The Journal of Asia TEFL

Cognitive Coaching: Developing Teachers of English as Self-directed Learners

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Innovative and leadership-based learning environments proposed by Education 4.0 have created new tasks for teachers to take greater ownership of change to survive in both digital and physical classrooms. These tasks require teachers to increase their cognitive development and teacher sense of efficacy (TSE). Within this context, teachers as self-directed learners with high levels of sense of efficacy and a more efficient cognitive development are the best agents of change in creating innovative learning opportunities for both themselves and learners as demanded by Education 4.0. This single case study based on pre/post test design aims to examine the impact of a cognitive coaching program developed by the researchers on cognitive and TSE development of pre-service EFL (English as a foreign language) teachers in the Turkish EFL context. Overall, the program had a significant impact on TSE development of teacher candidates and coaching skills concerned with their cognitive development, self-directedness, self-modification, and self-reflection.

Keywords: cognitive coaching, teacher sense of efficacy, self-directed learning, reflective learning community

Introduction

Education 4.0 can be defined as the future of education introducing a desired approach to learning, which aligns itself with the emerging Industry 4.0 revolution. Current innovative and leadership-based learning objectives introduced by Education 4.0 have made the transformation from traditional classroom of the industrial society to creation of digital classrooms obligatory. Education 4.0 can be defined as a desired approach to learning, which aligns itself with the emerging Industry 4.0 revolution.

This transformation will embrace digital curriculum that might affect learning outcomes and reduce in-class management. How is this transformation different from traditional classrooms? The spaces in a digital classroom are both digital and physical. This environment gives teachers new tasks to take greater ownership of change processes of their school culture. This shift also requires creation of reflective learning communities and opportunities together with a redefinition of the meaning and scope of teacher supervision making teachers self-directed learners.

These Education 4.0 based innovations seem to have accelerated many things. For example, unique skilled sets of human capital have been required by the different conditions of social economy. The important factor in the future intelligent information society is to cultivate human-tech literacy resources.

The importance of development of the required skills lies on people in learning management, to develop the skills as well as knowledge abilities taking the needs of the society into consideration (Sinlarat, 2016). Cognitive coaching program (CCP), within this context, is one of the innovative models in teacher supervision based on cognitive coaching posed by Education 4.0 and its utilization within the TEFL (Teaching of English as a foreign language) teacher education context. Teachers with high levels of sense of efficacy together with a more efficient cognitive development could be more effective agents of change in creating innovative learning opportunities for both themselves and learners as demanded by Education 4.0. Within this context, this study becomes the first to outline, design, and explore the impact of the CC on development of student teachers in EFL given in the Turkish context attempting to find out some possible sources regarding teacher sense of efficacy (TSE) even though some studies have been carried out to investigate the effects of for creatıng constructıvıst learning environments on TSE (Demirtaş et al., 2011; Ekici, 2008; Taşkın & Hacıömeroğlu, 2010).

Innovation in Education

Innovation in education basically means change, creating flexible teachers with higher levels of teacher sense of efficacy, lessons, and curriculum and keeping students engaged and excited to learn in a safe, positive learning environment letting them make mistakes, take risks, and ask questions (Göker, 2020). It also means finding ways to reach all of the students and being willing and flexible to adjust what you teach and how you teach. This process requires teachers with increased levels of sense of efficacy as self-directed learners.

Innovation would just be a word without the right action plan, the art of education would miss out on some great accomplishments. There is nothing more rewarding for a teacher than to see his or her students academic grow, improve, or increase. This is directly concerned with his or her cognitive development towards a change. Serving for the teacher development, cognitive coaching is expected to change teacher behaviors and increase TSE introducing a description of new supervisory process of individual reflective practices.

Early career teachers withdraw from the profession during their first years. Their image of what it means to be an English as a foreign language (EFL) teacher guides their behaviours while coping with challenges and becomes the goal of their professional identity development. These Education 4.0 based contexts have been leading to a creation of inherent contexts and changing school environments and classroom dynamics, which will require an increased level of sense of efficacy and cognitive development to cope with those challenges for teachers. Early career teachers' formation of positive or negative professional identities will also closely be related to whether they could cope with unexpected tensions and to their perceived level of sense of efficacy. It is essential then to investigate associations between 'coping' (to survive) and 'managing' (to flourish), and the unusual manners that this impact teachers' perceived effectiveness of sense of efficacy and cognitive development, if we need to understand why some of them leave whereas others stay (Göker, 2006).

Cognitive Coaching and Theoretical Description of the Program Used in the Study

Creating innovative learning opportunities for teachers as required by Education 4.0, the CC aims to foster one's capacity to improve abilities of self-monitoring, self-directedness, and self-modification (Costa & Garmston, 2002, p. 127). It is designed for supervision of teachers with roots grounded in the theories by Bandura (1977) and Vygotsky (1978) and the implementation of reflective coaching has been conducted in the peer coaching (Göker, 2006) and coaching services within educational context.

In the CC program developed, a competent cognitive coach is the essential figure having the capacity to: (1) create interactions with the participants giving priority to produce self-directed learning; (2) seek trust in maintaining coaching relationships; (3) evaluate and intercede the five states of mind; and finally (4) produce new approaches to foster the five states of mind to be able to create a learning environment

where the participants could mediate the capacity of their own and that of others to develop. For the sake of the content of our study, the CC could also be described as a formative model to foster self-evaluation of the teachers to assist them in developing their self-efficacy and cognitive development. The cognitive coach described as mentor in this study drafted questions to ease reflective thinking and prospective responses from the mentees (student teachers). For any cognitive development targeted, the cognitive coach employs paralanguage, structuring as well as meditative questioning response behaviors (Costa & Garmston, 2002, p. 126). Through CC, in which the four strategies given above are employed, teachers are also provided autonomy to a certain extent and this eased their professional development.

As discussed earlier, the emphasis is on the five states of mind, which is an essential part of CC. They are; (a) craftsmanship, (b) consciousness, (c) flexibility, (d) efficacy, and finally (e) interdependence. An individual with a high craftsmanship is expected to identify higher objectives, seek continuous growth and development, see through the gap between the present and desired state maintaining cognitive and reflective thought. Consciousness can be conceived as one's awareness aboout his or her feelings, assumptions, and behaviors and the possible impact of them on what they and others think. That is to say, the mentees could realize both what they think and how it impacted learning after reflection. In addition, flexibility as the third part part of CC could be seen as an individual's ability to grasp different perspectives, desire to change widening his or her response patterns selected. The fourth one, efficacy could be conceived as the impression that an individual's fulfillment would be different and it is connected with being both confident and optimistic. That is why, we have established a link with teacher sense of efficacy and cognitive development as part of self-directed learning for the sake of content of the study. For Costa and Garmston (2002), the TSE is regarded as an essential component for any change in teaching behavior and it plays a key role in assisting the students in mastering a pertinent content. Finally, interdependence focuses on the significance of collaboration so that people could achieve a defined goal. As could be seen, the five states of mind foster an individual' own ability to improve abilities of self-monitoring, self-directing, and self-modifying, which are also considered to be essential parts of cognitive development (Costa & Garmston, 1994, p. 14).

Teachers' Sense of Efficacy (TSE)

Research studies on coaching consistently find significant improvements in teacher efficacy. As an individual's sense of efficacy is essential in deciding how difficult problems are solved, efficacy could be the most important of the five states of mind. When teachers feel little efficacy, then blame hopelessness, despair, rigidity, and withdrawal could follow. However, research studies indicate teachers having robust efficacy could expend more energy in their work, define more intriguing targets, persevere longer continuing against failure barriers (Costa & Garmston, 2002, p. 127).

From this stand point of view, teacher efficacy is considered to be a motivational concept focused on beliefs of teachers regarding their effectiveness (Fives, 2003, p. 46). Positive indicators have been linked with teachers with a higher sense of efficacy. Ashton (1985) maintains that teachers with higher efficacy see their professions more rewarding and create high expectations for students, feel responsible if students are not successful and have a more positive attitudes. In addition, teachers with higher sense of efficacy tend to perform better together with a greater enthusiasm for teaching (Allinder, 1995, p. 27). In other words, teacher belief in their capacity to carry out teaching has been associated with several important areas of schooling such as learner success (Ross, 1992, p. 45), teacher stress, and classroom management (Woolfolk et al., 1990, p. 26), motivation (Midgley, Feldlaufer, & Eccles, 1989, p. 141).

Most literature offers that TSE is a strong construct impacting development of teachers, motivation and any teacher action related to learner outcomes in a more effective way (Ashton & Webb, 1986; Coladarci, 1992; Ross, 1992, p. 45). Earlier research studies on TSE offer that TSE is greatly affected by any kind of experience during pre-service teaching and early career (Woolfolk-Hoy & Spero, 2005). Many of the newly appointed teachers withdraw from the profession during their first years and that is why, experiences of new teachers could be critical to TSE development in the long run.

According to social cognitive theory considering the sources of TSE, there seems to be a joint relation between the environment and person. People inform and change their environments as well as their self-beliefs after an analyis of their performance. They do this analysis based on four main sources: vicarious and enactive experiences, social persuasion, and physiological/affective states (Bandura, 1977). TSE has been searched within various contexts such as Australia, Greece, Korea, Turkey the United States (e.g., Charalambous et al., 2008; Fives et al., 2007; Mergler & Tangen, 2010; Pendergast et al., 2011, p. 86).

However, this study, in an effort to explore the effects of CC on development of TSE, looks similar to find out sources of efficacy with those of Tschannen Moran and Woolfolk Hoy, 2001, who studied changes in efficacy beliefs of student teachers using TSES (long form). Doing so, the study attempts to investigate the possibility of increasing pre-service teachers' efficacy beliefs during teacher preparation through a CC program developed focusing on three sources of TSE: (1) Student teachers' accomplishments regarding efficacy in student engagement, (2) efficacy in instructional strategies, and (3) in classroom management.

Hypotheses, the Study Aims and Research Questions

Based on the hypotheses that teachers as self-directed learners with higher levels of sense of efficacy and a more efficient cognitive development are the best agents of change in creating innovative learning opportunities for both themselves and learners as demanded by Education 4.0. and cognitive coaching increase student-teachers' TSE, and there is a relationship between TSE and cognitive development, this study aims to explore the impact of the CC on pre-service EFL teachers over a six-month time and investigate any prospective factor (s) that might affect their TSE beliefs. Considering the aims of the study, research questions outlined for this study are:

1. In what ways does cognitive coaching increase student-teachers' TSE?
2. In what ways (possible sources of information) does CC help student-teachers increase their sense of efficacy?

Methodology

A concurrent mixed model design of Creswell (2003), in which quantitative and qualitative approaches are used to confirm and corroborate findings, is utilized. Single case analysis is considered to be valuable for the testing of theoretical propositions, provided that predictions are relatively precise and measurement error is low (Levy, 2008: pp. 12-13). This single case study based on pre/post test design is an attempt to find out any prospective improvement for TSE beliefs of student teachers. Therefore, the implementation of the CC program as a specific phenomena is focused on while collecting both qualitative and quantitative data.

Participants and Program

Eight (7 female and 1 male) volunteer pre-service teachers, aged from 21 to 25, enrolled in Teaching Practice course within the pedagogical formation program implemented by the Faculty of Education, Çanakkale Onsekiz Mart University, during the Fall term of the 2018-19 Academic Year participated in the study. They were chosen by using volunteer sampling as one of the main types of non-probability sampling methods. During the implementation of CC program, the participants were 4th year students, studying at the Department of English language and Literature, Faculty of Arts and Sciences. In Turkey, the teaching practice, both during the pre-service TEFL program and within the pedagogical formation certificate program, is conducted as two different 14-week consecutive courses: school observation (4 hours/week) and student teaching (6 hours/week). This program aims to give other graduate students from

different faculties courses to obtain teacher competencies in education faculty prorgammes. The participants were assigned to Vahit Tuna Anatolian High School in two groups of 4 student teachers (STs) each. Two different English teachers and the researcher as the cognitive coach (CCH) were appointed.

Design of the CC and Impact of Conversations through the CC

Cognitive coaching has been described as a "nonjudgmental mediation of thinking" by Costa and Garmston (2002, p. 10) altering observable teaching behaviours when inner and invisible cognitive behaviors are rearranged. The ultimate aim is to increase one's potential to improve abilities of self-monitoring, self-directedness as well as those of self-modification (Costa & Garmston, 2002, p. 114). Within this context, the 14-week CC program utilized in this study was developed and adapted by the Göker in 2016. The model described as a teacher supervision means is mainly based on (a) the theories by Bandura (1977) and Vygotsky (1978), (b) application of the Göker's models of peer coaching and reflective coaching (Göker, 2006, 2017, 2020; S. Göker & U. Göker. 2017) implemented within different educational contexts, and (c) similar mentoring or coaching studies. The theories developed by (a) Koestler - holonomy (1972), (b) Vygotsky - social constructivism (1978), (c) Goldhammer (1969), and Anderson (1993) - clinical supervision, served to form theoretical grounds for CC (Costa & Garmston, 2002). According to Vygotsky's (1978) theory of social constructivism, the view adjoining learning and development is grounded with collaborative as well as social tasks.

Within this context of cognitive coaching, a three-stage cycle of a (1) pre-conference as planning conversation, (2) observation, and (3) post-conference as cognitive and reflecting conversation is ssential for the mentor to achieve the objectives targeted through the CC.

1. Pre-conference as planning conversation. This stage is xpected to foster the development of the mentee's self-coaching skills also improving his or her teacher sense of efficacy. Through these conversation sessions, it is believed that, the mentees (student teachers) would tend to build an awareness on internalizing their cognitive and reflective thoughts for each task or lesson targeted and they would be able to develop an impression that there would be a difference in their work and achievement. This difference was defined as the desired outcome for the CC program and the development of TSE (Göker, 2020; Göker & Bozkuş, 2017).

2. Observation. During this cycle, data collection was of paramount importance for the mentor to see any weakness or strength of targeted task or lesson. In accordance with the principles of CC program, it was the mentee, who decided on procedures of data collection. Costa and Garmston (1994, p. 14). maintain that becoming both as an experimenter and researcher during the coaching process is essential to have a better understanding of an individual's actions or inactions because they are the main proponents of cognitive conversations. Video-recording was also an important asset during observation for further feedback and discussion sessions targeted.

3. Post-conference as cognitive and reflecting conversation. During this stage, the coach asked the mentee to reevaluate what really happened in the class. Secondly, the coach's questions were expected to help the mentee compare the task or lesson targeted with what was actually happening in the class. In addition, the mentee was given a chance to analyze any personal learning experience gained through the lesson. Fourthly, the mentee committed to adapt new stategies or approaches in their future teaching. Finally, the coach had an expectation that the mentees would realize the observable impact of these cognitive reflective conversations on their development of cognitive thought and decision making skills targeted (Göker, 2020).

Data Collection

Data were collected during the Teaching Practice course using both quantitative and qualitative methods to triangulate the findings. For the pre/post test design of this study, one case study group was formed. The quantitative data were collected through the Teachers' Sense of Efficacy Scale (TSES) (long form) as 24-item likert type scale developed by (Tschannen Moran and Woolfolk Hoy, 2001, p. 783). The student teachers responded to each item on a 9-point scale ranging from strongly disagree (1) to strongly agree (9). Scores for each item were summed to obtain a composite score.

The qualititative data were collected through (a) conducting and evaluating videotaped lessons based on the principles of CC, (b) discussion based on videotaped lessons during post-conference sessions, (c) expressing results with statistical data obtained from the pre/post-test application, and (d) employing open-ended questions framed within journals (J), recordings of video (RV), and cognitive conversations of STs with the researcher as cognitive coach (CCH).

After the pre-assessment part, a 15-h training on teacher evaluation and the CC prepared by the researcher was held prior to the treatment. The training mainly included tasks such as writing journals, lesson evaluation methods, and self-evaluation based on discussions of video recorded lessons. Considering the nature of qualitative studies, the researcher as a cognitive coach was actively involved in all stages of the study.

During the treatment, all participants video-recorded the courses, and the researcher as a cognitive coach organized coaching conference sessions, during which he discusses the performance of the student-teachers considering the 24 items in the TSES with them giving feedback on the courses video-recorded.

For the TSES, internal consistency reliability coefficient, Cronbach's alpha, scores reported for this survey were .94 for the entire scale, .87 for engagement, .91 for instruction and .90 for management (Tschannen-Moran & Hoy, 2001) and from .76 to .84 for the entire scale (Humphries et al., 2012). Sample items are: "How much can you do to help your students think critically?" (item 2) and "How much can you do to help your students value learning?" (item 9). The TSES questionnaire was administered to the STs twice. The first measurement (pre-test) was implemented before the beginning of the 14-week CC program prior to any teaching experience in the high school. The last measurement (post-test) was carried out following the treatment and an identification (ID) code was created for each student teacher representing their initials.

Data Analysis

A mixed-methods design with both qualitative and quantitative methods is used in this study. SPSS is used to analyze the quantitative data collected through pre/post implementation. For the analysis of quantitative data, descriptive statistics on the demographics of age, gender, and responses to TSE of the 8 participants are analysed using SPSS. To be able to observe any possible change in their TSE beliefs over time, the responses in TSES questionnaire are xamined and compared utilizing T-test and one-way analysis of variance (ANOVA) with repeated measures over this period.

Data from pre- and post-tests are nalyzed using total score from the TSES before and after the CC and the researcher tried to distinguish whether the differences in the pre- and post-tests capabilities means occurred. The significance level was established at $p < .05$ and the researcher began to review the analyses for interpretation of results. For the analysis of qualitative data, journals (J), recordings of video (RV), and cognitive conversations of STs with the researcher as cognitive coach (CCH) were utilized to see the effects of the treatment.

During the first phase of the analysis by means of the content analysis (Patton, 2002, p. 67), we read what was written in STs' journals, CC training evaluation form based on the opinions of STs about the treatment, interactions of STs with the coach during the post conference sessions several times to gain an overall understanding of the content and to identify themes. After that, iformation concerning the possible themes to be emerged was extracted.. Having analysed the content of the dialogues and conversations and

what was written in STs' journals using the qualitative content analysis method, all the information was identified, coded for themes and patterns, and described according to the themes extracted based on the TSES considering their similarities and differences.

All journals (J), recordings of video (RV), and cognitive conversations of STs with the researcher (CCH) during the treatment were examined meticulously with a focus on their development of TSE, a total of 3 themes covering 11 codes emerged for the qualitative analysis of the TSES: (1) STs' accomplishments regarding efficacy in student engagement, (2) efficacy in instructional strategies, and (3) efficacy in classroom management.

Limitations

This study was a fourteen-week one conducted with a small sample size and three phases of reflective coaching. Firstly, the study timeline designed for the study is 14 weeks only and this could be regarded as a limitation. Secondly, a fairly small sample size is seen as another limitation in terms of affecting the generalizability of the findings. Finally, the findings gained through this study may not be generalizable to all STs of TEFL of other universities because every program is structured and run differently.

Results and Discussion

Results and Discussion of Research Question 1

The research question aimed to explore how the CC increased the TSE of the STs measured by the TSES. To be able to find out how the participants in a research study responded to the questions, conducting a factor analysis was essential. The factors were assumed to be linked to their corresponding items and all items were designed to measure one of the three specific constructs. Within this framework, three moderately correlated factors for the TSES were obtained and they were are assumed to be correlated: Efficacy in (1) student engagement, (2) instructional practices, and (3) classroom management. Nevertheless, the composition of the scales could sometimes vary slightly. Because the factor structure is often less distinct for the STs, Tschannen-Moran and Anita Woolfolk Hoy (2001) recommend that the full 24-item scale be used for them. To determine the efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management subscale scores, unweighted means of the items that load on each factor have been computed. The first research question is discussed considering each subscale respectively. These groupings are given in Table 1.

TABLE 1
Subscale Scores of TSES

Efficacy in Student Engagement	Items 1, 2, 4, 6, 9, 12, 14, 22
Efficacy in Instructional Strategies	Items 7, 10, 11, 17, 18, 20, 23, 24
Efficacy in Classroom Management	Items 3, 5, 8, 13, 15, 16, 19, 21

The quantitative results of this study show that there is a significant difference between the pre-test and post-test results of the group in all sub-dimensions of the TSE. In other words, it is observed that the mean scores of the pre-test-post-test of the group are in favour of the CC program. The data for these averages are shown in Table 2.

TABLE 2
T-test Findings to Compare the Student Teachers' TSE

	Measure	Mean	S.D.	Mean Difference	S.D. of Difference	D.F	T-Value	Sig	Effect
Student Engagement	Pre	3.796	0.867	1.997	0.801	28	10.9	0.01	3.80
	Post	7.470	0.2887						
Instructional Strategies	Pre	7.4012	0.7316	5.996	0.73423	28	12.889	0.01	3.72
	Post	10. 3965	0.5996						
Classroom Management	Pre	13.0062	1.2356	4.0076	0.8215	28	9.897	0.01	4.07
	Post	17.0123	0.9996						

To compare the effect of time on the STs' sense of efficacy, t-test and ANOVA (one-way repeated measures analysis of variance) are utilized to identify whether the CC treatment produced any impact on the teacher efficacy of the participants and the significance level was recorded at $p < .05$. A repeated measures ANOVA with a Greenhouse-Geisser correction showed that there was a significant effect for time ($F(1.876, 63.765) = 9.376$, $p < 0.000$), in other words, TSE impacted significantly across three efficacy levels. The analysis revealed that there were significant differences between pre and post tests (efficacy in student engagement 3.80 and SD .86, instructional strategies 3.72 and SD .73, and in classrom management 4.07 SD .92).

As could be seen in Table 2, it is maintained that the coaching program made substantial changes in the development of student teachers' TSE. The highest scores are reported for efficacy in classroom management. Implementation part among the teachers' instructional skills plays key role in measuring the effectiveness of a teacher in a classroom. The ways s/he conducts methodology, uses materials, and evaluation are more related to implementation (classroom management) skills of that teacher than those of planning skills and personal and professional qualities. In addition, the increased level of efficacy could be more observed through any possible change teachers gained in conducting implementation skills.

Coaching and mentoring programs have been shown to be effective in many studies with similar content made by Ballinger & Bishop (2011), Gilson et al. (2012), Hobson, et al. (2009), and Kennedy (2016). Nonetheless, in some of these studies on the development of TSE, participants' TSE developed, but not huge and significant differences were found between pre/post-test scores of treatment in all subscales. Overall, the coaching program had profound and significant effects on development of STs' TSE and this result is obvious through both the qualitative and quantitative data results.

It is also worth noting that the CC program as a coaching and mentoring tool significantly affects student teachers' TSE and it is observed more in their efficacy in classroom management. Reflective and cognitive coaching are addressed in education extensively from the literature, (Brooks, 2000; Edwards & Newton, 1995; Göker, 2006; Maskey, 2009; McLymont & da Costa, 1998; Ray, 1998). Nonetheless, studies specifically related to student-teachers in TEFL teacher education programs are not evident. Furhermore, the results of this study add to the literature suggesting researchers to investigate the factors, which would contribute to TSE development (Tschannen-Moran et. al, 1998). The findings of this study correspond to those of Croxon and Maginnis (2009), whereby STs increased TSE when they were guided by a mentor specialized in the implementation of CC. To sum up, the findings of this study look similar to the findings in the literature, however, further scholar work could be needed to investigate the gender and self-efficacy based complexities.

Results and Discussion of Research Question 2

Following the first phase of the data analysis, for the first research question, journals (J), recoJings of video (RV), and cognitive conversations of STs with the researcher as cognitive coach (CCH) were examined meticulously with a focus on their development of TSE, a total of 3 themes covering 11 codes emerged for the qualitative analysis of the TSES: (1) STs' accomplishments regarding efficacy in student engagement, (2) instructional strategies, and (3) classroom management.

Table 3 illustrates the 3 themes and 11 codes generated in relation to the STs' perception of their TSE development.

TABLE 3
Themes, Codes and Data Sources Generated Regarding the STs' Perceptions of their TSE Development

Research Question	Themes	Codes from STs' utterances	Data sources and their abbreviations
In what ways (possible sources of information) does CC help STs increase their sense of efficacy?	STs' accomplishments regarding Efficacy in Student Engagement	-Coping with distruptive behaviors - Fostering student creativity and helping them think critically - Motivating slow learning students -Assisting students in valuing learning	-Journals (J) - Recordings of video (RV) - Cognitive conversations of STs with the researcher as cognitive coach (CC)
	Their accomplishments in Efficacy in Instructional Strategies	- Using effective questioning strategies - Adjusting lessons to the proper level for individual students - Using different process-based evaluation strategies	
	Their accomplishments regarding Efficacy in Classroom Management	- Clarifying your expectations about student behaviors - Creating right routines to keep activities running smoothly - Making students obey classroom rules - Using proper feedback and instructions	

Note: Based on Tschannen & Hoy (2001)

After the examination of data sources given in Table 3 under the theme 1, STs' accomplishments regarding efficacy in student engagement, a total of 4 codes emerged for the qualitative analysis of efficacy in student engagement. When examined the data sources on what the STs wrote and mentioned in journals (J), recordings of video (RV), and cognitive conversations of STs with the researcher as cognitive coach (CCH), it was seen that STs mentioned about the positive contribution of the CC regarding efficacy in student engagement. 5 different utterances of the STs extracted from journals (J) and video recordings (RV) were given as examples for a better representation of these 4 codes to show their development in efficacy in student engagement. Student teacher Ö, for example, focused on the importance of conducting a lesson systematically in terms of coping with distruptive behaviors and epressed her opinions as in the following quotes in his (J) and (RV):

> *I benefitted from lesson preparation to cope with difficult students through this conversation. I learned how to manage time efficiently and organized class setting appropriately for communicative activities.*

Student (B) indicated that employing effective feedback strategies would be quite useful to foster student creativity and help them think critically (RV) and (J):

> *Through these feedback sessions, I achieved progress in correcting the errors without offending any of my students and this approach helped my students realise their errors on their own and they produced more quality papers showing their creativity and crtical thinking skills.*

Another student teacher (P) underlined the importance of motivating slow learning students in classes. She said she had learnt how to use her body language, speech tones, eye contact while interacting with students in getting slow learning and stated her opinions as in the following quotes in her (RV) and (CC):

> *I learned that teachers should be well-prepared and be aware of their impact they would create on their students. While giving instructions, they should use body language, eye contact, a simple and clear language changing their tone of voices while interacting with low-level learners.*

In their attempts to motivate slow students, student teacher G stated that teachers should integrate different learner types and use different learning activities and examples (CC) and (J):

> *I learned how to use further questions and personalization all the time and I also learnt to ask different questionsrising the students' interests, which really motivated slow learners.*

In terms of assisting students in valuing learning, student teacher (H) shared her experience (J) and (CC):

> *During our post-conference sessions with the cognitive coach, I learned how to start from the already learned things to help the students value learning. To do that, I could ask a question to my students' minds before doing an activity as part of brain-storming, which could be a game, a song, a video or a text.*

Regarding STs' accomplishments in efficacy in instructional strategies, a total of 3 codes emerged (using effective questioning strategies, adjusting lessons to the proper level for individual students, and using different process-based evaluation strategies) for the qualitative analysis of efficacy in instructional strategies. STs were seen to mention about the positive contribution of the CC regarding efficacy in instructional strategies engagement. 4 different utterances of the STs extracted from journals (J), cognitive conversations of STs with the researcher as cognitive coach (CCH), and video recordings (RV) were given as examples for a better representation of these 3 codes to show their development in efficacy in instructional strategies. Student teacher (H), for instance, focused on the importance of treating students as individuals while asking questions, responding to difficult questions. (CC) and (J):

> *Asking quality questions looked to be prominent among STs' development of instructional skills. I realized how essential asking different types of of questions, using an appraisal language were to encourage students.*

In addition, student teacher (İ) adds her effective questioning strategies she gained (J) and (RV):

> *I realized how patient I should have been in eliciting the answers after asking questions instead of giving the answer. I also learned how to utilize different range of questions to encourage my students to answer and participate.*

On the other hand, student teacher (K) indicated that calling the students by their names would be beneficial in adjusting lessons to the proper level for individual students (J) and (RV):

> *For the sake of improving my instructional skills and sense of efficacy, I learned one key thing today that it is so crucial to call students by their names. In my previous teaching, I did not do that, but after this one I think I will do it.*

Another key component among instructional skills, 'using different process-based evaluation strategies' was addressed by the sudent teacher (M), and he reflected his development in the following ways (CC) and (VR):

> *In one of our post-conference sessions, the coach addressed the importance of using different process-based evaluation strategies and I did not know that student portfolios would also be seen as the assessed products. In my future teaching, I will not only assess the exam papers but also anything reflecting the student development.*

It can be seen that STs reached a consensus on the fact that the CC helped them develop awareness on their competence in their development of efficacy in instructional skills as outlined in their utterances given above**.**

Finally, data sources given in Table 3 are examined under the theme 3, STs' accomplishments in efficacy in classroom management. A total of 4 codes (clarifying your expectations about student behaviors, creating right routines to keep activities running smoothly, making students obey classroom rule, and using proper feedback and instructions) emerge for the qualitative analysis of efficacy in classroom management. When examined the data sources, STs were seen to mention about the positive contribution of the CC regarding heir development in efficacy in classroom management. 5 different utterances of the STs extracted from journals (J), video recordings (RV) and transcriptions of interactions of STs with the reflective coach (CCH) were discussed as examples for a better representation of these 4 codes to show their development in efficacy in classroom management.

For example, student teacher (H), focusing on the importance of clarifying your expectations about student behaviors, reflected her level of development as in the following utterance (J) and (CC):

> *The main problem was I failed to talk about my expectations and I did not. I would conduct a group activity during my first teaching but I failed to do it because of noise problem. However, I could let them know about their behaviours and rules.*

Student teacher (P) indicated that a teacher should be sensitive to having the right posture in establishing routines to keep activities running smoothly (J) and (RV):

> *I developed an understanding that I must have a certain posture and be ready for my lesson. In my first teaching, my posture was not appropriate, and I was not self-confident. So, the students ignored me and did not pay attention to me. I also failed to give clear instruction, and used mother tongue in the lesson, which all led to classroom management problems.*

In order to improve efforts to make students obey classroom rules, STs progressed in a clear way. One of them (Ö) indicated that a teacher must state the rules at the very beginning for the sake of getting students to follow classroom rules and she expressed her opinions as in the following quotes in her (J) and (CC):

> *I realized that I must be well-prepared before all lessons. I should stay somewhere between being an autocratic or democratic scale, and I should adjust it considering the situations in class. I could focus on giving instructions before the lesson.*

Making students obey classroom rules is prominent among the STs' statements. Student teacher (K)'s comments clearly highlight this (J) and (VR):

> *I learned that a teacher must be a role model and we should respect to the classroom rules if we have similar expectations from the students.*

Finally, student teacher (B) stated that they developed how to give positive feedback by means of the CC on using proper feedback and instructions in terms of development of verbal persuasion. She addressed it in the following way (J) and (VR):

> *I learned different types of giving feedback. Rather than talking about their weaknesses first, we need to focus on their strong parts and we should start with those first. Then we could mention about how they could progress giving efficient examples and cases.*

The CC program impacted the STs mostly in efficacy in classroom management, specially on clarifying their expectations about student behaviors, creating right routines to keep activities running smoothly, making students obey classroom rule, using proper feedback and instructions.

Finally, it could be seen that the CC program impacted the STs' TSE, development of sense of efficacy along with the overall effect of the process on teaching experience of their students. In other words, the CC program helped them develop their cognitive and reflective thought helping them become reflective and critical thinkers, identify reasonable objectives for themselves, plan and pre-reflect on the lessons, and realize how important becoming a teacher is. To be able to explore the possible impact of each source of teaching efficacy in development of the above-mentioned skills of the STs, the frequencies and percentages of source occurrences based on codings extracted from qualitative data sources are reported in Table 4. The percentages were calculated within each theme.

TABLE 4
Frequencies and Percentages of Three Sources of TSES

Themes	Codes	N = 8	%
Efficacy in Student Engagement	Coping with distruptive behaviors	1	20%
	Fostering student creativity and helping them think critically	1	20%
	Motivating slow learning students	2	40%
	Assisting students in valuing learning	1	20%
			100%
Efficacy in Instructional Strategies	Using effective questioning strategies	2	50%
	Adjusting lessons to the proper level for individual students	1	25%
	Using different process-based evaluation strategies	1	25%
			100%
Efficacy in Classroom Management	Clarifying your expectations about student behaviors	1	20%
	Creating right routines to keep activities running smoothly	1	20%
	Making students obey classroom rules	2	40%
	Using proper feedback and instructions	1	20%
			100%

Note: Based on Tschannen& Hoy (2001)

The findings gained show that for the STs, items in efficacy in student engagament, specially on motivating slow learning students are the most frequently referred sources of TSE. From the eleven utterances extracted from the STs' answers, two of them are concerned with the student engagement impact of the CC on the ways they helped STs to motivate slow learning students (40 %). In terms of efficacy in instructional skills, the CC program has developed the STs' development of efficacy in instructional strategies specifically on using effective questioning strategies in a very sufficient way (50 %). As far as their efficacy in classroom management is concerned, making students obey classroom rules seemed to be prominent among the STs' statements (40 %).

Conclusion and Recommendations

When examined the findings of this study, some certain changes are observed in EFL student teachers' sense of efficacy. In other words, the changes observed and discussed support the assertion that efficacy beliefs could change as the STs gain new experiences (Fives, 2003, p. 16). Following Fives (2003, p. 16), it might be concluded that TSE beliefs of STs may not be stable; they tend to change within the course of time.

Even though there has not not been any study to see the impact of CC in TEFL context both in Turkey and in the world, there are a few studies related to CC in other subject areas. For example, Moche (2001) revealed that cognitive coaching helped teachers in New York City improve their reflective skills by means of a three-phase cycle (planning conversation, observation, and reflecting conversation) developed by Costa and Garmston (2002). CC, just like peer coaching, was implemented as a tool to develop performance of teachers by drawing their attention to perceptions and beliefs affecting the decisions teachers make during the processes of planning, and implementing. Newton (1994) and Eger (2006) gained similar findings regarding teacher thoughts. Eger (2006) revealed teachers have "higher levels of thinking and more critical analysis of goals, teaching behavior, lesson plans together with assessment of their own teaching and student performance" (p. 67) following a training program on CC. Just like Eger, Newton (1994) revealed that beginning teachers under a coaching training program indicated the CC support them to think more critically about their teaching performance. Similar results have also been gained through TSE studies to increase TSE (Hamman & Olivarez, 2007; Mergler & Tangen, 2010; Pendergast et al., 2011).

The new Education 4.0 based tasks for teachers present a clear message and objective. Teachers as self-directed learners must change. To achieve an ownership of change, innovative learning opportunities must be created for the teachers by the educational systems for their cognitive development. This development could be gained with increased levels of sense of efficacy on the part of teachers. Coaching programs could be a great asset to increase TSE and creating innovative learning opprtunities for teachers to help them survive in the spaces created by both digital and physical classrooms.

Finally, the CC program, seen as one of the innovative learning opportunities for teachers, has been implemented in TEFL context in Turkey for the first has proven to be an effective model for teacher trainers in development of TSE. It has also impacted the STs professionally by helping them realize their actions impact on all types of student behaviors and learning together with the importance of being a teacher. As discusssed in the results section, the program has had a significant impact on TSE development of teacher candidates and coaching skills concerned with their cognitive development, self-directedness, self-modification, and self-reflection.

This study, both due to limited study timeline and a small sample size may not be generalizable to all student teachers of TEFL of other universities. However, similar studies could be conducted in different contexts other than TEFL because each program is structured and run differently. From this stand point of view, longitudinal studies with different sample sizes and more than three cycles within pre-service teacher education could be needed to be able to see a bigger picture of the efficacy beliefs development for STs. Alternatively, studies on the impact of CC could be conducted employing other variables like formation of teacher identity and teaching philosophy. Another recommendation is that similar studies could be conducted over a longer period of time to create a more powerful effect on their TSE.

Acknowledgements

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