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Group Dynamic Assessment: An Inventory of Mediational Strategies for Teaching Listening

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Abstract

Group dynamic assessment (G-DA) grounded in Vygotsky's socio-cultural theory (SCT) is believed to have the potential to provide a context for capturing a group of learners' Zone of Proximal Development (ZPD) (Poehner & Lantolf, 2010; Shabani, 2010). The present study aims at testing the applicability of G-DA in identifying the mediational strategies offered by a mediator during his G-DA interactions with a group of L2 learners in the context of listening. Moreover, it seeks to unravel the effects of G-DA-based instruction on the co-construction of knowledge among L2 listeners. A microgenetic, longitudinal and interactionist methodology formed the theoretical basis for the construction of the assessment procedures. The participants included a group of L2 learners ranging in age from 20 to 25. The materials used in the assessment sessions were authentic texts selected from the normal VOA broadcasts. The qualitative analysis of G-DA protocols led to the development of an inventory of mediational strategies consisting of different forms of implicit and explicit feedback. The analysis also showed how collective scaffolding (Donato, 1994) could pave the way for establishing

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distributed help among learners (Platt & Brooks, 1994) within the social space of the class in the course of which secondary and primary interactants mutually benefit from each other's contributions (Poehner, 2009). The inventory of mediational strategies helped track the learners' microgenetic and developmental trajectories over time. Finally, on the basis of the findings language teachers are suggested to use mediational strategies developed in this study as a reference to provision of feedbacks during interactions with a group ZPD.

Keywords: group dynamic assessment (G-DA), Zone of Proximal Development (ZPD), interactionist, listening

1. Introduction

Despite the presence of a rich research literature reflecting more than 40 years of professional works in psychology and general education, dynamic assessment (DA) in the context of second language studies is still in its infancy. As an inherent property of Vygotsky's socio-cultural theory (SCT) and Activity Theory, the concept of 'mediation' has been widely researched and its role fully acknowledged by the L1 and L2 studies on human's cognitive functioning (Lantolf, 2004; Lantolf & Apple, 1994; Lantolf & Thorne, 2006). The concept of mediation suggests that human's relation with the world is not direct but 'mediated' by physical and symbolic tools. The following excerpt from Lantolf (2000, p. 80) nicely captures the essence of mediation in human's mental development:

The central and distinguishing concept of sociocultural theory is that higher forms of human mental activity are *mediated*. Vygotsky argued that just as humans do not act directly on the physical world but rely, instead, on tools and labor activity, we also use symbolic tools, or signs, to mediate and regulate our relationships with others and with ourselves.

As is clear from the quote above, a fundamental assumption underlying Vygotsky's SCT is the fact that human mental activity is a mediated

process in which symbolic and socio-cultural tools, the most significant of which being the language, play an essential role.

In DA research, a major challenge facing the literature is how to use DA in the classroom where the teacher interacts with not a single ZPD but a group of ZPDs, a context which does not permit the use of one-to-one DA (Poehner, 2009). In Vygotskian perspective, classroom assessment should take into account the effects of peers and more significant others on the functioning of individuals (Poehner, 2009; Shabani et al., 2010). In DA-based research, provision of mediation in a principled manner has always been a source of concern and also a main reason for the low frequency of empirical research (Haywood & Lidz, 2007). It is an issue which has not received the attention it really deserves both in general DA (Lidz, 1991) and in L2 DA research (Ableeva, 2010; Aljaafreh & Lantolf, 1994; Poehner, 2005).

Therefore, the present study is conducted to report the results of a qualitative study on group format of DA on a group of L2 listeners.

2. Studies on Group Dynamic Assessment

According to Poehner (2009), social mediation and interaction within the class context should be studied under a new framework known as group dynamic assessment (G-DA). SCT practitioners agree that it is possible for the mediator to negotiate simultaneously with a group of learners in co-constructing several ZPDs and moving the entire group forward in their ZPD (Poehner & Lantolf, 2005; Poehner, 2009). The assumption that DA can be used to enhance a number of ZPDs is also confirmed by Vygotsky who described ZPD as the "optimum time for teaching both the group and individual ZPD" (Vygotsky, 1998, p. 204). Guk and Kellogg (2007, p. 281) explain that Vygotsky was chiefly preoccupied with public school teaching and "firmly rejected the idea of a pedagogical duet between learner and teacher". Reflecting Vygotsky's view of the role of mediator, they dismiss the 'teacher-as-a-rickshaw-puller' of a dyadic interaction in favor of the 'teacher-as-a-tram-driver' of a group mediation

and consider the teacher as the one who should organize the social environment of classroom learning.

Poehner (2009) argues that group-based and one-to-one DA follow the same principle of offering learners mediation to help them co-construct a ZPD, but they differ in that G-DA must also take account of the group's ZPD.

Browsing the literature, two exemplary works, though not discussed in terms of dynamic assessment, are observed, namely Donato's (1988) and Gibbons' (2003). Since both studies involve a teacher mediating a group of learners' performance and co-constructing ZPDs with a number of students in the classroom context, they fit quite well with the interactionist principles of G-DA. Therefore, a brief description of these two studies seems pertinent.

Working on L2 learners of French in the classroom context, Donato (1994) tested the effects of collective scaffolding via speaking on the students' morphosyntactic and lexical competency. Donato contrasted the collective with loosely-knit groups calling the latter a mere physical configuration of individuals in small groups with no goals shared by the members and the former a site for individuals to engage in "an activity that provides them with the opportunity to benefit from the strategic processes [ongoing attempts to learn how to solve problems] that are present as the collective works together" (1988, p. 104) and "a necessary condition for creating in an individual the ability to engage in independent strategic functioning" (Donato, 1988, p. 105).

He noted that the scaffold (assistance) offered through language supports collective efforts and fosters future independent performance. The scaffold creates zones of proximal development during an asymmetrical social interaction enabling the less capable learner to finally accomplish the task independently. During collective activity, the members, unlike the diffuse or random groups, coordinate their efforts to achieve a common understanding of the motives and goals of the task and "each member may contribute only partial knowledge toward the solution of the task. This partial knowledge is, then, woven into complete

knowledge in the collective. It may be that no single member has expert knowledge but together the participants interlock incomplete knowledge to achieve complete understanding. This aspect of collective activity is part of the collective's true power" (1988, p. 256).

Analyzing the students' collaborative interactions from Vygotsky's perspective, Donato explained that learners constructed for each other a collective scaffold and during the interaction the learners were at the same time individually novices and collectively experts, sources of new orientations for each other, and guides throughout the problem-solving tasks. He observed that although marked individual linguistic differences existed at the outset of the interactions, the co-construction of the collective scaffold progressively reduced the distance between the task and individual abilities. These observations led him to conclude that the social setting of the classroom provides a legitimate domain for individual as well as group progress in language learning.

Similar to Donato, Gibbons (2003) breaks with the tradition in ZPD research by avoiding a one-to-one assessment procedure and explores the possibility of constructing ZPDs with a group of learners. By analyzing the group performance of L2 learners of French within the social context of classroom, Gibbons (2003) argued that the ways students and teacher co-construct meaning in a shared experience and perspective have a great impact on students' progress that stretch their ZPD to more complex domains. Gibbons reported the results of her research on teachers' interactions with a group of eight- and nine-year-old students during group discussions in which the learners were asked to use scientific terminology to describe the results of physics experiments. At the onset of interactions, the learners had a tendency to use more spontaneous mode of discourse including such general terms as "stick", "hold" and "push" but in conjunction with the teachers' mediation students began to co-construct a more formal scientific language and their "contributions to the discourse [were] progressively transformed across a mode continuum into the specialist discourse of the school curriculum" (Gibbons, 2003, p. 247).

Putting Gibbons's study under his DA theoretical lens, Poehner (2009) commented that

Gibbons provides excerpts of classroom interactions and argues compellingly that the teacher successfully co-constructed a ZPD with her learners. Gibbons' work is not discussed in terms of either formative or dynamic assessment, but rather as an instructional activity carried out within learners' ZPD. (pp. 83-84)

Poehner further notes that Gibbon's (2003) protocols truly exemplify a *concurrent* format of G-DA whereby the teacher engages two students as *primary* and *secondary* interactants in her G-DA interaction offering her mediating support that increases in explicitness with each move.

The DA literature, in retrospect, has also observed a few L2 studies which have developed regulatory scales of mediation, namely Aljaafreh and Lantolf (1994), Poehner (2005) and Ableeva (2010). Ableeva's case study, though conducted on one-on-one (individual) basis, is more relevant to the present study because it addressed the assessment and promotion of L2 learners' listening abilities. As with Aljaafreh and Lantolf's (1994) and Poehner's (2005), Ableeva's regulatory scale consisting of ten mediational strategies was developed *a posteriori* after the analysis of the mediator's interactions with the learners:

Figure 1. Mediational strategies (Ableeva, 2010, p. 260)

1. Accepting Response
2. Structuring the text
3. Replay of a passage
4. Asking the Words
5. Identifying a Problem Area
6. Metalinguistic Clues
7. Offering a Choice
8. Translation
9. Providing a Correct Pattern
10. Providing an Explicit Explanation

Ableeva explains that the mediator pursued two main goals while interacting with her learners in tutorial sessions: 1) to diagnose the source of the problems that impeded comprehension of spoken French and in so doing (2) to offer the learners an opportunity to improve their L2 listening ability as well as to promote learners' L2 development in general. Elaborating on the mediator's way of offering the mediation, she noted that the strategic mediation was tightly linked to the learners' needs and the mediator adjusted her assistance, going back and forth, depending on the specific response of the learners. Ableeva pointed out that the detection of mediational strategies and putting them into a scale helped her to quantitatively and qualitatively explain the learners' improvements. The detection of mediator's tendency towards the use of implicit types of mediational strategies provided her with an understanding of the learners' progress towards agency and independent performance.

According to Poehner (2009), what the current DA literature suffers from is the scarcity of empirical research on application of DA in the L2 classroom, a frequently used L2 educational context which does not lend itself to the common one-on-one format of DA due to the presence of a group of language learners. The scarcity of DA works in group context is partially caused by the lack of a robust theoretical approach to the concept of group learning and group assessment (Poehner, 2009). Group dynamic assessment (G-DA) has broken ground in surfacing this gap in psychological and educational settings on both theoretical and practical issues (Poehner, 2009). When it comes to G-DA studies in listening context, no exclusive research has been conducted to date.

Faced with the scarcity of research in the DA literature on L2 listening, this study set out to test the applicability of dynamic assessment of listening in the classroom context and examine its potential in assessing and promoting a group of learners' listening abilities. Hence, the following questions were raised:

- 1) What types of mediational strategies during G-DA best nurture the development of listening abilities?

2) To what extent can G-DA help foster co-construction of knowledge among a group of L2 listeners?

3. Methodology

3.1 Participants

This research involved a group of undergraduate students of English major from Allameh Mohaddes Nouri College. Before the start of the term, an announcement was made on holding a reinforcement course with an aim to improve the students' listening comprehension and their ability to understand news broadcasts. 15 students volunteered to participate in the program consisting of both males and females ranging in age from 20 to 25. Students' L2 listening background information and language learning data are presented in Table 1 below:

Table 1. Learners' background information and language learning data

Students	Gender	Age	L1	L2 Eng.	Semester	
No of	Courses					
pre-college	standing in	listening	on news			
the Uni.	courses	listening	before			
1	M	20	Farsi	6	5	3
2	M	25	Farsi	6	5	3
3	F	20	Farsi	6	5	3
4	F	21	Farsi	7	5	3
5	F	21	Farsi	6	5	3
6	F	24	Farsi	7	5	3
7	F	25	Farsi	7	5	3
8	F	22	Farsi	6	5	3
9	M	21	Farsi	6	5	3
10	F	23	Farsi	6	5	3
11	F	21	Farsi	6	5	3
12	F	21	Farsi	6	5	3
13	M	21	Farsi	7	5	3
14	F	22	Farsi	6	5	3
15	F	21	Farsi	6	5	3

3.2 Instruments

The texts used in the pretest sessions represented the news genre and were selected from the VOA news broadcasts. All the texts used in the pretest were similar in terms of topic, pace of delivery and level of difficulty but were not the same. Following this stage, a mediation (enrichment) phase began in order to see how mediation could help promote the learners' listening comprehension processes. The materials selected for classroom practices were a number of news clips with clear accent and pronunciation. The files represented a news genre and more exactly a political discourse. In the posttest, the same audiovisual texts as in the pretest were offered in order to trace the effects of pretest sessions and enrichment program on the students' listening abilities.

Finally, three TR texts were selected. They were more complex and differed from the pre/posttest texts both in the format (audio) and topic. Unlike the pre/posttest texts which were audiovisual treating almost the same topic (revolution and riots), the TR texts deprived the students of the benefit of visual information and were thematically different but typical of the news genre (TR1 was an interview including three participants and TR2 and TR3 were speeches delivered by high-ranking officials).

3.3 Study design

This study aligned itself with an interactionist G-DA approach and a microgenetic methodology, an SCT-based method. A pretest-enrichment-posttest-transfer session format was followed in this study. With some changes and following Ableeva (2010) who conducted a DA research on listening for a time span of 9 weeks, the design of the present study is characterized by an NDA (non-dynamic assessment) elicitation stage immediately followed by a mediation process phase (DA intervention). However, unlike Ableeva's (2010) which followed a one-to-one mediator-learner tutoring format, this study adhered to Poehner's (2009) recently suggested group-based format of dynamic assessment or G-DA.

In this study, a pretest was conducted to diagnose the students' independent performance abilities and their main sources of difficulties, phonological, syntactic, lexical and cultural. To address the learners' recurring problems, an enrichment program lasting for six weeks was offered. Then, a posttest was administered followed by three transfer/transcendence (TR) sessions aimed at understanding the extent to which the students could extrapolate their newly acquired knowledge to innovative contexts. Except for the first pretest week in which three intensive sessions were held every other day, the remaining sessions were held once a week for a time period of 11 weeks. The schematic representation of the study sessions is as follows:

Week 1 —→ pretest (NDA + DA)
Week 2-7 —→ enrichment program (EP)
Week 8-9 —→ posttest (NDA + DA)
Week 10 —→ transfer 1 (transcendence)
Week 11 —→ transfer 2 (transcendence)
Week 12 —→ transfer 3 (transcendence)

As noted above, each assessment session was characterized by two phases, an NDA stage which aimed at identifying the students' ZAD or current status and a DA intervention process. We found this approach quite in line with Poehner's (2005) suggestion that for a DA procedure we do not need to administer an NDA test separately since the DA procedure has the dual function of detecting the students' ZAD and ZPD.

3.4 Procedure

The G-DA procedure took the following steps:

1. At the onset of each assessment session, the students were told that they first had to listen to the clip up to the end. This advance organizer (preparatory stage) was intended to familiarize the students with the overall theme and context of the news. Moreover, the students were told that their active presence and contributions, however minimal, in the class are of vital importance to their learning and that their silence would be interpreted as an inability to understand the text.

2. Then, the teacher replayed the clip proceeding portion by portion and asked the class to provide their recalls.
3. Upon the students' failure to recall the content of the sentence during the NDA phase which revealed the students' independent performance ability, the mediator (teacher) intervened and offered his leading questions, prompts, hints and explanations to mediate in their understanding of the text and, in this way, uncover their potential level of development.

The assessment of the students' performances was made with reference to the quality of their recalls and if the class as a whole was not able to arrive at the correct answer, their performance was interpreted as a failure. The mediational strategies were detected after the analysis of the teacher's interactions with the entire class. They were used by the teacher during the mediated assessment sessions. The *frequency* and *types* of mediational moves (implicit/explicit) offered by the teacher (mediator) across the assessment sessions revealed the students' improved abilities and ZAD/ZPD functioning and no formal pretest and posttest were administered. The assessment procedure adopted in this study coincides closely with those of Poehner (2005) and Ableeva (2010).

4. Results

The results reported here are part of a larger study that takes into account the G-DA interactions collected during the pretest, posttest and TR sessions. The protocols have been mainly drawn from the mediated portions of the assessment sessions that involved interaction and assistance; however, reports of independent performance (IP) are sometimes given wherever needed.

Following the analysis of interactions, an inventory of mediational strategies emerged which is as follows:

Figure 2. Typology of mediational strategies

1. Confirming/rejecting response
2. Replaying
 - a. listening to the entire portion
 - b. listening to a segment from the portion
3. Putting words together
4. Repeating the erroneous guess with a questioning tone
5. Offering contextual reminders
6. Offering meta-linguistic reminders
7. Using dictionary
8. Providing correct response and explanation

Following Aljaafreh and Lantolf (1994), the menu of mediational strategies offered here was arranged from the most abstract (implicit) to the most concrete (explicit). Like the three previous studies cited above, the strategies outlined here were not prescribed in advance but developed out of interactions between the mediator and learners.

As with Aljaafreh and Lantolf (1994), the mediational strategies developed in this study followed the abstract-concrete (implicit-explicit) principle and were classified into the following five main categories based on their underlying function:

- a. managing the interactions
- b. helping the learners to reconsider their recall
- c. helping the learners to notice the clues
- d. helping the learners to use the artifacts
- e. enhancing listening comprehension

The *a posteriori* nature of the mediational typology implies that the inventory is not prescriptive, i.e. the mediational moves characterized the mediator-learners interactions in the present study and are not generalizable to other interactions with other learners in other contexts. The inventory is also meant not to be exhaustive but rather representative of the types of mediation offered in response to the emerging needs of

the learners. We found this approach in line with the interactionist methodology in which learner development can best be captured through *flexible* mediation emerging from ongoing interaction between the mediator and the learner and fine-tuned, contingent mediation is more effective in bringing about learning than standardized mediation (Feuerstein et al., 1979; Luria, 1961; Vygotsky, 1998). The mediation typology listed above allowed for analysis of the *quality* and *frequency* of the mediation offered. It also provided insights into the learners' developmental changes. A description of detected mediational strategies along with on-the-spot examples follows:

4.1 Confirming/rejecting response

This mediational strategy was used by the teacher to accept the correctness or appropriateness of an idea unit about which the learner was uncertain. The *confirming response* strategy combined with encouragement reflects Vygotsky's affective-volitional aspect of learning (Warford, 2010) and Wood et al.'s (1976) concept of affective scaffolding since it allows the less experienced students to become aware of their equally important roles as questioners seeking clarification, comprehensible information, and negotiations of meaning (Nyikos & Hashimoto, 1997).

The excerpt below taken from TR2 confirms this mediational move:

Protocol 1

[...where moments of hardship are observed daily in food lines and makeshift hospitals, in tent cities]

1. T: what did you hear?
2. Ss: [silent]
3. T: what words did you hear?
4. S1: food lines? *Safe ghaza*^ [line of food]?
5. T: that's right, what else?
6. S2: moments of hardship are seen daily in food lines, *lahezate sakhti dide mishe dar safe ghaza*^ [moments of hardship are observed in food lines]

7. T: good, what else? The last part?
8. S2: hospital in ten cities
9. T: is that 'ten'?! No, is the /n/ the last sound in the word? Listen again.
10. S3: @ tent? *Chador* ^ [tent]?
11. T: yes it is tent. And what is the word before 'hospital'? Listen.
12. S4: makeshift hospital
13. T: yes, what does it mean?
14. Ss: [silent]
15. T: Check its meaning in your dictionary.
16. S2: makeshift *yani movaghat* ^ (means temporary)

Teacher's *confirming response* move in this protocol was observed a number of times in lines 5, 11 and 13 which had the function of encouraging the less participating and silent students to take part in the interactions. This strategy provided affective scaffolding since the complimentary feedbacks by the teacher like 'good', 'that's it!', etc. served as an energizing motivator for sustaining and furthering cooperation. Likewise, teacher's *rejecting response* move in line 9 had the function of encouraging student 3 to take part in the interaction and attempt her recall.

4.2 Replaying

Following an observation of the learners' failure to provide a correct recall or response, the teacher invited the class to re-listen to a part of the text. This strategy was used to help students to regulate their thoughts and help them better assemble the portions they had decoded. It was also used to ascertain if the students were not able to recall on their own. This mediational strategy includes two sub-strategies, *listening to the entire portion* and *listening to a segment from the portion*, the latter being more explicit than the former in that it offers more concrete assistance by narrowing down the scope of the problem.

4.2.1 Listening to the entire portion

It was assumed that re-listening to the text would strengthen the students' recall processing and help them notice aspects of the heard text that were overlooked during the first listening. This mediation which contributed a minimum assistance only helped the learners to listen to the portion in question one or more times, depending upon their need, and to provide them with an opportunity to reattempt their recalls without affording them any linguistic or extralinguistic clues.

Protocol 2

[So we are expecting a great number of fatalities and serious injuries.]

1. T: What did you understand?
2. Ss: [silent]
3. T: Let's listen again.
4. Ss: [silent]
5. T: Let's listen a few more times. [The teacher plays the sentence three times].
Now who can explain the sentence?
6. S1: I think he says we are going to have a number of @ something and serious injuries
7. T: Great! And who can recall the whole sentence?
8. S2: well, he she said we will have a number of fatalities and serious injuries.
9. T: What is the meaning of 'fatalities'?
8. S2: 'deaths'.
9. T: # That's it.

This interaction reveals that the learners were not able to recall with certainty the content of the sentence after the first hearing but when asked to re-listen to the sentence student 1 recalls a great deal of the sentence in his own words, which is then completed by student 2's contribution (line 8). This delayed recall from two students signifies that learners may cultivate an appropriate but uncertain conjecture about the heard segment on their first listening and re-listening can help resolve such uncertainties.

4.2.2 Listening to a segment from the portion

When the first replaying strategy proved ineffective in eliciting an acceptable recall, the mediator decided to play only the segment or the particular word that he assumed had hampered the students' understanding of the text; this was done with the intention of directing the students' attention to the problem area and in this way facilitating their recall. This strategy served a diagnostic function too since it narrowed down the scope of the problem and helped the mediator to detect the main source of the problem. The following protocol taken from the TR1 session is illustrative of this mediational strategy:

Protocol 3

[In another night of rioting Thursday, soldiers outside their barracks, all across the country, shot in the air.].

1. T: who can recall the sentence?
2. S1: Soldiers shot the air
3. S2: On [Thursday, soldiers in the country
4. S3: Thursday night, soldiers shot to the air
5. T: good, what is the word before 'Thursday'?
6. Ss: [silent]
7. T: Let's listen to the sentence again.
8. S1: fighting
9. T: no, it's not. Let's listen to the first part of the sentence
10. Ss: [silent]
11. T: what is the first sound of the word, /f/, /t/, /s/, etc? Let's listen again.
12. S2: it is /r/
13. T: that's right. Then, what is the word?
14. S3: rioting? *Shuresh?* ^ [riot]
15. T: you are right. It is 'rioting'. Now what did you hear after 'outside'?
16. S4: their barracks
17. T: what does it mean?
18. S4: military base
19. T: Good! And the whole sentence once more?

20. S2: On Thursday night, soldiers outside their barracks shot in the air all over the country.

In this protocol, the mediator uses the focusing/narrowing strategy several times (lines 9, 11 and 15) to enhance the students' recall. Following the students' independent recall of the sentence in piecemeal, the mediator's intervention began by asking the students to pay attention to specific sections of the sentence and, in this way, help them collect their attentional resources to focus on the words which had skipped their attention on their first listening. This mediation was intended to help the students to correctly pick up the initial sound(s) of the words which have been unrecognized or misunderstood. After observing a wrong attempt ('fighting' for 'rioting') by one of the students (line 8), the mediator decides to draw the students' attention to the initial sound of the word 'rioting' (line 11) and offer the class a few choices, though irrelevant, (/f/, /t/, and /s/) asking them to compare the sound they hear with the suggested or any other possible choices. Upon hearing the sentence once more, one of the students volunteers to give the right sound /r/ and the entire word. Also, in order to check the students' understanding of the word 'barracks' the mediator asks the class to re-listen to another segment and recall the lexical items before 'outside', a mediation which guided student 4 to the correct recognition of the word (lines 16 and 18). Finally, to make sure the interaction has led to complete understanding of the sentence, the mediator asks for a final recall. Student 2 who had earlier provided only a partial segment utters the content (line 20) completely, a contribution which proves the impact of G-DA interactions exchanged between primary interactants on the secondary interactant.

Besides, this mediational move confirms the role of G-DA interactions in creating a state of intersubjectivity among the learners as it encouraged them to engage in and concentrate on solving a specific listening problem in joint interaction. It stimulated the learners to work towards achieving a common goal.

4.3 Putting the words together

This mediation was used when the teacher found that the learners were not able to produce an independent recall after additional listenings to the entire portion or part of it possibly due to the length or semantic density of the sentence. The strategy helped make division of labor among the learners by breaking the task down into manageable portions. This strategy reflecting the principles of collective scaffolding assumes that each individual functioning in his/her ZPD in the class can make a minor but significant contribution to the potential growth of group ZPD. Therefore, to implement this strategy the teacher asked the students to remember individual words from their listening to the sentence, bundle them together and make sense of them, a technique which he believed would allow them to draw upon their top-down and bottom-up knowledge. This mediation usually began with the questions ‘What words did you hear?’ and ‘What else did you understand?’.

Protocol 4

[The Palestinians would halt rocket attacks on Israel.]

1. T: what did the speaker say?
2. Ss: [silent]
3. T: Let's listen again.
4. Ss: [silent]
5. T: what is the verb of the sentence? Let's hear the verb.
6. S1: hold
7. T: no, is that /d/ sound at the end?! [Looking to the class] What other words did you hear?
8. S2: rocket attacks
9. S3: Israel
10. S4: [Palestinians]
11. T: Good. Now, who can tell us what the Palestinians are going to do with the rocket attacks?
12. S4: 'halt', 'halt rocket attacks', *joloye hamalate mushaki ro migire* ^ [would stop rocket attacks]
13. T: exactly

As can be seen in protocol 4 above, the strategy of *replaying* was inefficient (line 4) in scaffolding the class to recall the verb which had apparently crippled their understanding of the entire sentence. To help the students benefit from one another's contribution, the teacher decided to solve this problem in a lockstep fashion, i.e. together with the students through joint cooperation. Therefore, he decided to elicit the words some students had picked up on their own and put them at the disposal of other members of the class (lines 8, 9 and 10). This strategy had the function of breaking down the entire sentence into manageable portions and thereby reducing down the comprehension load especially for the less active members. Through such joint cooperation, the mediator encouraged the learners to put together the decoded words, a strategy that finally helped student 4 to provide the correct verb.

4.4 Repeating the erroneous guess with a questioning tone

In some cases, reproducing the learners' wrong attempt in a questioning tone provided the learners with the hint that their recall was incorrect. This technique prompted students to reconsider their recall and opt for a better choice. This mediation is illustrated in protocol 5 below:

Protocol 5

[Israel plans to discuss the U.S. proposal at its weekly cabinet on Sunday.]

1. T: what did the speaker say?
2. S1: Israel plants to discuss @
3. T: Is it plants?
4. S2: plans
5. T: That's it!

In this episode, the mediator reproduces student 1's incorrect recall (i.e. *plants*, line 3) with a questioning tone hinting that her response is not correct. This mediation provides student 2 with an estimate that the word 'plants' is not a good match with the rest of the sentence and a better suggestion should be made. Therefore, the student considered other close options and found 'plans' (line 4) which was phonetically similar to the

first suggestion but an acceptable word that matched with the rest of the sentence both grammatically and semantically. Student 1's wrong attempt followed by student 2's successful recall confirms the effect of a novice's partial contribution on another learner to perform at higher levels of ZPD.

4.5 Offering contextual reminders

Contextual knowledge is widely acknowledged as a critical factor in listening comprehension. Here, contextual reminders are defined as such sources of information as world (general) knowledge, topical (thematic) and situational awareness including knowledge of the participants, setting, time, place and purpose that can foster comprehension. The protocol below captures the mediator-learners interactions involving contextual clues:

Protocol 6

[So many countries have answered the call, and so many churches, synagogues, mosques, and temples have brought their own people together.]

1. T: Let's listen to this sentence. [Teacher plays the whole portion]
What did the speaker say?
2. S1: countries answered the call @
3. S2: churches brought the people together
4. T: Good
5. S2: 'churches', 'mosques'
6. T: 'churches', 'mosques', what else?
7. S3: [silent]
8. T: what is the word after churches? Listen again. [The teacher replays the sentence]
9. Ss: [silent]
10. T: what are these places; 'church', 'mosque'?
11. S4: they are places for worshipping, the people go there to pray
12. T: Good, Mosques for Muslims, church for?

13. S2: for Christians
14. T: good, and the other word? What could be the other words after the 'mosque'? Listen.
13. S5: 'temples'? *mabad?* ^ [temple]
14. T: Great! and the word after 'church'? Listen again.
15. S2: it is 'synagogue'? *makane ebadate yahudia?* ^ [place of worship for Jewish]
16. T: That's right.

Following the students' independent recall and their silence after the mediator's use of *putting the words* strategy (lines 7 and 9), the mediator diagnosed two words which were not recognized (i.e. temple and synagogue). Then, the mediator asked them to draw upon their world schemata as an aid to foster their comprehension. In so doing, he reminded the class of the presence of two preceding words which were the names of two places of worship, one for Christians and the other for Muslims (line 10). Having been reminded of two places of worship, the students developed an inference that the remaining two words might refer to places of worship for other religions. Hence, upon another re-listening, student 5 provided the first unrecognized word ('temple', line 13) and student 2 the second ('synagogue', line 15).

This episode reveals that the teacher's intervention in the form of offering the learners an implicit mediation and referring them to the required world schemata as a facilitator of listening comprehension plays a determining role in resolving comprehension problems. The minor contributions from the primary interactants served as a strong backdrop to create a collective scaffold for the secondary interactants.

4.6 Offering meta-linguistic reminders

This mediational strategy involved the use of meta-linguistic reminders to turn the students' attention to linguistic information in the text. Meta-linguistic reminders consist of grammatical (including the subject, verb, object, noun, adjective, etc.) and lexical (including collocations, idioms, etc.) cues available in the text and are assumed to have a significant role

in supporting a reasonable inference and resolving the comprehension problems.

Lexical consciousness-raising as an aspect of meta-linguistic mediation was also found beneficial for the students' comprehension of sentences.

The following exchange exemplifies this mediational move:

Protocol 7

[They are sending both immediate support, like food and water, as well as making cash donations.]

1. T: what did you understand?
2. S1: they are sending immediate support like food and water
3. T: ok, what else?
4. Ss: [silent]
5. T: Let's listen. [The teacher plays the sentence.] What is the word after 'cash'?
6. S1: *donation*
7. T: What does 'donation' mean?
8. Ss: [silent]
9. T: what are the countries sending?
10. Ss: food, water
11. T: What else?
12. S2: cash
13. T: right, cash means?
14. S1: money
15. T: That's right and cash what? What was the word after cash?
16. S3: cash donation
17. T: what does it mean?
18. S4: giving money?
19. T: # that's correct.

This exchange demonstrates how the teacher's leading question (line 9) helps the class and the individuals to notice the textual information. It further illustrates how listeners understand the text when attention is drawn to the adjacent words and co-text. In this example, the students encountered a new word '*donation*' which was difficult to process in

isolation and without mediation (line 8). Posing the leading question of ‘What are the countries sending?’ to the class and eliciting such lexical items as ‘food’, ‘water’, ‘cash’ and ‘money’ from primary interactants (lines 8-10) served as a hint for student 4 to make inference about what the countries that are sending food and water to the nation stricken by earthquake will do with the money. He relies upon these hints to make a correct hunch about the meaning of the phrase ‘cash donation’ (line 18).

4.7 Using dictionary

This mediational move was used when a lexical item was absent in the students' interlanguage. More precisely, *using dictionary* served two main functions: 1) to test a familiar but unrecognized lexical item against a number of hypothetical options in order to find the correct one, 2) to check the meaning of a totally new item and add it to the lexical repertoire. On encountering a new item and after making sure of the inefficiency of other mediational strategies, the mediator directly asked the students to consult their dictionaries to find the word and check its meaning. The important role of books, dictionaries and journals as types of ‘*textual other*’ to trigger expansion of ZPD has already been stressed by Shotter (1999) and much earlier by Vygotsky himself who had emphasized the critical role of ‘*psychological tools*’ and ‘*cultural artifacts*’ in triggering learning processes stating that “higher mental functions are, by definition, culturally mediated” and that cultural artifacts having their origins in social life can mediate in human mental functioning acting as auxiliary stimuli to “control [human] behavior from outside” and “transfer the psychological operation to higher and qualitatively new forms” (Vygotsky, 1978, p. 40).

Using the dictionary was observed in the following episode:

Protocol 8

[President has been in power since a coup in 1984 despite his ailing health.]

1. T: What was the sentence about?
2. S1: [president
3. S2: [president was in power
4. S3: despite his ailing health
5. T: good, what is the word after 'since'?
6. S1: /ku:/
7. T: ok, what does /ku:/ mean?
8. Ss: [silent]
9. T: ok, you could consult your dictionary
10. S2: I think it should be 'coup', c-o-u-p
11. T: Great! What does it mean?
12. S2: it means 'revolution, rebellion'
13. T: That's it.

Protocol 13 provides evidence that the students' lexical repertoire lacks a word ('coup') and the mediator understands this gap after the students' independent recall (lines 2-4) and his focusing strategy to ask for the words after 'since' (line 5). Lines 6 and 8 show that learners were able to correctly process the word phonologically but not semantically since they lacked the required schemata. Following the teacher's mediation, one of the students looked the word up in his dictionary and informed the class of its meaning.

4.8 Providing correct response and explanation

When other mediational strategies were found unsuccessful, the mediator had no option other than offering the correct response along with some explanations to enhance students' listening comprehension. This mediation reflects the instructional function of G-DA. Therefore, it is designed to help the learner move up to a higher level of ZPD performance through explicit teaching and instruction. *Providing correct response and explanation* which represented the most explicit form of

mediation served as an instructional technique to prepare the students for the next follow-up interactions and mainly the TR sessions. This mediational strategy was offered when the students were not able to decode the aural forms of well-known or unknown words. In the case of unknown words, the mediator wrote down the word on the board to help the students form correct graphic and aural representations of the lexical item in question. The employment of this technique was detected in the following protocol:

Protocol 9

[Joe, I don't want to hazard a guess.]

1. T: what did you hear in this sentence?
2. Ss: [silent]
3. T: I don't want to what?
4. S1: 'guess'
5. T: ok, what is the verb?
6. Ss: [silent]
7. T: it is 'hazard'. Do you know what 'hazard' means?
8. Ss: [silent]
9. T: 'hazard a guess' means 'make a guess' or simply 'to guess'.

This episode illustrates the students' inability to understand a short sentence due to the presence of an unknown word. The mediator elicits the word 'guess' which he assumed could help them comprehend the sentence but it did not. Therefore, he explicitly utters the verb (i.e. hazard) and asks the class to tell its meaning but the students are silent again which indicates that the word is completely new and beyond their ZPD. Therefore, he decides to explicitly provide the class with the meaning of the word and writes it on the board.

5. Frequency of Mediator's Strategies in the ZPD

From an SCT perspective, learners' progress in the ZPD can be tracked by referring to the number of mediations offered (Aljaafreh & Lantolf, 1994; Poehner, 2005). This section presents the frequency of the

mediator's strategies identified during the G-DA interactions between the mediator and learners.

Table 2 below presents a summary of frequency of mediational strategies over time at three stages of G-DA sessions, the pretest, posttest and TR sessions:

Table 2. Frequency of mediational strategies

	Pretest	EP	Posttest	TR
1. Confirming/rejecting response	51		4	21
2. Replaying	72		9	34
3. Putting words together	6		0	3
4. Repeating the erroneous guess with a questioning tone	28		0	7
5. Offering contextual reminders	6		0	1
6. Offering meta-linguistic reminders	7		0	4
7. Using dictionary	23		1	6
8. Providing correct response and explanation	15		3	6
	208		17	82

A comparison of the frequency of mediational strategies reveals the microgenetic growth of the learners' ZPD. As explained earlier, a core premise underlying DA perspective is that the learners' reduced demand for external mediation is an important indication of self-regulation, independent performance and, hence, cognitive development (Poehner, 2008). Table 2 above supports this claim as it illustrates a sharp decline in the use of mediational strategies in the posttest. A comparison of the frequency of mediational strategies shows a consistent and dramatic drop of the teacher's mediational moves in the posttest relative to the pretest. The frequency of explicit strategies decreased dramatically to a minimum or zero in some cases and the teacher relied mostly on implicit types of mediation (i.e. *confirming/rejecting response* and *replaying*). This reduced mediation from the teacher indicates the stretching of the learners' ZPD to higher levels. The learners' reduced demands for assistance as well as their rejection of mediation confirm their growing autonomy and self-regulation functioning (Poehner, 2008).

6. Discussion and Conclusion

This paper presented the results of a qualitative study of the G-DA interactions across the pretest, posttest and TR assessment sessions. The paper provided insights into the learners' dependent as well as independent listening performance qualitatively through close examination of different types of mediational strategies offered by the mediator during his G-DA interactions with the learners. The analysis of mediator-learners' dialogic interactions was presented in a systematic way and illustrated with protocols from the assessment sessions. The typology of mediational strategies gave us an understanding of how to offer G-DA-based mediation and thus breaks new grounds for the incorporation of G-DA procedures into classroom-based assessment and teaching of listening.

A close analysis of the G-DA interactions brought to light the employment of 8 types of mediational strategies which were placed on a regulatory scale (Figure 2). The strategies were arranged based on the abstract (implicit)/concrete (explicit) criterion (Aljaafreh & Lantolf, 1994), which are as follows: confirming/rejecting response, replaying consisting of listening to the entire portion and listening to a segment from the portion, putting words together, repeating the erroneous guess with a questioning tone, offering contextual reminders, offering meta-linguistic reminders, using dictionary, and providing correct response and explanation. The detected strategies were then classified into five main categories based upon their function: 1) managing the interactions; 2) helping the learners to reconsider their recall; 3) helping the learners to notice the clues; 4) helping the learners to use the artifacts; and 5) enhancing listening comprehension.

We found a discrepancy between the typology of mediational strategies developed in this study and the one reported in Ableeva (2010) which is the only DA-based study of listening to date. We assume that the two typologies do not coincide fully because they were developed in two different DA procedures. Ableeva's typology emerged from the analysis of a mediator's interactions with individual learners in one-to-one tutorial

sessions but the typology developed here is the result of the mediator's interactions with a group of learners in the classroom setting. More technically, the mediator in Ableeva's study engaged in interaction with only one ZPD and mediations were adjusted to an individual learner's reactions but in this study the mediator interacted with a group of ZPDs. One finding in this study concerns the observation of the mediational strategy of *using contextual reminders* that underscores the role of contextual, situational, and world knowledge as a significant contributor to listening comprehension, a mediational move which was absent in Ableeva's typology. The importance of extralinguistic reminders including contextual and situational in resolving listening problems has been extensively examined and confirmed in the literature on listening comprehension (e.g. Buck, 2001; Nunan, 2002; Vandergrift, 2004). Another observation relates to the mediational strategy of *putting words together* which allowed for co-construction of knowledge among a group of learners. This mediational move provided an opportunity for the mediator to break down the task into manageable portions, recruit learners' utmost potentials and get Vygotskian concept of '*distributed help*' materialized in the social context of classroom. Additionally, it encouraged the novices to take risks, make contributions and, in this way, create a lively atmosphere of joint cooperation and collaboration. Indeed, this strategy was found effective for changing the group into a cohesive unit (Petrovsky, 1985, p. 191).

The regulatory scale developed *a posteriori* and the frequency table helped track the learners' developmental paths. The comparison of the students' recalls in the pretest with those in the posttest and TR sessions clearly showed the learners' reduced demands for external mediation and their tendency towards self-regulated processing and independent performance, an observation which was documented with reference to their reliance on more implicit types of mediational moves in the TR tasks.

The observations revealed how G-DA interactions could help establish a community of practice (Lave & Wenger, 1991) in the social space of the classroom and how the students could benefit from the cooperative scaffolding provided by their classmates and teacher to resolve their

listening comprehension problems. The teacher assigned one specific listening problem to the students and asked them to provide their understanding, a technique which had the function of creating an atmosphere of positive interdependence of goal, role, reward, outside challenge and resource in the course of which the students had an opportunity to trial their legitimate peripheral participation (McCafferty et al., 2006).

The evidence reported in this study underscored the significant role of interaction and mediation in providing the learners with an opportunity to resolve their listening problems and exhibit enhanced performances. The interaction served as a rich and complex learning mechanism. The G-DA procedure helped the mediator identify specific problems learners faced during listening comprehension which were not visible during the unmediated (NDA) moments.

The information obtained during G-DA interactions helped the mediator/teacher decide upon the most relevant remedial instruction and redress the abilities that were in the state of maturation. For example, the data clearly showed that one major obstacle crippling the intermediate learners in this study was their underdeveloped phonology. Support for this claim came from the results of diagnostic analysis of mediator-learner interactions in the assessment sessions. The G-DA interactions revealed that one major problem facing the learners was their inability to recognize a familiar word in connected speech, a failure which was rooted in their underdeveloped phonology caused by little exposure to English news texts.

Another problem that seriously intimidated the learners' comprehension processes in this study was their unfamiliarity with the political and news vocabularies. To bridge this gap, a certain course could be designed with special focus on the lexicon of the English news so that they can be exposed to a wide variety of news broadcasts such as presidential speeches and debates, interviews, TV and radio news and get familiar with the related lexicon. The instructors are recommended to teach the students to resort to the available situational, contextual and world cues to compensate for the gaps in their lexical knowledge.

Therefore, it would be beneficial to hold a special course on L2 phonetics at the intermediate level with special focus on how to recognize assimilations, dissimilation and word boundaries. The course instructor is suggested to direct the students' attention to the existing textual clues and explicitly explain how best they can capitalize on these intriguing cues to resolve their comprehension problems.

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