Employing Dynamic Assessment and Concept-based Instruction for the Development of English Phrasal verbs in an EFL Classroom

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Abstract

Established on the basis of Vygotsky's Sociocultural Theory (SCT), this study tended to document the EFL students' conceptual development of phrasal verbs through two SCT-oriented approaches including concept-based instruction (CBI) and dynamic assessment (DA). Moreover, the students' performance in the follow-up stage was explored to see whether they experience a conceptual development in a new context. Participants were 45 pre-intermediate and intermediate high school students. The sample was randomly assigned to two experimental groups and one control group. The study followed a mixed-methods procedure employing both experimental design and qualitative case study. To examine the appropriateness of the instruments and tasks, initially a pilot study was run in a one- to- one tutoring session. Subsequently, all groups were asked to go through the pretest followed by ten sessions of instruction and posttest. Finally, DA and DA-CBI groups participated in a follow-up stage. ANOVA results on posttest showed the significant effect of integrating DA and CBI as a joint function on EFL students' conceptual development over the traditional control group. Moreover, it was found that learners in DA-CBI group performed better in the follow-up stage which indicated their ability to transfer their learning to similar tasks in new contexts. The results are discussed and pedagogical implications and several avenues for future research are offered.

Keywords: Concept-based Instruction, Dynamic Assessment (DA), Phrasal verbs, Schema for Complete Orienting Basis of Action (SCOBA)

1. Introduction

The concept of Dynamic Assessment (DA) highlights the combination of teaching and assessment processes within a single procedure to help learners move forward, beyond their actual level of ability. DA, informed by socio-cultural theory of learning (SCT) and the notion of Zone of Proximal Development (ZPD), challenges traditional views on assessment and teaching; that is, it assumes full integration between these two components (Poehner, 2008).

Central to ZPD is the role of mediation in which assessment and instruction are integrated as a unified activity (Lantolf & Poehner, 2004). From DA lens, the teacher can evaluate the students' ability related to a specific objective and probe their instructional needs while also providing appropriate instruction and *signs* (Wertsch, 2007), which are tailored to their ZPD, to reorganize their emerging activity. In DA, the teacher sees students' errors as a valuable opportunity to providing them with appropriate mediation to each error and guiding them moving from other regulation to self-regulation (Lantolf & Poehner, 2014; Davin, 2016).

Recently, practitioners found that DA mediation was unable to promote learners' conceptual development (Davin, 2016; Poehner & Infante, 2015, 2017). Following the students' performance during the DA mediation, Davin (2016), for example, found that small-group work or prompts could not offer adequate mediation for concept development. Moreover, the students were unable to expand their ability beyond the target point; thus they showed no real evidence of development. Although task completion is a part of DA, the main purpose is to understand and foster development; in other words, "task completion is simply a natural outcome of this focus" (Poehner, 2008, p. 82). Despite the fact that the DA mediation has proved its effectiveness in many studies (Ableeva, 2008; Behshad et al., 2018; Mehri et al., 2019), it has not satisfied the DA practitioners' expectations.

Conceptual development can be employed which is the outcome of conceptually based pedagogy, focusing on psychological tools in conceptually meaningful activities (Negueruela, 2013a, b). In other words, when learners can consciously appropriate and transform psychological tools in communicative activity, they show evidence of conceptual development (Negueruela, 2013b). From this perspective, the students' awareness and control over the target concepts are the key to their L2 conceptual development. In this sense, engaging in conscious meaning-making activities lead to conceptual development; that is, it supports learners' awareness and control in generating new meanings (Negueruela et al., 2015).

Without conceptually meaning-focused pedagogy, it is quite difficult to promote concept development. Additionally, DA mediation, in fact, is metacognitive which is derived from Vygotsky's distinction between cognitive and metacognitive mediation (Karpov & Haywood, 1998). Metacognitive mediation is grounded on interpersonal communication, which focuses on semiotic tools of self-regulation and concerns learner's regulation in using concepts. On the other hand, cognitive mediation intends to equip learners with cognitive tools to develop their declarative knowledge about the concept. The DA mediation, therefore, lacks cognitive mediation.

Cognitive mediation is used in some conceptually based pedagogy such as concept-based instruction (CBI). In CBI, learners are provided with materialized representation of the linguistic concepts in order to visualize concepts to promote their conceptual development (Galperin, 1989; Negueruela, 2003). The DA practitioners suggest that to have a coherent SCT-oriented approach to L2 education, DA and CBI may complement one another to promote learners' conceptual development (Davin, 2016; Lantolf & Poehner, 2014; Negueruela, 2008; Poehner & Infante, 2015).

In this study, DA mediation is supplemented with CBI principles to focus on EFL students' conceptual development of one area of English language learning, phrasal verbs (PVs), which has received scant attention in EFL studies. The integration of DA and CBI (henceforth DA-CBI) will provide a better picture of EFL learner's conceptual development over time. Thus, the primary purpose of this study is to investigate how the implementation of DA-CBI as a joint function develop EFL students' conceptual understanding of phrasal verbs (PVs), as an area of English language which has not received due attention in previous studies. Moreover, the students' ability to transfer their conceptual understanding of PVs to new contexts and their control, volition and awareness over the concepts (Davin, 2016; Herazo, Davin, & Sagre, 2019) are also explored.

2. Literature Review

2.1. Dynamic Assessment

A major application of ZPD is seen in DA process in which assessment and learning form a dialect in order to boost learners' future language development (Lantolf & Poehner, 2004; Negueruela et al., 2015). Vygotsky (1978) defined ZPD as "the distance between the actual development level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (p. 86).

DA is an interactive assessment procedure that unifies assessment and instruction aiming at learner development. Poehner and Lantolf (2003) put

forward "DA is a technique for simultaneously assessing and promoting development that takes into account the individual's (or group's) zone of proximal development" (p.1).

In DA learners are supported with appropriate mediation while they are engaging in completing tasks beyond their independent ability (Lantolf & Pohner, 2014). This way of collaboration provides data about the students' ZPD or abilities in the process of emerging and assumes an active role for teachers in provoking their development. Lantolf and Poehner (2004) specify two general approaches to DA. Interventionist DA in which all prompts and hints are pre-specified in a hierarchical order from implicit to explicit. On the other hand, interactionist DA emphasizes instruction-learning over measurement (Lantolf & Poehner, 2004). From a Vygotskian perspective, a mediator must not measure learners but interpret them. Mediation in interactionist model, which is ongoing rather than prefabricate is a result of interaction between mediator and learners. It is sensitive to different learners' ZPD, changing over time (Lantolf & Poehner, 2014).

DA may be implemented with one-to-one tutoring or with the group of learners. Most DA studies in L2 context are carried out with small sample size, working at most with five students (e.g., Poehner, 2008; Poehner & Infante, 2015, 2017) and few studies have dealt with a group of learners in classroom settings (Davin, 2011, 2016; Lantolf & Poehner, 2011; Poehner, 2009). The implementation of DA in classroom with a large number of learners seems challenging and receives little attention (Alavai et al. 2011). Empirical research, moreover, on DA in second language acquisition is still in its infancy (Davin, 2016; Poehner, 2005). Therefore, there is a desperate need to shed more light on the applicability of DA in classroom context with a large number of learners.

In the past decade, DA has been an intriguing research subject in L2 assessment domain. In 2002, Kozulin and Garb focused on DA of reading comprehension among 23 at-risk EFL students in Israel whose ages ranged from 18 to 23. The use of L2 DA improved their reading comprehension and cognitive strategies in reading (Kozulin & Garb, 2002). Poehner (2005) conducted a study to assess oral language proficiency of six advanced university students of French using DA. The findings showed that interventionist DA mediation has a positive effect on the students' development in understanding tense and aspect and improves their control over the performance of content. Similarly, comparing dynamic versus non-dynamic procedures for assessing the listening comprehension of students who studied French, Ableeva (2008) also concluded that DA is an effective way for both the diagnosis and developmental purposes.

In a classroom context, Poehner (2009) also explored the implementation of interventionist cumulative G-DA in a Spanish group. His findings suggested that such classroom activity enabled teachers to explore and simultaneously promote the group's ZPD and also support the individual development of learners. Group mediation was the subject of the study done by Davin (2011), who administered a ten-day DA program with nine students who received mediation by peers and the mediator. He found that both large and small group mediation was effective but in tandem with each other.

In a Spanish as-a-foreign-language classroom, Davin (2016) reported that not all DA-processes lead to development and mediation provided by the teacher alone is not sufficient to learners' conceptual development. He found that after receiving DA instruction, learners only copied the slot–filler template and were not able to generalize beyond it. It was clear that DA prompts or mediation without cognitive mediation or conceptual meaning-oriented approach was not sufficient for developing student's conceptual understanding (Davin, 2016s). This issue came back to students' lack of conceptual understanding of target linguistics features to provoke their development. As Davin (2016) stated not all DA-process-led development may lead to learning. It is clear that DA prompt or mediation without cognitive mediation or conceptual meaning-oriented approach cannot support student's conceptual development (Davin, 2016). Davin (2016) and other DA practitioners (Lantolf & Thorn, 2006; Lantolf & Poehner, 2014) suggested that classroom DA may be fueled by application of a meaning-oriented approach such as CBI.

Vygotsky's (1987) notion of ZPD highlighted the relationship between the development of academic concepts and spontaneous concepts through three central aspects of academic concept development: "(1) conscious awareness of the concept being learned, (2) volition, the ability to voluntarily control the use of the concept and (3) systematicity, the organization of all concepts into system" (p. 220). Applying these three principles will consequently lead to deeper learning or conceptual development. In this study these three aspects of development were investigated.

2.2. Concept Based Instruction (CBI)

Concept-based Instruction (CBI), proposed by Negueruela (2003, 2008), is rooted in Vygotsky's line of thinking. CBI, grounded on SCT key concepts such as materialization, verbalization, and internalization, highlights the concrete representation of materials facilitating the internalization of concept (Negueruelas, 2003). It draws on Galperin's (1992) systemic-theoretical instruction. Using physical tools such as diagrams and flow charts, teachers assist and mediate the learners' internalization of complex concept.

In the next process of development, when learners internalize the concept, they do not need the support of materials any more. The next stage of development is verbalization which intends to mediate the learners' internalization process (Lantolf & Thorne, 2006). When a concept is internalized, it can be used in automatic form as an inner speech.

The first research on CBI in L2 context was carried out by Negueruela (2003). In this study Schema for Complete Orienting Basis of Action (SCOBA) was implemented in order to materialize and visualize the system of aspects among intermediate learners of Spanish. The result showed that at first learners manipulated the verbal aspects depending on rule of thumbs in a non-systematic way. Over time it was revealed that they can define the grammatical concepts without directly relying on the SCOBA. The findings suggested that there is a link between implementation of CBI and the development of learners' control of aspect.

In a case study of a learner of French, van Compernolle (2011) probed into the development of L2 sociopragmatic knowledge in choosing between French second-person pronouns, TU and VOUS in a one-hour concept-based instruction (CBI). The findings revealed that concept-based technique was effective in teaching L2 French sociopragmatics and is able to equip learners with the knowledge base for the use of language.

In a similar study, van Compernolle and Henery (2014) applied CBI to teach pragmatic knowledge of French second-person pronoun system (*tu* versus *vous)* to university level students. Appropriate use of the concepts of self-presentation, social distance, and power was concerned. The findings highlighted the important role of CBI in promoting students' understanding of *tu* and *vous.* Lapkin et al. (2008) also examined the role of verbalization in deep understanding of grammatical concepts. The results revealed that learners made progress in doing posttest task highlighting the role of verbalization in explaining concepts.

In Iranian context, Fazilatfar et al. (2017) scrutinized the role of CBI as a pedagogical approach in teaching cognitive grammar-based (CG-based) concepts of tense and aspect to EFL students in an experimental study. Their findings displayed that the students who had received CBI performed significantly better on posttest. Moreover, they produced a significant definition of the concepts and their written discourse performance and responses to the grammatical questions improved after CBI. By applying CBI to teach listening concepts to 60 undergraduate EFL students, Lavasani and Birjandi (2015) found that students who experienced verbalization in oral and written forms showed better performance than their counterparts.

Although these studies show CBI is promising in instructed second language development, no study has yet focused on the integration of CBI

and DA. This study is motivated by Negueruelas' (2003) research and intends to bridge DA and CBI to provide a richer picture of students' conceptual development in learning English phrasal verbs using SCOBA as an instrument for concept development.

2.3. Phrasal verbs

There is no precise definition for phrasal verbs among the scholars. A phrasal verb (PV) may be made of two or more parts that are considered as a single verb (Celce-Murcia & Larsen-Freeman, 1998). For Moon (1997) PVs are the "combinations of verbs and adverbial or prepositional particles" (p. 45). PVs are frequently used in English language which is a proof for their importance. EFL learners should have sufficient knowledge of PVs in order to use them in their everyday communication and to speak naturally. Without sufficient knowledge of phrasal verbs, EFL students' capacity in speaking and understanding is diminished (Celce-Murcia & Larsen-Freeman, 1998). Phrasal verbs (PVs), on the part of EFL learners, are considered as a source of problem and bring about some obstacles on the path to proficiency in English (Boers, 2000; Kurtyka, 2001).

In an experimental study on PVs, via thematic metaphor, Boers (2000) recruited 74 French college students in two groups. The results of immediate posttest indicated that the experimental group outperformed the control group the control group. Similarly, Boers and Lindstromberg's (2006) study highlighted the positive effect of conceptual metaphors on learning PVs. However, it is indicated that these studies just measured the students' retention and memorization, and the conceptual learning was forgotten.

Radden (1985) conducted a study on the meaning extension of prepositions exploring how the causal sense of each preposition was affected by its spatial-based sense. The findings showed that the spatial representation provides learners with conceptualization and other metaphorical extensions such as causation.

In Condon and Kelly's (2002) experimental study, participants received instruction based on Rudzka-Ostyn's (2003) work book on PVs with the particle *Out*. In the control group, the same PVs were presented through Collins COBUILD Dictionary of Phrasal Verbs written by Goodale (1998). They found that the materials presented in the experimental group were more motivational than those in control group. Condon (2008) also adapted Rudzka-Ostyn's work book with 111 university level students. The experimental group was found to outperform the control group on immediate posttest and followed-up test in long-term learning in two of the six PV categories.

In previous studies on PVs, the participants were often given fill-in the blank activities and their performance was analyzed statistically. Therefore, more efficient qualitative methods and deeper analyses are needed to shed more light on the issue of teaching PVs.

3. Method

3.1. Participants

Participants in this study comprised 45 female high school students whose age ranged from 17 to 18. All participants were native speakers of Persian who had the experience of learning English for about six years at school starting from grade seven. The participants were divided into three groups of DA-CBI, DA, and control group each consisting of 15 students. According to Vygotsky (1978), the students at this level are cognitively ready to receive complex conceptual knowledge. Also, they had formally studied English for a minimum of one year in private language institutes. According to Oxford Placement Test of English, their proficiency level was estimated as pre-intermediate and intermediate corresponding to levels A2-B1. They were randomly assigned to two experimental and one control group. The same teacher taught all three classes which were held twice a week.
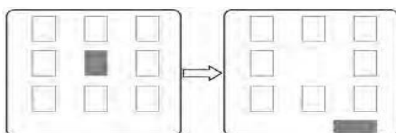
3.2. Instruments

A phrasal verb (PV) test was designed to measure students' knowledge of PVs with the particles *up* and *out* which contained a total of 40 multiple-choice items. The frequency of these particles in British National Corpus (BNC) is (97.3%) and (87.4%) respectively. This test, which enjoyed an acceptable Cronbach's alpha reliability of 0. 68 was given as both pretest and posttest. SCOBA, as an image-oriented explanation and as a key feature of the CBI was used as another instrument in this study. The SCOBAs and some phrasal verb tasks employed in this study were adapted from Rudzka-Ostyn's (2003) work book.

The teacher presented the meaning of particles on the basis of their conceptual metaphor. For instance, in *Count me out, I'm afraid: I won't be able to come to your party* sets and groups are considered as containers.

Figure 1

One of the Senses of the Particle Out: Sets, Groups are Containers

3.3. Procedures

To examine the appropriateness of the instruments and tasks, initially a pilot study was run in a one- to- one tutoring session. The mediator offered DA-CBI mediations according to five students' needs and simultaneously assess their performances. The students went through systematic stages which started by materialization of the particles contributed with verbs though SCOBAs and followed by learner's verbalization on PVs tasks. The learner's verbalization was supported by teacher's mediations followed by interactionist DA principles. Subsequently, all groups were asked to go through the pretest (phrasal verb test) followed by 10 sessions of instruction and posttest. Finally, DA and DA-CBI groups participated in a follow-up stage. The pretest and posttest were administered to all members of three groups to document their performance before and after receiving the treatments.

3.4. Treatment

The study followed a mixed-methods procedure employing both experimental design and qualitative case study. In the first session in the DA-CBI group, some papers were distributed consisting of the SCOBAs related to the particles *out* and *up*. Examples in the form of sentences were also animated. SCOBA as an image-oriented explanation mediated the students' visualization of the various particles' spatial motion and senses. The SCOBAs were presented to the students to visualize the different concepts (Materialization stage). They were told to concentrate on different senses related to each SCOBA. In the next stage, verbalization stage, the students were asked to engage in solving PV activities and verbalize their reasons for choosing a solution to the problem. They were instructed to verbalize their thoughts and reasons by referring to SCOBAs. The students were stimulated to use the SCOBAs as a thinking tool. The students' source of problem was probed and DA-CBI mediation was offered in a one-to-one fashion through interactionist DA to support their development. The mediations were provided attuned to ongoing individual's problems that changed from time to time, point to point, and person to person. In other words, the teacher's mediations were related to the student's responsiveness to particular mediation. The student' verbalization on the PVs tasks were reviewed simultaneously to elicit the appropriate example of PV. They were sometimes asked to explain the meaning of PVs and sketch what they conceptualize on the blackboard. Finally, students were supposed to generate their own pattern to the PVs and use them in the sentence appropriately and independently. All 10 instructional sessions were audio-recorded.

In DA group, interactionist approach of DA, through cumulative G-DA, was implemented. Following Lantolf and Poehner (2007), mediation

was initially offered implicitly which did not follow prefabricated menu of prompts and hints. Rather, it was catered to individual needs and struggles. When the students encountered difficulties, the teacher actively offered mediation attuned to the individual's needs, at the same time, focusing on their emerging ZPD. In this process, the teacher supported the students through one-to-one interaction to assist them in reaching the correct form and more importantly moving from other regulation to self-regulation.

The control group was presented with phrasal verbs according to the traditional method, present-practice-produce (P-P-P). The teacher presented the students with what the PVs are and what they mean in Persian. Next, they were asked to practice the PVs through some fill-in-the blank exercises. The students were asked to translate the PVs into Persian and write an example for each PV. In this group, the instruction was presented explicitly and directly. Moreover, the teacher focused on the whole class rather than one individual learner. All conditions were similar for the experimental groups and for the control in terms of target PVs, number of treatment sessions and pre- and posttest.

Since students' scores on the pretest and posttest alone may not provide convincing evidence on their level of conceptual development. Therefore, two weeks after the posttest, in follow-up sessions, some new tasks, containing new PVs with the particles *in* and *down,* were chosen to explore the extent to which participants in DA and DA-CBI group could decontextualize and transform their understanding to unfamiliar contexts. To this aim, the students of both DA and DA-CBI groups met with the teacher in one-to-one tutoring sessions. The teacher observed the students' performance on target activity while they were verbalizing their rationale around the chosen options. They did not receive any mediation and their performance was recorded based on three aspects of concept development (awareness, volition, and systematicity) to explore the extent to which they show evidence of development of these three concepts. In order to answer this question, the students' performance in DA and DA-CBI groups in the follow-up phase were analyzed.

4. Results and Discussion

4.1. Results

This study was conducted to examine the effects of CBI and DA on the phrasal verb development of high school learners. Descriptive statistics results showed that both the posttest and the pretest data were normally distributed (see Table 1).

Table 1

Descriptive Statistics for Normality within group

	Statistic	df	Sig.
Pretest	.116	45	.151
Posttest	.099	45	.200[*]

Additionally, the Leven's test also showed the variances were homogeneous. A one-way *ANOVA* was conducted to capture the initial differences among the means of the three groups on the pretest. The difference among the means of the three groups in the pretest was not significant, F (2, 42) = 0.59, p= .943 confirming the homogeneity of the groups at the outset of the study. To test the difference in performance of the three groups after treatments, another one-way *ANOVA* was run on the posttest scores which revealed a significant difference among the three groups, F (2, 42) = 14.27, *p*=.00 (Table 2).

Table 2

The results of ANOVA on PV posttest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	159.478	2	79.739	14.276	.000
Within Groups	234.600	42	5.586		
Total	394.078	44			

Post-hoc comparison, Bonferroni test, indicated that there was a significant difference between the control group and DA-CBI group, and the control group and DA group, but there is not a significant difference between DA-CBI group and DA group. These results suggested that treatments in DA and DA-CBI groups significantly improved EFL students' learning of phrasal verbs rejecting the null hypothesis of no difference in the performance of experimental and control groups.

4.1.1. Illustrative Case Analyses

Following the experimental phase of the study, the micro-genetic model of analysis was applied to the transcribed interactions collected from DA and DA-CBI mediational sessions. The students' performance was traced over time to explore how DA-CBI promoted students' development of phrasal verbs. To this aim, the relevant episodes of analysis of excerpts from the mediator's interactions with one student are presented.

Episode 1*

>   T: What do you know about OUT and UP? What are their meanings?
>   S: Umm...UP…means above…above of something.
>   T: Good and OUT?
>   S: OUT means…umm outside of something…or place…for example…classroom.
>   T: Very good. Can you give an example for UP and Out with a verb?
>   S: umm….I don't remember… [...].
>   T: No problem. I give some examples. Tell me the meaning of GO OUT and GO UP.
>   S: …I think GO OUT means going outside of a place like going out of the classroom, right?
>   T: Right and GO UP?
>   S: …It means go to reach above of something.
>   T: Good, move higher…increase. Do you know another meaning of GO UP?
>   S: …umm… […]…
>   T: Do you understand what I mean?
>   S: I have no idea.
>   T: Uh… Ok

As the episode indicated, the student was familiar with the literal meaning of particles. When the teacher asked her to give an example or use the particles with a verb, she just provided the literal meaning of the constituents, not beyond it. The following episodes have been taken from verbalization sessions, after materialization of target particles. The student verbalized her rationale and thoughts related to the answer and the teacher reviewed and mediated her verbalizations.

Episode 2

>   S: The accident happened as he JUMP UP or JUMP OUT the train while it was still moving...
>   T: Well, what is the meaning of these two. Can you show them in your hand out…among the SCOBAs, the difference between them?
>   S: […] …I found them…SCOBA number 1 shows movement out of container…and UP movement from the low to high…
>   T: Good, and next?

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*Transcription conventions are as follows:
Three dotted lines=short pause and hesitation.
T= Teacher S= Student
[…]= Long pause

S: …umm…because of the accident…he.. JUMP OUT of the train…uh…JUMP UP means motion toward above….and…umm….JUMP OUT…moving to a place …outside the present place…

S: JUMP OUT the train…and…the first sense….

T: Yes, exactly, the train as a container and a person moving out of it.

As episode two represented, the student provided the literal meaning of the collocation. Initially, it seemed that the SCOBA did not mediate her thinking. The teacher tried to mediate student's thinking through visualization (SCOBA) and assisted her to make the appropriate meaning. The student was encouraged to use the SCOBAs and specify what image was related to the particles or phrasal verbs.

Episode 3

S: The teacher HAND UP or HAND OUT the examination papers...umm….

T: What do you want to say?

S: Umm. I'm not sure. HAND UP and HAND OUT may mean take something up to something…and….out of the place.

T: Take something out of the place?

S: …again I translate them literally…umm...

T: Yes…It is its literal meaning and actually it is meaningless. So, you should focus on another meaning… the teacher wants to do what… the teacher wants to…

S: umm…the teacher wants to disperse the paper …among the students

T: Good…

S: […]

T: Can you use SCOBAs?

S: Aha... I think…I'm not sure...the sense number four considers bodies, minds and mouths as containers… paper. Right?

T: So, the answer is?

S: HAND OUT is not appropriate here…the body is viewed as container that goes out from container and disperses…the teacher hands out the papers.

T: Excellent, that is it.

The teacher assisted the student who tended to interpret *hand+ out* as a separate constituent. The teacher was pushing the student forward; in fact, she encouraged the student to employ the SCOBA to mediate her own understanding. The aim of the integration of SCOBA in the process of mediation was not to provide an explicit way to finding true answer. This integration was supposed to motivate the student to generalize internalized conceptualization to other similar situations over time.

Episode 4

S: Nansi, there are different flowers. SET UP or SORT OUT the flowers in a line, six inches apart…umm...someone should arrange flowers.

T: Aha

S: I'm not sure, SORT OUT and SET UP have the same meaning

T: Yes, it seems so

S: SET UP means make something. UP…makes something visible

T: Good. So, you understand the difference

S: yeah. According to the SCOBA, sense number 3, sets and groups are containers…

T: Ok, So?

S: SORT OUT the flowers in line…Right… the image of sense 3 shows that one container is out of the group of containers.

T: Excellent...very good.

Excerpt (4) above shows learners can self-correct even through a small change in mediation during DA sessions. The student benefited greatly from the preceding interactions. It showed that the student became automated gradually and was able to regulate her understanding through SCOBA. In fact, the conceptual understanding of the concept was emerging and the student was moving from other-regulation to self-regulation.

4.2. Discussion

The deep analyses of episodes over time indicated that although at first students seemed unsure about their verbalizations, they benefited from the teacher assistance, teacher-student interaction, and SCOBAs in a gradual way. As it is clear in the last two episodes, the student was able to deal with struggles independently; however, in a different ZPD. The student could modify her own verbalization without the teacher intervention. In fact, the student regulated her performance over time, from the more dependent to the more independent performance.

In line with Poehner and Infante's (2017) study, the findings of this study also have confirmed the advantage of the representation of DA in tandem with some thinking tools, as a unitary approach. DA supported by CBI provided learners with an external tool for thinking. In fact, the student was provided with an opportunity to engage in specific activities related to target linguistic feature and was offered possibilities to select the right answer. In contrast to Poehner and Infante (2017), this study focused on promoting the student's conceptual development rather than promoting her ability in completing a task. In fact, completing a task was not viewed as an evidence of learners' development in target linguistic features.

Supporting Neguruela (2008) and Galperin's (1989) arguments, this study found that the materialized representation of the linguistic concepts and DA-based dialogical interaction (Lantolf & Poehner, 2014) could flourish EFL students' learning and promote their conceptual understanding. This finding also is in line with Fazilatfar et al. (2017) who indicated CBI was effective in developing learner's knowledge of grammar. However, it is remained unclear whether the student can transfer their understanding to a new context. Thus, without the appropriate evidence of awareness, volition and systematicity in the students' independent performance the claim of students' conceptual development might seem implausible. One question that remained to be answered, however, was whether the student reached deeper understanding and conscious awareness to act independently and systematically in new contexts.

One of the aims of the current study was to examine the DA-CBI and DA groups' performance in new contexts. To this end, the students' performance in DA and DA-CBI groups in the follow-up phase were analyzed. The analyses of students' verbalization indicated that students in DA-CBI group revealed a more systematic performance while engaging in follow-up activities in comparison to the students in DA group. They were able to transfer what they had learned during the treatment phase to new contexts after two weeks. Although, in the treatment phase, they were presented with phrasal verbs with the particles *up* and *out*, they were able to recontextualize their conceptual understanding and move them to new contexts with the particles *in* and *down*. It was observed that the students of DA-CBI group who had been equipped with cognitive tools could use them appropriately in new tasks. The interesting aspect of their verbalization was that, they used drawings to support their reasons in a more consistent way.

The students of DA group, on the other hand, were not as successful in transferring their understanding to new contexts. They were just able to translate the phrasal verbs literally. It seemed that they had become the slot filler and were not able to act beyond that. The analyses of the teacher-made checklist recordings also showed that the students of DA-CBI group, in comparison with DA group, had gained the potential to apply a theoretical concept to explain the purpose of learning, to voluntarily manage the use of the concept, and to systematically apply it in new settings. On the other hand, the students of the DA group's explanation highlighted their lack of conceptual understanding. It must be kept in mind that intervention while students are engaged in activities may help them to complete the task successfully but does not guarantee internalization or conceptual development of the target linguistic feature. This finding supports the effectiveness of DA and CBI integration in promoting student's conceptual development. In support of Davin's (2016) findings, this study found that DA

mediation without any thinking tools and artifacts could not support the students' volition, awareness and systematicity in doing activities.

This finding does not mean DA approach is not beneficial, since the quantitative results revealed that it has positive effect on student learning of PVs lending support to numerous studies indicating the effectiveness of DA (e.g. Poehner, 2005, 2009, 2008; Ableeve, 2008) in students' development of different linguistic features. This finding is also in support of a study conducted by Mehri et al. (2019) who reported a substantial difference between learners' actual and mediated scores signaling the inefficiency of non-dynamic tests to explain learners' responsiveness to mediation in Iranian context. In line with the arguments of Vygotsky on ZPD, this study showed that the students progressed in their ZPD which was an evidence of proximal development in their gradual performance. Moreover, the findings of this study certainly support this notion that development individual and the development of group are intertwined and it is quite possible to create a group ZPD (Poehner, 2009).

5. Conclusion and Implications

This research project found that DA-CBI as a complementary approach can promote the students' conceptual development and help them internalize thinking tools. DA-CBI as a joined function helped the EFL students understand the meaning of PVs and generalize their understanding to new contexts. Awareness, volition, and systematicity provided compelling evidence that conceptual development was a valuable outcome of DA-CBI principles. Additionally, the findings reiterated that DA-CBI as a supplementary activity can support student independent functioning and conceptual development. In other words, the findings suggested that what the students are able to do while getting assistance from the teacher is what they can do independently in future.

The results of this study provide some new perspectives on development-oriented approach to teaching. As DA unifies instruction and assessment aiming at learners' development and CBI captures the systematic process for instruction, these two procedures could supplement each other. Since hint-based instruction is unfamiliar to many teachers and scholars, the results of the present study could confirm the efficiency of CBI approach in comparison to other methods. It's concluded that teaching is not a unidirectional process in which the teacher is the only transmitter of knowledge, but that is a mutual or multi-directional process in which the teacher, the learner, and the peers can take the roles of information providers. Future research can investigate the long-term effects of hint-based instruction with extensive mediation on students from different proficiency backgrounds having different levels of willingness to communicate and motivation.

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