

Dynamic Assessment and Microgenetic Development of EFL Teachers' Classroom Interactional Competence

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Received on June 15, 2015

Accepted on November 10, 2015

Abstract

Teachers' capability in shaping learner contributions (SLC), as a part of Classroom Interactional Competence (CIC), has been evidenced to play a key role in opening up precious opportunities for learners' involvement, and consequently learning. Yet, very few studies to date have explored how teacher education programs (TEPs) can develop teachers' capability to SLC. To fill up this lacuna, a TEP, founded on the principles of dynamic assessment (DA), was implemented with four EFL teachers serving as participants. In so doing, initially twelve hours of video- and audio-recorded data of the teachers were analyzed to identify the samples in which they missed the opportunity for SLC. Then one-on-one DA sessions were held with each of the teachers, during which the teacher educator tried to assist them to develop a deepened insight into the strategies they adopted to shape their learners' contributions. In such dialogic context, the feedback was calibrated to create and nurture the zone of proximal teacher development (ZPTD). After instructional sessions, conversation analysis of the teachers' regular classrooms indicated a rise in the total frequency and variety of the SLC strategies employed. Furthermore, it was found that teachers' type of development differed greatly from

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one another. Results are discussed and some pedagogical implications are presented.

Keywords: Dynamic Assessment; Classroom Interactional Competence; Microgenetic Development

1. Introduction

Placing interaction at the heart of language teaching and learning, Walsh (2006) defined classroom interactional competence (CIC) as "teachers' and learners' ability to use interaction as a tool for mediating and assisting learning" (p. 132). Moreover, Walsh (2012) stressed that language teachers and learners need to develop their understanding of CIC and how it can be accomplished because "not only will such an understanding result in more engaged and dynamic classroom interactions, it will also enhance learning" (p. 6). It is argued that teachers play a central role in CIC. They can mediate learning through their ability in shaping learner contributions (SLC), "taking a learner response and doing something with it rather than simply accepting it" (Walsh, 2006, p. 168). In fact, the teacher can greatly help learners' language development through 'shaping' what they say (Walsh, 2011).

Teachers can actually assist learners to articulate what they really mean through some interactional strategies such as paraphrasing learner responses by making use of slightly different grammatical structures and vocabulary items to clarify initial utterances, getting learners to reiterate their contributions, rephrasing a learner's output or reformulation, seeking clarification, checking confirmation, and scaffolding. Scaffolding or assisting learners by reformulating their contribution to construct what they really mean is a key to understanding SLC which also includes reformulation, extension, and modeling. Moreover, writing on the board and translating learners into L1/L2 were also reported as patterns of SLC (Daskin, 2014). In brief, the learners contribute their meaning through the teacher guidance and support. The process

of teacher using these interactional strategies occur frequently in IRF (initiation-response-feedback) exchange or during the feedback move (Cullen, 1998) when learners receive the teachers' feedback on their contributions in a triadic exchange.

During the process of SLC, teachers simultaneously maintain a learner-centered and a decentralized classroom (Walsh, 2013). Walsh (2006, 2011, & 2012) also suggests SLC as one of the interactional features of the teacher who is competent in classroom interaction. Two ways of incorporating SLC are pushing learners to produce more comprehensive contributions to extend interaction and making sure that other participants have got the meaning coupled with creating opportunities for exposure to comprehensible input (Walsh, 2006, 2011) and interactional space for learners. In this view, SLC is not limited to the student who directly contributes to the discussion, but it is beneficial to the whole class participants, either those who take part in interaction directly or function as listeners and bystanders (Schwab, 2011). However, in EFL classrooms, what is contributed is not treated and shaped properly, so "much of what is communicated ... is wasted, either passed over, ignored or misunderstood" (Walsh, 2006, p. 135). This can be due to the fact that SLC is "a process which requires great skill and mental agility" (Walsh, 2013, p. 32) on the part of the teachers.

Despite this paramount importance, the research on CIC in general and SLC in particular has been mostly restricted to very few descriptive studies having attempted to present an account of obstructive or constructive moves adopted by teachers. Against this backdrop, the need to explore how teachers' capability to SLC can be developed is strongly felt. Walsh (2002, 2013) has stressed that cultivating this capability on the part of teachers can only be achieved through using video or audio recorded data from teachers' natural classrooms (Walsh, 2002, 2013). By the same token, Golombek (2011) also highlighted that the implementation of authentic teaching

samples through dynamic assessment (DA) can foster the socialization of teachers' cognitions.

Built upon Vygotsky's (1978) conceptualization of ZPD (i.e., the distance between what can learners do individually and what they can perform under the guidance and support of more capable others), DA is a mediation which integrates assessment and learning with an eye to support learners' development and uncovers domains of their abilities. ZPD is in fact construed as the optimal opportunity for mediation and development (Lantolf & Poehner, 2005). Thus, teacher educators can assist teachers, during a post-observation dialogic session informed by DA, to develop a deepened insight into their current level of abilities (Kurtoglu-Hooton, 2010). In a dialogic post-observation mediation, while both the teachers and teacher educator discuss and collaborate, the teacher educator frequently assess the teacher's present level of understanding and help him/her go beyond it through some feedback strategies such as leading questions, suggestions, and prompts.

As noted earlier, in spite of the significance of SLC and hypothesized efficiency of DA in developing it, no study to date has empirically explored the ways in which a DA-informed teacher education program (TEP) can affect the strategies through which teachers shape learner contributions. To fill up this lacuna, the current study investigated how four Iranian EFL teachers' understanding and practice of SLC was affected by partaking in a TEP informed by DA principles. The changes in SLC are documented through moment-to-moment analysis of the DA sessions and their natural classroom discourse.

Conceptual framework

Different from behavioral or cognitive theories of learning, sociocultural theory maintains that individual's cognition is socially derived. Vygotsky (1978) argued that higher mental abilities of human cognitions are mediated by tools and signs or, to borrow from Vygotsky, 'cultural artifacts'. Vygotsky (1987)

maintained, inter-psychological creation of knowledge by educated individuals in which humans' functions are mediated and new levels of understanding is gained through interaction with more capable others. Vygotsky believed that the mind is a functional system comprising both biological functions and higher mental functions (e.g., voluntary attention, problem-solving capacity, and planning learning). To study these functions, he proposed four genetic domains of development; the smallest of which is *micro-genetic* (i.e., "the study of the origin and history of a particular event") (Gutiérrez, 2007). Microgenetic analysis has been used by SCT scholars as a method of research for tracking learners' development. It can provide researchers with an opportunity to observe "the moment-to-moment co-construction of language and language learning" (Gutiérrez, 2007, p. 2), which results in future development and independent functioning. It is also deemed to be a promising approach due to its potential to document and demonstrate the process of learners' cognitive development, which is initially co-shaped on the social plane (Ohta, 2001; Lantolf, 2000). The microgenetic deals specifically with the issue of development taking place very quickly; hence, even one session of collaboration between the educator and learner is likely to construct a ZPD that can bring about development (Poehner, 2007). On such account, microgenetic analysis has been employed to serve the objectives of this study, i.e., to track the EFL teachers' understanding and practice of SLC after a single DA instructional session.

The transformation of knowledge from the social level to cognitive level can best take place within the ZPD, (Vygotsky, 1978). In the ZPD, the educator (e.g., expert, peer) assists the learner to perform beyond his/her solo abilities. Actually, what a teacher can do in company of more capable others discloses his/her potentials and emerging capabilities (Johnson & Golombek, 2011). Recently, the concept of ZPD has been

applied in teacher education by Warford (2011), as the zone of proximal teacher development (ZPTD). Similarly, the ZPTD is defined as “the distance between what teaching candidates can do on their own without assistance and a proximal level they might attain through strategically mediated assistance from more capable others (i.e., methods instructor or supervisor)” (Warford, 2011, p. 253). In short, this study employed the ZPTD as a theoretical basis for DA to intervene in the teachers’ understanding of SLC.

Dynamic assessment

Dynamic assessment, an outgrowth of SCT, is a procedure for concurrent assessment and promotion of development within an individual or group ZPD (Lantolf & Poehner, 2004). In DA, the learner future performance is predicated not on the individual’s solo performance but on the type and amount of mediation required as well as learners’ responsiveness to this mediation. Hence, an in-depth analysis of dialogic interactions between the mediator and the learner is required to detect what Lidz (1991) termed as ‘learner reciprocity’. Lidz argued that an individual level of reciprocity can be identified as “the level of receptivity of the child to the mediational intentions of the adult. How open is the child to input from the mediator? How able or willing is he to ‘receive’ or cooperate?” (1991, p. 110). Accordingly, the quality and quantity of learners’ engagement and responsiveness, during the mediation, is likely to show their willingness to get assistance, and in turn develop cognitively.

To be effective, the mediation given in DA should satisfy three criteria (Aljaafreh & Lantolf, 1994). First, it should be graduated, meaning that it should be appropriate and in harmony with the learners’ ZPD; second, it ought to be contingent upon the learners’ need, or the help should be provided when the learners need it and withdrawn when the need is satisfied; and third, it should be dialogic.

Additionally, two general kinds of mediation for co-

construction of learners' ZPD were posed by Lantolf and Poehner (2004), termed as the interventionist and interactionist DA. In the interactionist approach, assistance emerges in the interaction between the mediator and learner. Therefore, it is highly sensitive to learners' ZPD and the procedure deals with a qualitative interpretation of the ZPD (Poehner & Lantolf, 2005) with no pre-determined endpoints. Vygotsky (1978) believed that the goal of psychological analysis should be investigating processes not objects. Also, Minick (1987) states that interactionist DA comes closer to Vygotsky's intentions for a qualitative analysis of psychological processes of development. Vygotsky (1998) also conceived the mediation occurring between the educator and learners as 'cooperation' that plainly implies a dialogic interaction and negotiation of meaning for development. Therefore, this inquiry draws on the interactionist approach in that, mediation is attuned to the responsivity of teachers while mediation.

Empirical studies on CIC

Walsh (2006, 2011, 2012), the pioneering scholar in CIC, makes the case for a need to develop an understanding of CIC in the teachers to enhance learning. To illustrate, Walsh (2003, 2006, 2011) attempted to assist teachers to develop a profound insight into CIC and to make substantial changes to their classroom actions through self-evaluation teacher talk (SETT) grid and samples of their own data. In these studies, mediation was offered via reflective practices and dialogues. Successively, the teachers' understanding was assessed in a subsequent reflective feedback interview. Walsh (2006) describes the SETT framework as the only tool ever developed to assist teachers' understanding of CIC. However, Walsh (2006) pinpoints that "the instruments and procedures could be refined and would probably need to be adjusted for use in different contexts" (p. 139).

Considering the role of teacher talk in learners' participation,

Walsh (2002) reported on an investigation of the ways through which learners' involvement is either obstructed or constructed as a result of the teacher's choice of language in the EFL context. The findings demonstrated some ways through which teacher talk either maximized or minimized learners' involvement such as clarification request, confirmation check, and scaffolding. However, data also evidenced occasions in which the teacher missed shaping learner contributions and, in turn, obstructed learning by smoothing over learner responses as well as turn completions. Furthermore, the affliction of the teacher language use in EFL setting was also probed by Yaqubi and Rokni (2012). They demonstrated that unintended limited wait-time on the teachers' part could result in missing the opportunities for teachers to shape learner contributions, hence, decreasing learning opportunities by the teacher filling in the gaps.

Some other studies on IRF exchange also demonstrated that teachers should step beyond simply giving feedback in the third-turn position and develop their CIC to facilitate learning opportunities (e.g., Lee, 2007; Park, 2013; Waring, 2008, 2009). In a recent study, Daskin (2014), through a case study in Turkey, made a close investigation of SLC strategies in the EFL context and the ways through which different L2 classroom contexts might affect these interactional patterns. Finally, results evidenced teachers' use of various interactional strategies such as paraphrasing, modeling, confirmation checks, and elaboration questions to create learning opportunities. She also reported on specific SLC patterns that were applicable in one context but may not be appropriate or beneficial to the other one. Therefore, she argued education on context-appropriate SLCs is required on teachers' part. Nevertheless, the way through which SLC in teachers can evolve over time especially in evaluation and assessment sequences within TEP has been left less noticed. Accordingly, this study is guided to find answers to the

following question:

1. To what extent, can engaging EFL teachers in DA-informed analysis of their teaching affect the ways through which they shape learner contributions?

2. Method

2.1 Research site and participants

A sample of four Iranian EFL teachers (three males and one female) was selected from two language institutes based on their availability and accessibility to the researchers and their willingness to take part in the study. Fulfilling ethical purposes, both the teachers and classroom students were made assure of the anonymity and confidentiality of the obtained data and informed that the data would be only used for a research project. Furthermore, they were not made aware of the area and purpose of the study in the hope that they would not consciously control or change their behavior. Typical classes, in both institutes, were organized as part-time and four hours and half per week. Three language teachers were instructing adult male learners of either intermediate or upper-intermediate and one of the classes included female teenagers. Their lessons were at pre-intermediate, intermediate, and upper-intermediate levels. Teachers teaching experiences ranged from 1.5 to 6 years. Besides, two of them announced that they had passed a thirty-hour teacher training course (TTC) as an educational policy of the institute to hire skillful teachers. They also added that the TTC course contained an introduction to methods of language teaching and learning as well as some implications for choosing appropriate strategies for a more effective teaching.

One of the researchers of the present study, having acted as the teacher educator, was a Ph.D. holder in teaching English as a foreign language (TEFL) with extensive experience in teaching English to Iranian learners, mentoring, and supervising pre-service and in-service teachers. He met and talked to the teachers a few times prior to the mediation. This acquaintance

was taken on the assumption that it could encourage teachers in interpreting their actions and engaging in collaborative processes more freely. As pointed out by Davin (2011), learner's feelings towards an educator are likely to affect the learner's responsiveness and performance. Pseudonyms were applied to code participants' names; for instance, T-A refers to teacher A and so forth.

Table 1
Teachers' Biographical Data

No.	Pseudonym	Gender	Age	Academic Major	Teaching Experience	Special Language Teaching & Learning Experience	No.	Level of Students' Proficiency
1	T-A	F	25	M.A. student in English Literature	1.5	TTC	10	Intermediate
2	T-B	M	26	B.A. degree in Teaching English as a Foreign Language (TEFL)	5	9	Intermediate
3	T-C	M	33	M.A. degree in English Literature	6	1 year of teaching EAP	12	Intermediate
4	T-D	M	29	B.A. degree in English Translation	2.5	TTC	9	Upper-intermediate

2.2 Data collection

Data of this study were gathered from audio-and video-recording of natural classroom interactions. To increase the validity and reliability of the study, some measures were undertaken. First, obtrusive effects of observer presence were ameliorated by adopting non-participant observation; in fact, the Hawthorn effect, i.e., a positive shift in participants' performance as a result of being part of a study (Mackey & Gass, 2005), was attempted to be mitigated. For instance, to

lessen the side effect of the camera presence on both the teachers and students' behaviors, it was placed on a tripod in the rear of the class a few minutes before the participants' arrival. Moreover, the recordings included in the study were started in the third session. The first two session recordings were made only to get the participants accustomed to the camera.

Video-stimulated recall, as another tool for data collection, was assumed to have the potential to assist teacher cognitive development through providing rehearsal opportunity to review their actual classroom behaviors in DA sessions. The total recordings included twelve hours before the mediation (pre-DA), eight hours of DA, and another twelve hours captured after the mediation (post-DA). Since the teacher's underlying cognition of classroom activities is unobservable, the capability of recorded data for being played or replayed sets the ground for recalling and verbalizing bona fide teacher thoughts at the time of instruction (Golombek, 2011). Through stimulated recall (Calderhead, 1981), the teacher educator can identify whether the teachers, after being prompted, can formulate (Johnson, 1999) and recognize alternative actions they could have done.

An observation checklist was also developed by the researchers to enable them to document and organize interactional details of each teacher performance in a tabular form. In so doing, initially, the literature on CIC and SLC (Daskin, 2014; Walsh, 2006, 2011, 2012, and 2013) were closely examined to design a checklist incorporating almost all key recurrent interactional patterns of SLC highlighted and mentioned in the related literature. The checklist was consulted upon with two expert CA analysts who have worked on classroom discourse in general and CIC in particular. Their comments and suggestions on the checklist were applied. After filling out the checklists of each participant attached with the recorded files were again shared with the experts. It was taken on the assumption to promote reliability of data analysis. There

was around 90% agreement in analyzing the data. The experts' comments were revisited and applied. Then, the final version was sent back to them to check the modifications (Appendix 1). Furthermore, with respect to validity, the current study can be claimed to have construct validity, since the construct of CIC has been clearly defined by Walsh (2006, 2011) and reflected in the checklist.

2.3 Data analysis

A qualitative approach to research was taken in this study; hence, some steps were undertaken. Firstly, once the collected data were watched for multiple times, the third researcher narrowly transcribed the exchanges including SLC. Then, the frequency of applying SLC strategies taken by each participant was tallied on the basis of the checklist. These frequencies were taken to validate the cognitive process of development and considered as a criterion to make a simple comparison between different phases as well as among teacher participants.

Detailed transcriptions of sequences were also closely examined through conversation analysis (CA) methodology, which is bottom-up and data-driven. In the representative extracts from all four L2 classroom contexts (Seedhouse, 2004), T stands for the teacher, S followed by a number stands for the speaking student. SS also refers to a collective answer from the class.

2.4 Procedure

SCLs were systematically assessed and counted based on the checklist to report the frequency. The study comprised three chronological phases. In the first phase, two regular class sessions of each participant were both video-and audio-recorded without the observer's presence. Then, the recorded data were closely examined to identify the samples in which the teachers seized or missed the opportunity for SLC that were assumed of appropriate points for mediation. Meanwhile, the teachers'

performances regarding SLC were checked and recorded in observation checklist.

In the second phase, a week after the last recording, the teacher educator held a one-on-one DA session of approximately two hours long with each of the participants privately in their own office or working place. The teachers were informed beforehand that they could pause, rewind, or replay the films whenever needed. All DA instructions were conducted in L1 to avoid any misunderstanding of teacher educator intervention. The instructional interactions with the teachers were carried out according to principles of DA. Besides, DA sessions were conducted based on pre-DA videos and teachers' existing knowledge while the teacher educator was responsive to their emerging needs in understanding SLC and introducing more interactional patterns of it. The mediation was not pre-scribed; rather it "was dependent on specific context of mediator-learner interactions" (Poehner, 2005, p. 151). In brief, the teachers' interpretation and engagement developed opportunities to construct a ZPTD. DA procedures were also video recorded.

In the third phase (i.e., post-DA), two weeks after DA intervention, another two regular class sessions of each participant was audio- and video-recorded and all the recorded data of different phases were analytically analyzed through the lens of CA. Notwithstanding, DA included a close focus on SLC patterns, this study focused only on samples of the teachers' failure in SLC or when their moves afflicted further learning opportunities.

3. Results and discussion

An in-depth analysis of the present study's pre-DA data, regarding SLC, supported the findings of the literature such as those of Walsh (2002) who concluded that teachers through confirmation checks, clarification requests and scaffolding produce learning opportunities. However, the present study

aimed at diagnosing the problematic situations through which learners' utterances are responded by the teachers but they fail in SLC such as teachers' limited wait-time (Yaqubi & Rokni, 2012), turn completion (Walsh, 2002), and explicit positive assessment (Waring, 2008) to name a few. So, initially the study reported on these detected strategies in pre-DA data. Among these teachers' problematic interactional strategies, turn completion, repair, limited wait-time, inappropriate use of L1, simply acceptance of learner initial talk, inappropriate use of closed-ended questioning strategy not aligned with pedagogical goal of the moment, and absence of some eliciting strategies such as clarification request were typical in most of the teachers' interactional moves in the collected data.

Data analysis demonstrated that EFL teachers make use of SLC strategies more frequently in some L2 classroom contexts than others. Parallel with findings of Daskin (2014), specific SLC strategies were applicable in one context but might not appropriate or beneficial to the other one. For example, interactional strategies such as clarification request, scaffolding and summarizing used in meaning-and-fluency context were used more frequently, wherein learners are encouraged to express their personal meanings. However, the least amount of strategies was used in task-oriented and procedural context. In the former, the interaction is among learners to accomplish a task with no focus either on linguistic form or personal meanings. In the latter, the teacher primarily holds the floor and gives instruction (i.e., a teacher-fronted context). What is more, a fair number of SLC patterns were applied in the form-and-accuracy where the focus is on practice of linguistic forms and teachers have nothing to do with learners' personal meanings. Subsequently, some extracts which show teachers' pre-DA performance are presented. Examples of problematic points taken from pre-DA data were subsequently presented using CA transcription conventions based on Hutchby and Wooffitt (2008)

Dynamic Assessments and Microgenetic ...

14T: =Got (.) she got a bicycle
15S3: yeah \$ I liked [uh::
16T:[her bicycle?
17S3:yes and uh:: I was jealous of this=
18T:=and: you were jealous of this
19S 3 : y e s and my father [uh::
20T:[bought one for you aha?
21S3:yes and my father bought it

Claims of insufficient knowledge (CIK) occur when one of the interactants explicitly expresses no or insufficient knowledge about a particular phenomenon. Whether an addressee “producing ‘I don’t know’ actually knows or not is a matter to be interactionally worked out” (Beach & Metzger, 1997, p.568). Interactional unfolding of S1’s CIK, as a reply to a genuine question (2-5), seems to be because of the learner’s avoidance of commitment (Tsui, 1991). Yet, through simply acceptance of the learner’s initial talk (5), T-A fails to create a space for further S1’s engagement. Moreover, on several occasions, the teacher, without waiting for the learner’s response (i.e., wait-time) fed her with required answer(16, 20). Walsh (2002) argues that completing learner turns as well as decreasing learning opportunities wherein learners are not required to clarify their meaning or reformulate their contribution obstructs learning. The teacher also repeatedly latches on the learners’ contribution (14, 18) via smoothing over the discussion. In this extract, latched turns either for correction or echoing learner contribution has obstructed further learners’ agency and more elaborated contributions (15, 19). Although, the teacher initiates by posing a genuine question, she shifts into close-ended type in the following F moves (7, 14). The most striking feature of the above extract is the dominance of close-ended questions (i.e., display questions) which are mostly used for checking/evaluating linguistic knowledge of the learners. The educator found this move worthy of mediation since it stopped the learners repeatedly from contributing more elaborated and complex turns(turns 7, 20).

Dynamic Assessments and Microgenetic ...

- 9 **S2:** yes (.) I really like it and uh I carefully
take care of it
- 10 **T:** good job (.) okay you? ((looking at S3))
- 11 **S3:** I don't have but uh but my parent [has a
- 12 **T:** [Your parents ha:s?
- 13 **S3:** [have \$]
- 14 **T:** [uha \$]

Latched turns (turns 3, 8) and overlapping (turns 6, 12), meaning that one's utterance overlaps with another speaker's utterance. Here the learner utterances overlap the teacher contribution. In turn 12, the T-B performs the correction via a stressed 'has' with the lengthened vowel sound. The teacher echo (12) functions as repair the speaking student within IRF turn-taking exchange. IRF (teacher initiation, learner response, and teacher feedback/follow-up) moves are usually referred as 'standard teaching' exchange (e.g., Edward & Westgate, 1994). However, here repair and correction of linguistic errors are not in line with pedagogical goals of the moment which is eliciting learner contribution or promotion of oral fluency.

Examples of a DA sessions

To exemplify how DA interactions were like and how teacher educator and the teachers collaboratively negotiate to establish intersubjectivity, a few extracts drawn from DAs are also included. The T-A missed the opportunities to implement SLC, and in turn obstructed learners' more and longer turns through some moves. The focus of mediation here is on the function of open-ended versus close-ended questions aligned with pedagogical goal of the moment. Although, the instructional sessions were held in Persian (the participants' L1), for readers' convenience, their verbatim translation into English is given.

Extract 3: T-A

- 1 **E:** What do you think about this question?
- 2 **T:** uh:: I meant to elicit answer (.) I think
questions make learners talk... Am I right?
- 3 **E:** Yes that's right. (0.8) but look (.) does it
made her talk? ((rewinds the film))
- 4 **T:** yes... you see (.) even two other more students
accompany her in answering

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- 5 E: uhm... but (.) how about quality and quantity of the answers?... I mean is it satisfactory?
- 6 T: well... her answer is complete (0.4) what else does she can add? A question and
a complete answer \$
- 7 E: yeah (.) you said you want to elicit answers and get her talk=
- 8 T: =yeah
- 9 E: So... how about questions that could make her produce longer responses?
- 10 T: yeah... it was a sorta short answer ((she starts writing something in her notebook)) but uh: (0.6)
- 11 E: yeah... it was... And it was because of the type of the question... the specific type
of question that you deployed aims at eliciting short and limited answers... didn't they?
- 12 T: uh: (0.5)
- 13 E: think about questions of the kinds you started with =
- 14 T: = have you ever been jealous... you mean that?
- 15 E: exactly...(0.4) Since at the time being you aimed at making them talk about their ideas or personal experiences of [ever being jealous
- 16 T: [yeah.....I meant their personal ideas
- 17E: uhm...(0.5) I think uh:: more open-ended questions seem more appropriatefor your purpose here.....they are usually [WH-questions]
- 18 T: [yeah ((nodding))] wh-questions
- 19 E: uhm...they make students to reformulate or clarify their initial answers
- 20 T: yeah....((again writes)) (0.6) asking for example... why or: to whom they have
been jealous.....those are of help to make them reformulate what they've said
- 21 E: uhmm (.) that's right (0.5) let's see if there are any more examples?

From the process of mediation such as the length of the teacher initial turns (lines 2, 4, 6, 10), questions (lines 2, 6), and the high frequency of backchannels (lines 8, 10, 12, 14, 16, 18) it can be inferred that T-A is actively engaged in dialogic

interaction. Walsh (2011) stressed the significance of backchannels since they signal that the listener has understood you and is following your speech. The T-A started to show understanding about inappropriateness of her question in line 10, wherein she noticed that the type of question did not fulfill her intention to expand learner participation but she cannot explain why it is so. On the other hand, the educator's elaboration on the type of questions that has resulted in a limited learner contribution, and following five seconds of silence on teacher's part (12) demonstrates that the teacher has not noticed the effect of two major types of questioning strategies yet. Not being able to talk about the type of question, T-A shows signs of more need for cognitive support in turn 12 whereas the educator in the next turn (13) offers a hint in form of an example from the T-A's teaching. A more explicit level of mediation is offered through explaining wh-questions by the educator (17). T-A provides the first indication of understanding (18), as overtly she confirms the educator's statement through 'yeah' coupled with echoing the educator's suggestion in an overlapping turn. Moreover, in the next turn (20), she collaboratively expresses her idea that confirms the educator utterance. Learner reciprocity is manifested in the learner's willingness to receive assistance (Lidz, 1987) as well as the extent to which s/he is open to mediation. In brief, from the type of T-A's responsiveness and questions aiming at seeking the educator's support coupled with taking notes, it can be inferred that T-A is open and willing to receive mediation.

Not only does the T-A accept the educator's suggestion (lines 16, 18), but collaboratively give some examples of open-ended questions that are likely to spark up longer learner turns. This final collaboration manifests T-A's understanding through explanation on how more genuine responses can be elicited evidences an indication of microgenetic development. In other words, it can imply transformation of knowledge from the social

level to cognitive level. Finally, the educator prompts her by giving more opportunity to identify other similar occasions. During DA, the teacher expressed her aim to create a classroom atmosphere with more engaged and active learner participations. Yet, after discussing turn completion, the paucity of clarification requests and dominant number of close-ended questions, she uttered that despite her crave for prompting learners' participation, she has failed to accomplish this goal. At the end, she was able to diagnose other problematic occasions wherein she repeatedly smoothed learners' turn. This ability appeared under prompting and can be considered as developing a new level of understanding; Walsh (2006) correctly asserts that there must be metalanguage to assist reflection and enable teachers to evaluate their interactive actions and attain new levels of understanding. During all instructional sessions, the teacher educator's attempt was at guiding the teachers to use an appropriate metalanguage so as to describe interactional processes and in turn to help them engage in DA more actively.

Extract 4: T-D

- 1 E: What should you do here?
 2 T: I don't...You mean I should say something
 else?
 3 E: well... I mean think about this situation
 (.) is there any other action you could do?
 4 T: should I express this in question form?
 5 E: uhm=
 6T: =or:: should I ask for other students help? uh::
 I suppose... I should ask
 for his classmates help
 7 E: sure you can encourage other students
 correcting or helping the speaker
 student but here (0.3) you could've also let himself to
 complete the
 sentence=
 8T: =Yeah... (0.4) uh::: but he seemed struggling to
 keep going with the
 sentence
 9E: uhm
 10 T: I supposed... I should help him not to stop
 talking

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- 11 E: but this type of completing the student
utterance is not the same at all as
help
- 12 T: ((laughing)) I usually help in these
situations
- 13 E: I see ((laughing))

Through an unfinished cognitive statement ‘*I don’t*’ (line 2) coupled with a follow-up question, T-D shows inability to talk about the problem and attempts to get expert assistance. Thus, in a new level of mediation, the educator tries to direct him to think about an alternative action (3). The educator narrows down the mediation and proposes the correct action of allowing pauses and letting the learner himself come up with the response in turn 7. After the educator’s mediation in turn 11, a shift in the TL-D’s statement from questions to acceptance of his performance occurs in turn 12 wherein he states that ‘*I usually help in these situations*’. In TL-D’s case, what is worthy of notice is the quality and quantity of his engagement in dialogic interaction; most of his turns are questions (2, 4, 6). In other words, unlike other participants more specifically the TL-B and TL-C, he does not try to justify his actions. Yet, through asking questions, he tried to get assistance or in Poehner’s (2008) word, to use “the mediator as resource”. Lidz (2007) discussed that quantification of the extent to which a learner requires support is not the primary concern of DA; however, the learner and the educator dialogic interaction as well as other mediational artifacts that result in independent functioning and development should be analyzed closely. From the questioning format of the TL-D’s engagement and cooperation as well as avoiding justifying his actions in DA session, it can be inferred that he was willing to receive mediation and seemed open for change and learning.

Post-DA samples

The teacher application of more eliciting strategies

In this section, the teacher is preparing learners for the listening section in their book that is about how life will change in the

next few decades. The T-A tries to provide a favorable climate for learners' participation through posing an open-ended question toward the class and tries to sustain with this type of questioning to the full.

Extract 5: T-A

1**T:** What do you think about future? Or:let's say (.)
how it would be
like?
2**S1:**I: (.) I think (.) it is really strange
3**T:** aha (.) but↑why strange?
4**S1:**uh::=
5**T:**=what comes to your mind when you hear about the
future?
6**S1:**well:there is technology everywhere and you see uh
for example
the cars will move in air (.) they fly in
uh:: **asrefaza?** (space era?)
7**T:**space era
8**S1:** exactly (.) it is the space era [uh:
9 **T:**[the robots and flying cars (.) you
mean this? But it will be an exciting era
10**S1:** yeah
11**S2:** robot everywhere
12**T:** ((to S1)) SO (.) why do you think it is strange?
13**S1:** uh:: because for example if you take a taxi and
uh:: **ranande chi**
mishe?
14**T:** taxi driver
15**S1:** yes \$ if taxi driver is robot and uh::a robot
bring you home

Mounting more learner contributions, wh-questioning strategy is employed by T-A (turns 3, 5, & 14) which mostly served as clarification requests. The learner's contribution is followed by the request for expansion through a question in rising intonation (3). The succeeding longer and more complex S1's turns can be considered as result of this 'teacher's questioning strategy' (Walsh, 2012). The lengthened 'uh::' in turn 4 makes evident S1's trouble in answering the question (turn 4),therefore, the teacher reformulates it to simplify the original one(5). This genuine question is relatively more

straightforward since it promotes a longer and more elaborated learner contribution (6) in which S1 works hard to express her meaning. In turn 7, the break down is also scaffolded by the teacher minimal response. The administration of mentioned strategies resulted in more negotiation for meaning and, in turn, maximizing quality and quantity of learner's turns. The teacher reformulates the learner's contribution with a follow-up clarification request "you mean this?" (9) which intends to ensure the whole class understanding of S1's meaning. These can be indicative of the teacher's awareness of not smoothing over the discourse through feeding the speaking learner with words or lines. All in all, the implementation of more SLCs and avoid filling in the gaps can indicate the success of mediation on the present teacher. However, the speaker students' turn is again hindered by the teacher wherein in turn 9 the learner's contribution is interrupted and latched onto a new turn (10) through teacher explanation. Additionally, S2 endeavor to take the floor is overlooked by the teacher asking a referential question toward S1.

More couscous teachers' F moves

Finding ways of encouraging learners to take the initiative and create learning opportunities for themselves, T-D allows more autonomy to learners either initiating or directing the interaction via asking the class to support or correct the speaker whenever possible. Here the class is discussing the topic proposed by one of the students on 'enlarging population'. Moreover, during the learner explanations, the teacher scaffolds them to negotiate the meaning and express themselves in longer and more complicated turns through seeking clarification and backchannels.

Extract 6: T-D

1T: please correct me if I'm wrong (.) but I suppose this sentence means
we don't need to be worr[y about it?

Moradian, Miri, and Qassemi

2SS: [((they express their
disagreement through
no statement or saying it is not true))
3S2:↑actually we need to be worry about it but not that
much
4T: Not that much?
5S2: yeah
6T: So how much\$?
7S3:But we should be [worry
8T:[Aha...↑why?
9S3: That's obvious (.) because the large population
cause the
world go [worse and] worse=
10T:[Bravo]
11S3:=-And the large population has many demands for
example
uh they need energy (.) [food
12S4: [Especially in third world countries
13 SS:Yes

Fewer self-explanations and turn completions are of significant importance in post-DA data of the present teacher. It is immediately obvious that the teacher adopts a more facilitative role by using more appropriate SLC strategies as well as encouraging further student-student negotiation for meaning. A shift from traditional IRF triadic exchange to more students' initiation and teachers' minimal responses (Lee, 2007; Park, 2013; Warings, 2009) demonstrates signs of development in T-D's competence. The proper use of questioning strategy (turns 1, 4, 6, 8) aligned with pedagogical goal of the moment resulted in more complex and elaborated learner contributions. Waring (2009) asserts that engaging learners in collaborative dialogues to co-construct knowledge or find a solution for a problem can make a shift from monologues to develop multilogues. The teacher statement (1) provokes the learners to express their disapproval collectively in an overlapped turn (2). It also, gives the space to S2 to take the initiative by raising his intonation in turn 11. The teacher question in laughter again opens up the opportunity for S3 to assert his opinion (7) which is wholeheartedly welcomed by the teacher through a short

token confirmation ‘Aha’ together with a clarification request in a rising intonation (turn 8). Through some SLC strategies and allowing more learner turns, T-D promotes learners’ involvement in which learners take initiatives to express their contributions more freely. T-D also encourages learner-initiated turns and discussions and it is of key importance in classroom interaction since, “learner-initiated questions play a crucial role in generating learning opportunities” (Waring, 2009, p. 816). Yet, it is still the teacher who led the discussion’s trajectory.

To illustrate a whole picture of the Iranian EFL context in terms of SLC in general and then in evaluation and assessment sequences, the frequency of the thirteen SLC strategies used by each teacher both prior and after a TEP, founded on the principles of DA mediation, was reported in this section. To decrease subjectiveness of qualitative data analysis, the SLC strategies’ occurrence in different L2 contexts were counted and tabularized in observation checklist (Appendix 1). The total frequencies of SLC strategies are shown in table 2.

Table 2

Total Number of Frequencies of SLC Patterns in Pre and Post-DA

Contexts	Meaning-and-fluency	Form-and-accuracy	Procedural	Task-oriented
T- Pre	31	24	10	8
A Post	56	32	18	11
T- Pre	36	18	3	6
B Post	47	24	9	5
T- Pre	31	15	5	3
C Post	35	21	6	5
T- Pre	21	9	7	1
D Post	52	26	14	7

The data presented in Table 2 indicates a rise in the total frequency and variety of the SLC strategies each of the teacher participants employed in post-DA phase. One of the main findings of the microgenetic development of the four observed teachers is their different types and levels of development. As it

is shown in the Table 2, there are promotions in implementation of SLC strategies almost in all four contexts. On the other hand, the majority of SLC strategies were devoted to using L1, modeling and scaffolding wherein rarely in explanation and repairing. The post-DA of T-A also showed a noticeable progress in SLC implementation, yet she demonstrated just some SLC strategies such seeking clarification and summarizing and the least number of changes happened with the use of modeling and reiterating. T-D also showed a significant increase in making use of scaffolding in which as it is evidenced, they have been doubled. T-B and T-C also showed evidences of a more close understanding of SLC, though, the frequency of application of the interactional strategies shows a moderate improvement with the majority of strategies; for example they developed implementation of seeking clarification and scaffolding strategies, on the other hand, the least promotion happened in explanation and using the board in T-B and modeling with T-C. These varying types of development can be as the result of the teachers' willingness to get educator's assistance or in Lidz's (1991) word their openness to get the mediation.

Furthermore, some teacher closing moves such as nominating the students, immediate F moves through either latched or overlapped turns, self-elaborations, and excessive teacher turns, to name a few, in pre-DA phase evidence that the teachers largely controlled both content and procedure of the interaction and determined who can participate, when and talk about what (Walsh, 2006). The significant feature of almost all pre-DA data was a traditional format of turn takings in which the teacher regained the floor after each single student turn and there were absence of student-initiated turn or student-student dialogues. On the other hand, post-DA data revealed different level of changes in different teachers' classroom natural talk-in-interaction. Thus, the results of the present study endorse those

findings which propose that DA procedures have the potential to assess teachers and re orient their conceptual thinking through suggesting expert instructional responses and making the reasoning behind them transparent.

To sum, from a DA perspective, the teachers' actual level of development was manifested by their use of SLC strategies in pre-DA as well as their quality and quantity of engagement in DA sessions. As the result, they showed need for not the same amount and type of mediation. Although, the same issue of mediation offered to T-B and T-D, it resulted in different forms of engagement and responses in teachers' part. The microgenetic development of the teacher participants demonstrated that different teachers' responds to mediation in different ways, in different quantities and in different qualities. Subsequently, post-DA data reflected that teachers move beyond their actual level of development by using more SLC strategies and maximizing more learning opportunities.

4. Conclusion and implications

Using a pre-observation, DA instructional session, and post-observation format, this study was to trace an empirical account of teachers' PD in terms of SLC. Through a detailed analysis of the recorded data presented in the preceding section, this study evidenced that engaging teachers in DA informed analysis of their own classroom discourse could help them develop a deeper understanding into their capability to SLC. Also, it was found that, after intervention sessions, almost all teachers managed to use a wider range of SLC strategies. Nonetheless, teachers noticeably differed in terms of the SLC strategies they adopted. Actually, this could be due to the fact that each individual's different level of existing knowledge (i.e., actual level) and the interpretation of their own classrooms' interactional behaviors brought about different types and amounts of mediation which consequently led to creating distinct learning opportunities between the teacher educator and each of the teachers. Put it

differently, the co-constructed learning opportunities were unique, so the changes made in the SLCs of each teacher were distinctive.

Given the fact that a host of variables such as the educational context, age, experience, gender could affect the consequences of mediation and level of learners' responsiveness, evaluating the effectiveness of DA processes seems to be a formidable task. Although all teachers accepted to partake in the study on their own volition, the way they engaged in DA interaction (i.e., justifying the interactive decisions and their interpretations) hinted that those with less teaching experience appeared to be more willing to be actively engaged in DA sessions, which created more opportunities to form a ZPTD (e.g., asking queries by the T-D, seeking clarifications and taking notes by the T-A); the more experienced teacher, however, tried to either rationalize their actions (T-B) or take a backseat in the course of the DA sessions (T-C). Unlike the T-A and T-D, who collaboratively involved in co-construction of knowledge and demonstrated that they are following the educator via minimal responses (e.g., *aha*), the T-B up to the very end of the sessions strived to rationalize and offer excuses for SLC strategies he took. Similarly, the T-C showed minimal involvement in dialogic discussion and his few turns were restrained to rationalizing his moves. The productivity of CA hinges upon 'learner reciprocity' (Lidz, 1991) to a great extent. Thus, it can be argued that the variances were due to difference in reciprocity in the process of the DA sessions.

The study provided evidence which resonates with the SCT tenet that the process of development is inherently rooted in socialization of individuals' cognition. Teachers' agency in externalization of their cognition in a dialogic DA and by means of actual data from their own teaching coupled with the educator's application of different mediation strategies from implicit leading questions to explicit explanation of the rationale

behind the instructional points paved the way for teacher educator to be responsive to teachers immediate needs and more importantly, providing appropriate mediation in harmony with the ZPTD. The T-A's use of more interactional SLC strategies such as clarification requests (i.e., by open-ended questions) and discarding some closings (i.e., turn completions) and also the T-C and T-D's direct acceptance of learner initial contributions could be ascribed to the dialogic mediations. That is, the dialogic feedbacks could assist the teachers to obtain a deeper insight into their adopted moves to SLC, which they were unable to reach individually. Later on, they could have internalized the co-constructed knowledge and move beyond their current level of capability in SLC.

In light of the findings, a number of avenues for future research can be presented. First, more longitudinal studies are required to trace teacher's PD over a more expanded time so as to link microgenetic development to ontogenetic development (e.g., Markee, 2008). Another area which warrants further attention is transcendence; in other words, other studies should probe whether the obtained CIC understanding is applied in other situations after a longer time interval. Last but not the least, the language of mediation can be the target of further researches. A Poehner (2009) state whether the language of mediation should be target language or the learners' L1 is a significant question to be considered in future DA research. Regarding the fact that teachers are individuals with almost high L2 proficiency, another question raises. That is whether mediating ELT teachers in L2 can bring about any misunderstanding or the target language can assist them in evaluating themselves; as Little (2007) notes there may be further metalinguistic advantages of using L2 for them.

The present study suggested that teacher educators can benefit from engaging teacher in building on their current level of knowledge rather than imposing a pre-packaged set of

knowledge on them. Nevertheless, it should be acknowledged that the generalizability of the findings should be done with some caution since the data was gathered from a small sample of participant within a specific setting.

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Appendix 1

Note: A refers to the teacher A or T-A and so forth

Contexts	SLC Patterns	Meaning & fluency			Form & accuracy			procedural			Task-oriented				
		A	B	C	A	B	C	A	B	C	A	B	C		
		D			D			D			D				
		3	2	3			1	1				1			
Re-iterating	Pre	1			2	1	2	1							
		4	3	3					1	2	1	1	1		
	Post	2			1	2	3	1			2				
		1	3	4					2	1		1	2		
Modeling	Pre	1			1		1					1			
		4	3	4	2	1		1	2		2		1		
	Post	4			1			1			1				
		5	2	5				1							
Summarizing	Pre	2			2	2	1		1				1		
		4	3	6	3		3	2	2		1		1		
	Post	5			1			1					2		
		1	2	9				1							
Confirmation check	Pre	1			3	2	2	1							
		5	5	10					2			1			
	Post	4			4	2	3	3							
		6	4	6	3		3	2	1			2			
Scaffolding	Pre	5			2										
		8	5	7	2	3	4	2		1			1		
	Post	10			5			1							
Reformulation	Pre	1	2	2			1								
		2	3	2			2					1			
	Post	1			1										
		1	2	1								1			
Extension	Pre	2													
		3	2	2					1			1			
	Post	3													
		4	6	2	5	4	3			2	1		1		
Repairing	Pre	2			4										
		2	7	1	5	4	2	1		1			2		
	Post	4			6										
		2	3	3											
Paraphrasing	Pre	3			1					1					
		3	3	5											
	Post	4			2										
Explanation	Pre	1	2	1	2	3	2			2					
		1			3			1							
	Post	2	2	1	3	4	3	1			2	1			
		1			2			2							
Seeking clarification	Pre	2	3	1				1				1			
		2										1			
	Post	8	4	2				2			2				
		8			1						2				
Using the board	Pre	1	3	2	3	1	2			1	1				
		5	3	4	5		1	1	3	2	2	1			
	Post	4			3			4							
		3	2	3	2			1	1			1	1		
Translating to L1/L2	Pre	1			1			2							
		6	3	4	4	2	2	1			1	1			
	Post	2			3			3							
Total	Pre		31	36	31	24	18	15	9	10	3	5	8	6	3
			56	47	35					7			1		
	Post		52			32	24	21	26	14		6	5		5
												7			

Appendix 2

Transcription key (Adopted from Hutchby & Wooffitt, 2008)

?	Question mark expresses slight rising intonation (and sometimes questions)
.	A dot shows slight falling intonation
::	Colon (s) means prolonging of sound and the number of colons says the length of the extension
↑↓	Up and down arrows indicate that there is sharply rising or falling intonation and
[]	locate before the syllable in which the change in intonation occurs
[]	Overlapping in speech
(hh, hm)	Audible exhalation of air
(.)	Micro-pause (0.2 second or less)
(0.4)	Numbers in parentheses demonstrate length of silence in tenths of a second
((nod))	Double parentheses demonstrate non-speech activity or transcriptionist comment
\$	Smiley expression of utterances
=	Equal sign shows continuing speech with no break in between
WORD	Capital letter/s show/s loud speech
<u>Word</u>	Stress on that underlined part of the word. The more underlings, the greater stress
°	It indicates an utterance that is much softer than the normal speech of the speaker
><, <>	'Greater than' and 'less than' signs indicate that the talk they surround was noticeably faster, or slower than the surrounding talk
Bold	Words or expressions in bold are utterances in L1