I focused on the students' reactions, I observed very few students participating in the discussion. I was shocked to see listening to the students with folded arms affected student participation negatively.*

Apart from the abovementioned benefit of video-mediated self-assessment concerning the enhancement of mastery-after-action experiences of EFL pre-service teachers, some stated that performing regular video-mediated self-assessment also enabled them to explore and reframe their previous ideas about student learning. Subsequent to her first lesson implementation, P30, wrote in his self-assesssment form the following:

> *During the group work in class, I thought students were not engaged in the task properly.However, upon watching the video, I saw that although they were not interacting all the time,they were still on task and were working towards the task accomplishment.*

Pre-service teachers underscored their perceptions of a growing sense of TSE throughout the study. They reported feeling a sense of success in their teaching task implementations as they became more and more reflective and critical via their systematic engagement in the video-mediated self-inquiry practices. This engagement helped them

develop a professional growth mindset. The study found that such practices also helped pre-service teachers to launch a critical and reflective inquiry into perceived classroom failures, to justify their observations of students' active involvement through video-based evidence, and produce plans for their professional development. In fact, P5 and P17 reported the following in this respect:

"I think I am good at classroom management in general, but I can develop pair/group work strategies more effectively" (P5).

"I believe that I have some good strategies to motivate students ... but I should improve them so that my students can actively engage in the lesson" (P17).

Even though all the participants were concerned with how to enhance student motivation and were aware of the importance of differentiating the question types in line with their pedagogic goals in different stages of the lesson, they questioned if they were able to formulate questions to shape learner contributions effectively and ensure meaningful classroom interaction. Hence, the study unravelled that pre-service teachers' engagement in such video-mediated self-assessment practices paved the way for mastery-for-reflection experiences, which were not reported in the previous studies. As these online practice-oriented self-assessment practice tasks also fostered their cognitive self-regulation skills such as critical thinking, and metacognitive self-regulation skills (planning and monitoring), they also promoted pre-service teachers' reflection-for-action (Farrell, 2013). The pre-service teachers were motivated to view their future actions with the intention of improving or modifying their practices. By reflecting on their past pedagogical experiences, the pre-service teachers started to consider how their previous teaching experiences could guide their future teachings and what and how to make alterations in their own practices (Farrell, 2013).

In relation to the findings concerning the influence of the virtual mentoring practices on the pre-service teachers' self-efficacy, the study indicated the pre-service teachers' favorable perceptions of feedbacks from their virtual mentors. They emphasized the balanced and recognizable aspects of their virtual mentors' feedback enhanced their mastery and verbal persuasion experiences. The participants in the study did not view vicarious experiences as a self-efficacy source as they did not have an opportunity to observe their virtual mentors' classes. The pre-service teachers indicated that their virtual mentors' constructive feedback provision style informed them of their strong and weak points. In addition, the prospective teachers reported that their mentors' inquiry-based Socrative listening style helped them discover how to improve their weak points via reflection on action. (Richter et al., 2013).

Most of the pre-service teachers expressed their satisfaction with their virtual mentors' feedback. They stated that their mentors' constructive feedback regarding the aspects of their teaching performance they need to develop in their teaching tasks enhanced their mastery experiences, contributing to their self-efficacy as prospective teachers (Löfström & Eisenschmidt, 2009). They pointed out the balanced nature of the feedback, referring to both their strong and weak points, and how it enhanced their self-judgements about their own development. The pre-service teachers expressed that they felt more empowered when they had a clear view of their professional development and a

growing understanding of how and what they needed to improve through feedback (Eröz-Tuğa, 2013; Rosaen et al., 2008; Van Dinther, et al., 2015). P35 expressed this in the following way:

> *When I discovered in my post-conference session with my virtual mentor that the lack of student participation was due to my excessive use of referential questions in the lesson, I got a clear picture of my teaching performance. She recommended me to vary the question types in line with my pedagogical goals and the lesson stages. Now I am trying to diversify my question types.*

Apart from enjoying a feeling of certainty that the abovementioned quote illustrates, the pre-service teachers pointed out that their virtual mentors' feedback made a favorable impact on their physiological and affective experiences (Bandura, 1997; Van Dinther et al., 2015). However, a minority of prospective teachers in the study indicated that even though their mentors' feedback helped them understand how to develop their weak aspects of teaching, they still needed further guidance and support for her professional growth due to their lack of teaching experience and their emergent teacher identities (Eröz-Tuğa, 2013).

Concerning the balanced nature of their virtual mentors' feedback, the participants emphasized that their mentors' feedback incorporated not only the "discrepancy between a current level of performance of a given student and a goal or desired level of performance" ("discrepancy feedback") but also a comparison between "a current level of performance with an earlier level of performance" ("progress feedback") (Voerman et al., 2012, p. 1108). The pre-service teachers regarded the provision of both discrepancy and progress feedback in a combined fashion as beneficial and motivating for their professional development. They emphasized that in cases where their mentor provided discrepancy feedback exclusively, they tended to feel demotivated and inefficacious as prospective teachers. The provision of progress feedback via systematic online self-assessment tasks as well as the regular online communication with their virtual mentor teachers is in line with the formative nature of the digital porfolio assessment.

The establishment of a safe zone for sharing and communication in their feedback sessions with their virtual mentors contributed positively to their motivation levels, which, influenced their affective states favorably (Tschannen-Moran & Woolfolk Hoy, 2007). Their virtual mentors' non-judgemental interaction style empowered them psychologically and acted as a boost for their self-efficacy. Particularly pre-service teachers who had relatively low self-efficacy found it relieving to be given constructive and detailed feedback on their strong aspects of their teaching and their progress in their teaching skills development. The constructive feedback served as verbal persuasion for the participant pre-service teachers. Those with a low level of TSE beliefs also reported their contentment with the way their virtual mentors shared their weak points in their teaching performance. They indicated that virtual mentors' encouraging words for them to ameliorate their teaching performance and their provision of recommendations in this respect had a positive impact on their emerging teacher identities. Additionally, listening to their virtual mentors' accounts of their successful and relatively unsuccessful lessons, discussing with them the factors underlying their successes/failures were found to positively affect the pre-service teachers' affective states (Bandura, 1997).

Pre-service teachers in the current study pointed out that verbal persuasion via clarifying and affirming experiences fostered their development of teacher competencies. They expressed that the former provided them with a mirror where they could have a clearer picture of their teaching performance as well as a road map for professional growth. They added that the affirming experiences enabled them to have more confidence in their teaching skills, pedagogical content and procedural knowledge.

In addition to the favorable impact of clarifying virtual mentor feedback experiences on their self-efficacy, several participants pointed out the self-efficacy-boosting impact of the affirming virtual mentor feedback experiences. They admitted that their virtual mentors' feedback was generally relevant and specific. They added that it involved valuable strategies for their professional development. They pointed out that the recognisable feature of the mentor feedback addressed the points that they were planning to improve and that it echoed their own point of view (Van Dinther et al., 2015). They pointed out even though they were given feedback about the weak points of their teaching, they did not view it as face-threatening since it was compatible with their perspectives and incorporated some suggestions for further improvement.

In the study, in addition to different sources of self-efficacy (Bandura, 1997), an additional source emerged in the data: Admission to the professional teacher community. The prospective teachers in the study reported that being treated as future colleagues by their virtual mentors and by their UnS during the semi-structured interviews, being part of an online community of practice in a dialogic sharing atmosphere for professional development purposes, the absence of a hierarchical power relationship with their virtual mentors nurtured their sense of TSE. The favorable rapport with their virtual mentors affected their affective states and their teaching motivation positively (Richter et al, 2013). Being given the opportunity to be engaged in a career-related sharing with their virtual mentors where they discussed the pros and cons of various career choices from multiple perspectives and where they were informed of their mentors' teaching experiences empowered the pre-service teachers professionally, influencing their affective states positively. They reported that when their mentors made them feel part of the professional teacher community, they became more self-efficacious, with a high degree of commitment to their future profession. In addition, the pre-service teachers in the study remarked that the students' addresssing them as their teachers during their teaching task implementation at the practicum school also enhanced their self-efficacy.

The positive tone the virtual mentors in the study adopted in their dialogic sharing sessions with their mentees regarding career advising, also had a positive impact on the pre-service teachers' affective states, which is considered another source for self-efficacy for teachers (Bandura, 1997). Since pre-service teachers were in a state of anxiety and confusion about the selection of the optimum career paths for themselves, their level of anxiety tended to be relatively high during the practicum period. They described their meetings with the virtual mentors as inspiring and encouraging thanks to the latter's friendly and approachable attitude in their academic sharings. They also mentioned the valuable insights they gained into the potential job prospects as well as virtual and face-to-

face professional development opportunities through their interactive communication with their mentors.

The semi-structured interviews with the pre-service teachers at the end of the study, which served as a mastery-in-action experience, confirmed that the previous phases of the digital portfolio assessment was conducive to the prospective teachers' self-efficacy perceptions. The pre-service teachers reported enjoying a strong sense of self-efficacy when they shared their progress in their teaching competency development and how they dealt with their pedagogical challenges. They also added when they were addressed as 'future colleagues" by their university supervisors, it signified their admission to the professional community of teachers for them. Hence, they felt self-confident, which affected their affective states favourably.

Conclusion

The study highlighted that the integration of reflective video-mediated self-assessment into practicum courses promoted EFL pre-service teachers' self-efficacy in different ways (Eröz-Tuğa, 2013; Fernandez, 2010; Rosaen et al., 2008; Van Dinther et al., 2015) and the importance of formative assessment for prospective teachers' learning (See Segers et al, 2008; Smith & Tilema, 2003). In addition, they revealed the favorable influence of constructivist e-mentoring style adopted by the virtual mentors in the study on the self-efficacy of EFL pre-service teachers (Richter et al., 2013).

The study findings indicated the pre-service teachers' level of self-efficacy rose relatively significantly owing to the integration of online reflective practice-oriented assessment into the practicum, which corroborates the previous research findings (Van Dinther et al. 2015; Hattie &Temperley, 2007; Segers et al., 2008). From the perspective of pre-service teacher education, the findings could be interpreted as a call for restructuring student teaching experience. The pre-service teachers might benefit from extensive video-mediated self-assessment practices, the guidance and support of virtual mentors in their professional development journey to ameliorate their teaching performance. Furthermore, the pre-service teacher education courses should also attach more importance to pedagogical content knowledge development, particularly regarding classroom management skills and student engagement. The teacher educators might also consider incorporating a reflective component into their practicum course via reflective journals or engaging pre-service teachers in evaluating their performances in teaching tasks (reflection-on-action), in planning or revising their instructional strategies for their future classroom practices (reflection-for-action).

The study also revealed that video-mediated self-assessment practices fostered the self-efficacy of the pre-service teachers through mastery experiences, including mastery-after-action and milestone-mastery experiences as well as mastery-for-action (Van Dinther et al., 2015). Hence, formative video-mediated assessment procedures seemed to have the capacity of enhancing the pre-service teachers' self-efficacy via diverse mastery experiences. Making video-mediated self-evaluation activities an integral part of the practicum is likely to enable pre-service teachers to internalize their reflective perspectives towards their own teaching practices and cultivate a critical attitude towards the teaching

competencies that they have developed, enhancing their self-regulation skills (Toussi et al., 2011). Being engaged in video-mediated self-evaluation activities might facilitate pre-service teachers' discovery of their strong and weak points, triggering them to generate new strategies to cope with their pedagogical challenges. The encouragement of pre-service teachers to provide evidence for different aspects of their teaching through their engagement in video-mediated self-assessment activities may lead to the promotion of evidence-based classroom practices, bridging the divide between the theory and practice in education (Maskit, 2013). Considering the impact of video-mediated self-evaluation activities on the pre-service teachers' self-efficacy development, integrating such reflective activities into the practicum courses might be recommended. These activities contribute to the formation of a reflective mindset among prospective teachers, encouraging them to develop strategies of self-regulation such as planning, organization, monitoring, and evaluation (Orhan, 2008).

As to the impact of the virtual mentoring project on the pre-service teachers' self-efficacy development in the study, the study concluded that the virtual mentors influenced the prospective teachers' self-efficacy development via verbal persuasions. The mentors might encourage the pre-service teachers by providing them with clarifying experiences so that the latter could gain a clear view of their professional development. Additionally, by providing the pre-service teachers with affirming experiences, the virtual mentors might them gain confidence in their teaching skills. Virtual mentors might promote pre-service teachers' sense of self-efficacy through their balanced and constructive feedbacks. In this respect, the study underscored the significance of providing pre-service teachers with critical feedback based on a discrepancy between the current and desired performance (i.e., discrepancy feedback) as well as supportive feedback based on a comparison between the pre-service teachers' previous and current performance (i.e., progress feedback) (Voerman et al., 2012). The virtual mentors are likely to have an affirmative influence on the prospective teachers' self-efficacy development by addressing them as their future colleagues by recognizing their status as prospective teachers, and by introducing them to the professional community of teachers by sharing their own professional experiences, challenges and professional development activites,

Although the findings of the study are not considered generalizable because of its restricted number of participants and its short duration, the findings are likely to shed light into other similar EFL pre-service education contexts in Turkey and abroad in terms of how to raise the level of pre-service teachers' self-efficacy levels through formative reflective practice-based self-assessment procedures and virtual mentoring. Regarding further research suggestions, the longitudinal inquiry into the EFL pre-service teachers' self-efficacy development in different educational settings might be considered. Also, comparative studies based on the exploration of possible self-efficacy sources for the experienced and novice EFL teachers or the impact of online versus face-to-face teaching environments on the EFL pre-service teachers' self efficacy development might also be recommended. Finally, international telecollaboration projects focusing on the self-efficacy development of prospective teachers could also be regarded as an alternative research field.

References

Alagözlü, N. (2016). Pre-service EFL teachers' professional self-concept: English teaching efficacy, self-reported English proficiency and pedagogical strategies: A case study in Turkish context. *Procedia Social and Behavioral Sciences, 232,* 196-200.

Alcı, B., & Yüksel, G. (2012). An examination into self-efficacy, metacognition and academic performance of pre-service ELT students: Prediction and difference. Kalem Uluslararası *Eğitim ve İnsan Bilmleri Dergisi*, *2*(1), 143-165.

Alemdağ, E., & Erdem, M. (2017). Designing an e-mentoring program for novice teachers in Turkey and investigating online interactions and program outcomes. *Mentoring & Tutoring: Partnership in Learning, 25*(2), 123-150. https://doi.org/10.1080/13611267.2017.1327394

Atay, D. (2007). Teacher research for professional development. *ELT Journal, 62* (2), 139–147. https://doi.org/10.1093/elt/ccl053

Aydın, Y. C., & Woolfolk Hoy, A. (2005). What predicts student teacher self-efficacy? *Academic Exchange Quarterly, 9*(4), 123-127

Baecher, L. (2011). Collaborative video inquiry in MA TESOL coursework: "Working together to improve ourselves". *ELTED, 14*, 1-7.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Baylor, A. L. (2011). The design of motivational agents and avatars. *Educational Technology Research and Development, 59*(2), 291–300. https://doi.org/10.1007/s1423-011-9196-3

Bierema, L. L., & Hill, J. R. (2005). Virtual mentoring and HRD. *Advances in Developing Human Resources, 7*, 556–568.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. Assessment in Education. *Assessment in Education, 5*, 7-74. http://dx.doi.org/10.1080/0969595980050102

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brouwers, A., & Tomic, W. (2000). A longitudinal study of teacher burnout and perceived self-efficacy in classroom management. *Teaching and Teacher Education, 16*, 239-253. http://dx.doi.org/10.1016/S0742-051X(99)00057-8

Choi, E. & Lee, J., (2018). EFL teachers' self-efficacy and teaching practices, *ELT Journal, 72* (2), 175–186. https:// doi.org/ 10.12973/ejels.2.1.1

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.

Çankaya, P. (2018). The exploration of the self-efficacy beliefs of English language teachers and student teachers. *Journal of Language and Linguistic Studies, 14*(3), 12-23.

Çapa, Y., Çakıroğlu, J., & Sarıkaya, H. (2009. The development and validation of a Turkish version of teachers' sense of efficacy scale. *Education and Science, 30* (137), 74-81.

Çelik, H., & Zehir Topkaya, E. (2017). Pre-service English teachers' teaching-efficacy perceptions and their potential sources in the field experience. *International Journal of Contemporary Educational Research, 4*(1), 12-24.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy policy evidence. *Educational Policy Analysis Archives, 8*, 1-44. http://dx.doi.org/10.14507/epaa.v8n1.2000

Eröz-Tuğa, B. (2013). Reflective feedback session using video recordings. *English Language Teaching Journal, 67*(2), 175-183. https://doi.org/10.1093/elt/ccs081

Farrell, T. (2013). Reflective writing for language teachers. *Australian Review of Applied Linguistics, 39*(3), 295-297. https://doi.org/10.1075/aral.39.3.06cha

Fernandez, M, L. (2010). Investigating how and what prospective teachers learn through microteaching lesson study. Teaching and Teacher Education, 26(2), 351-362. https://doi.org/10.1016/j.tate.2009.09.012

Flores, M.A. (2005). Mapping new teacher change: Findings from a two-year study. *Teacher Development, 9*(3), 89-411.

Galvis, A., & Nemirovsky, R. (2003). Sharing and reflecting on teaching practices using Videopaper Builder 2. *Education & Information Library*, 1-2. https://www.researchgate.net/publication/277749677_Sharing_and_Reflecting_on_Teaching_Practices_by_using_VideoPaper_Builder_2.

Gencer, A.S., & Çakıroglu. J. (2007). Turkish pre-service science teachers' efficacy beliefs regarding science teaching and their beliefs about classroom management. *Teaching and Teacher Education, 23*(5), 664-675. https://doi.org/10.1016/j.tate.2005.09.013

Hattie, J., & Timperly, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112. https://doi.org/10.3102/003465430298487.

Kourieus, S. (2016). Video-mediated microteaching: A stimulus for reflection and teacher growth. *Australian Journal of Teacher Education, 41*(1), 65-80.

Kumaravadivelu, B. (2001). Toward a postmethod pedagogy. *TESOL Quarterly, 35*(4), 537- 560. http://dx.doi.org/10.2307/3588427

Kuter, S. Gazi, Z.A., & Aksal, F.A. (2012). Examination of co-construction of knowledge in videotaped simulated instruction. *Educational Technology & Society, 15*(1), 174-184.

Löfström, E. & Eisenschmidt, E. (2009). Novice teachers' perspectives on mentoring: The case of the Estonian induction year. *Teaching and Teacher Education, 25*(5), 681-689. https://doi.org/10.1016/j.tate.2008.12.005

Maskit, D. (2013). Pedagogical changes: Initiators, causes, dominant factors: A teacher's view. The *International Journal of Pedagogy and Curriculum, 19* (3): 89-107. https://doi.org/10.18848/2327-7963/CGP/v19i03/48903

Orhan, F. (2008). Self-regulation strategies used in a practicum course: A study of motivation and teaching self-efficacy. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi (H. U. Journal of Education, 35*, 251-262.

Pajares, F. (2002) Gender and perceived self-efficacy in self-regulated learning. *Theory into Practice, 41* (2), 116-125. https://doi.org/10.1207/s15430421tip4102_8

Paker, T. (2011). Student teacher anxiety related to the teaching practicum. *Eurasian Journal of Educational Research, 11*(42), 207-224.

Pendergast, D., Garvis, S., & Keogh, J. (2011). Pre-service student-teacher self-efficacy beliefs: An insight into the making of teachers. *Australian Journal of Teacher Education, 36*(12), 46-57. https://doi.org/10.14221/ajte.2011v36n12.6

Poulou, M. (2007). Personal teaching efficacy and its sources: Student teachers'perceptions. *Educational Psychology, 27*, 191-218. https://doi.org/10.1080/01443410601066693

Richter, D., Kunter, M., Lüdtke, O., Klusmann, U., Anders, Y., & Baumert, J. (2013). How different mentoring approaches affect beginning teachers' development in the first years of practice. *Teaching and Teacher Education, 36,* 166-177. https://doi.org/10.1016/j.tate.2013.07.012

Rosaen, C. L., Lundeberg, M., Cooper, M., Fritzen, A., & Terpstra, M. (2008). Noticing noticing: How does investigation of video records change how teachers reflect on their experiences? *Journal of Teacher Education, 59*(4), 347-360. https://doi.org/10.1177/0022487108322128

Rupp, D., & Becker, E. S., (2021). Situational fluctuations in student teachers'self-efficacy and itsrelation to perceived teaching experiences and cooperating teachers'discourse elements during the teaching practicum. *Teaching and Teacher Education, 99,* 103252. https://doi.org/10.1016/j.tate.2020.103252

Savas, P. (2012). Use of digital video recording in the preparation stage of pre-service foreign language teachers' microteachings. *International Journal on New Trends in Education and their Implications, 3*(3), 107-116.

Schraw, G., Crippen, K.J., & Hartley, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. *Research in Science Education, 36,* 111–139. https://doi.org/10.1007/s11165-005-3917-8

Schwarzer, R., & Warner, L. M. (2014). Perceived self-efficacy and its relationship to resilience. In S. Prince-Embury & D. H. Saklofske (Eds.), *The Springer series on human exceptionality: Resilience in children, adolescents, and adults: Translating research into practice* (pp. 139-150). Springer.

Segers, M., Gijbels, D., & Thurlings, M. (2008) The relationship between students' perceptions of portfolio assessment practice and their approaches to learning, *Educational Studies, 34*,1, 35-44. https://doi.org/10.1080/03055690701785269

Sevimel, A., & Subasi, G. (2018). The factors affecting teacher efficacy perceptions of Turkish pre-service. English language teachers. *The Journal of Teaching and Learning, 8*(1), 1-17.

Shepperd, C.E, & Hannafin, M.J. (2008). Examining preservice teacher inquiry through video-based , formative assessment e-portfolios. *Journal of Computing in Teacher Education, 25*(1), 31-37.

Silverman, S. K., & Davis, H. A. (2009). Teacher efficacy. In E. Anderman, & L. Anderman (Eds.), *Psychology of classroom learning: An encyclopedia (PCL)*, (pp. 915-920). Macmillan Reference.

Smith, K., & Tillema, H. (2003). Clarifying different types of portfolio use. *Assessment and Evaluation in Higher Education, 26*(6), 625-648.

Smith Risser, H. (2013). Virtual induction: A novice teacher's use of Twitter to form an informal mentoring network. *Teaching and Teacher Education, 35,* 25-33.

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202–248.

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher Efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17,* 783-805. http://dx.doi.org/10.1016/S0742-051X(01)00036-1

Tschannen-Moran, M., & Woolfolk Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 23,* 944-956. https://doi.org/10.1016/j.tate.2006.05.003

Toussi, M. T., Boori, A., & Ghanizadeh, A. (2011) The role of EFL teachers' self regulation in effective teaching, *World Journal of Education, 1* (2), 39-48.

Van Dinther, M., Dochy, F., & Segers, M. (2011). Factors affecting students' self-efficacy in higher education. *Educational Research Review, 6*(2), 95-108. https://doi.org/10.1016/j.edurev

Van Dinther, M., Dochy, F., & Segers, M. (2015). The contribution of assessment experiences to student teachers' self-efficacy in competence-based education. *Teaching and Teacher Education, 49*, 45-55. https://doi.org/10.1016/j.tate.2015.02.013

Voerman, P., Meijer, P, J., Korthagen F.A.J., & Simons, R.J. (2012). Types and frequencies of feedback interventions in classroom interaction in secondary education. *Teaching and Teacher Education, 28*(8), 1107-1115. https://doi.org/10.1016/j.tate.2015.02.013

Woolfolk Hoy, A., & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education, 21*(4), 343-356. https://doi.org/10.1016/j.tate.2005.01.007

Wyatt, M. & Dikilitaş, K. (2016). English language teachers becoming more efficacious through research engagement at their Turkish university. *Educational Action Research, 24*(4), 550-570. https://doi.org/10.1080/09650792.2015.1076731

Yüksel, H.G. (2014). Becoming a teacher: tracing changes in pre-service English as a foreign language teachers' sense of efficacy. *South African Journal, 34*(3), 1-8 https://doi.org/10.15700/201409161104

Zhang, Y., & Wildemuth, B. M. (2009). Qualitative analysis of content. In B. M. Wildemuth (Ed.), *Applications of social research methods to questions in information and library science* (pp. 308-319). Libraries Unlimited.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). Academic Pres

Appendix. The Turkish Version of the Teachers' Sense of Self-efficacy Scale (Öğretmen Öz-yeterlik Ölçeği) (Çapa et al., 2005)

Ölçek Maddeleri	Çok Yeterli	Oldukça Yeterli	Biraz Yeterli	Çok Az Yeterli	Yetersiz
	9	7	5	3	1
1.Çalışması zor öğrencilere ulaşmayı ne kadar başarabilirsiniz?					
2. Öğrencilerin eleştirel düşünmelerini ne kadar sağlayabilirsiniz?					
3. Sınıfta dersi olumsuz yönde etkileyen davranışları kontrol etmeyi ne kadar sağlayabilirsiniz?					
4. Derslere az ilgi gösteren öğrencileri motive etmeyi ne kadar sağlayabilirsiniz?					
5. Öğrenci davranışlarıyla ilgili beklentilerinizi ne kadar açık ortaya koyabilirsiniz?					
6. Öğrencileri okulda başarılı olabileceklerine inandırmayı ne kadar sağlayabilirsiniz?					
7. Öğrencilerin zor sorularına ne kadar iyi cevap verebilirsiniz?					
8. Sınıfta yapılan etkinliklerin düzenli yürümesini ne kadar iyi sağlayabilirsiniz?					
9. Öğrencilerin öğrenmeye değer vermelerini ne kadar					

sağlayabilirsiniz?					
Ölçek Maddeleri	Çok Yeterli	Oldukça Yeterli	Biraz Yeterli	Çok Az Yeterli	Yetersiz
	9	7	5	3	1
10. Öğrettiklerinizin öğrenciler tarafından kavranıp kavranmadığını ne kadar iyi değerlendirebilirsiniz?					
11. Öğrencilerinizi iyi bir şekilde değerlendirmesine olanak sağlayacak soruları ne ölçüde hazırlayabilirsiniz?					
12. Öğrencilerin yaratıcılığının gelişmesine ne kadar yardımcı olabilirsiniz?					
13. Öğrencilerin sınıf kurallarına uymalarını ne kadar sağlayabilirsiniz?					
14.Başarısız bir öğrencinin dersi daha iyi anlamasını ne kadar sağlayabilirsiniz?					
15. Dersi olumsuz yönde etkileyen ya da derste gürültü yapan öğrencileri ne kadar yatıştırabilirsiniz?					
16.Farklı öğrenci gruplarına uygun sınıf yönetim sistemi ne kadar iyi oluşturabilirsiniz?					
17. Derslerin her bir öğrencinin seviyesine uygun olmasını ne kadar sağlayabilirsiniz?					
18. Farklı değerlendirme yöntemlerini ne kadar kullanabilirsiniz?					
19. Birkaç problemli öğrencinin derse zarar vermesini ne kadar iyi engelleyebilirsiniz?					

Ölçek Maddeleri	Çok Yeterli	Oldukça Yeterli	Biraz Yeterli	Çok Az Yeterli	Yetersiz
	9	7	5	3	1

20. Öğrencilerin kafası karıştığında ne kadar alternatif açıklama ya da örnek sağlayabilirsiniz?	
21. Sizi hiçe sayan davranışlar gösteren öğrencilerle ne kadar iyi baş edebilirsiniz?	
22. Çocuklarının okulda başarılı olmalarına yardımcı olmaları için ailelere ne kadar destek olabilirsiniz?	
23. Sınıfta farklı öğretim yöntemlerini ne kadar iyi uygulayabilirsiniz?	
24. Çok yetenekli öğrencilere uygun öğrenme ortamını ne kadar sağlayabilirsiniz?	