

## Investigating the Effects of Online Concurrent Group Dynamic Assessment on Enhancing Grammatical Accuracy of EFL Learners

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### Abstract

Although group dynamic assessment (GDA) has been gaining attention over the recent decade, its applicability in online context has been left rather underexplored. Hence, the current study examined the effects of GDA on developing EFL learners' written grammatical accuracy in the online context of 'Telegram'. To this aim, 60 Iranian EFL students whose age ranged from 14 to 18 years old were assigned randomly into two groups, namely GDA (N=30) and Non-GDA (N = 30). Initially, both groups wrote an essay on the same topic taken from Preliminary English Test (PET) as the pre-test. Afterwards, both groups wrote on seven writing tasks and shared them in their groups on Telegram. The students in the GDA group were provided with graduated and contingent feedback following a concurrent interactive approach. That is, the teacher offered a gamut of feedback according to the responsiveness of the students to fix errors. On the other hand, the non-GDA group only received direct corrective feedback without being afforded the opportunity to interact over their errors. Finally, both groups revised their own last essays as the first posttest and also wrote an essay on a new task. Results of the study indicated that the GDA group significantly outperformed the Non-GDA group in terms of gains measured by both revision and the new task. EFL teachers and teacher educators can be the beneficiaries of the current study to enrich their online sessions with more GDA-based feedback.

**Keywords:** Online Group Dynamic Assessment (GDA), Non-GDA, Zone of Proximal Development (ZPD), Writing, Grammatical Accuracy

### 1. Introduction

Built upon Vygotskian Sociocultural Theory of mind (1978), dynamic assessment has opened its way into theoretical discussions in the field of language teaching. Dynamic assessment considers teaching and assessment as a seamless unity, which are closely intertwined (Lantolf, 2004).

However, despite such warm welcome on the part of researchers in this field, dynamic assessment (DA) has failed to be widely practiced on the actual level of the classrooms since

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it has been argued that DA could not involve learners with different ‘Zone of Proximal Development’ (Poehner, 2009), which is referred to as the space between what a learner can perform independently and what they can do with the help of a more capable other (Vygotsky, 1978). To ameliorate this thorny issue, Poehner (2009) ventured and drew upon Vygotsky’s original works and proposed the idea of group dynamic assessment (GDA). GDA is based on the premise that since the graduated dialogic feedback between the teacher and the learner happens on the social level, other learners who are in that dialogic context can benefit from the exchanged feedback; moreover, the teacher can invite different learners into play and calibrate the feedback to their ZPD so as to co-shape further knowledge and awareness.

Over the past decade, a good number of studies have provided evidence supporting the efficiency of GDA in developing various aspects of language such as grammar (Miri, Alibakhshi, Kushki, Salehipour, 2017; Tabatabaee, Alidoust, Sarkeshikian, 2018), reading (Bakhoda & Shabani, 2018; Birjandi, Estaji, Deyhim, 2013), listening (Alavi, Kaivanpanah, Shabani, 2012; Moradian & Baharvand, 2015, and writing (Shabani, 2018). Nevertheless, GDA has not been largely implemented by ELT teachers since they have assumed that it is not practical (Miri et al., 2017) and the teacher cannot construct different ZPDs, especially in large classrooms where different students have distinct ZPDs.

Given this, the researchers in the present study assumed that implementing GDA in the virtual space of the social networking applications such as Telegram could afford teachers and learners with precious opportunities to get engaged in exchanging ZPD-sensitive feedback and co-building new knowledge and awareness. It should be highlighted that extensive review of the related literature indicated that the efficiency of GDA in the online context of social networking applications warrants comprehensive examination; moreover, inspired by studies comparing GDA and non-GDA studies in conventional brick-and-mortar classrooms, this study set out to compare and contrast such approaches in the virtual context.

For years, teaching and assessment were construed as two separate entities, which tremendous efforts were made to keep them apart since it was wildly held that the true abilities of learners could not be captured whenever they were assisted during testing sessions; nevertheless, in spite of such static and individualistic view toward assessment, this was Vygotsky who broke a new ground, contending that learning is a social activity which initially happens in the sociocultural context where people interact and co-build on one another’s contributions (1978). Vygotsky added that the socially co-constructed knowledge is then internalized by means of some mediatory tools, when people can use it without the help of others. From the viewpoint of Vygotskian sociocultural theory (SCT), the optimal space for nurturing learning is the distance between what each person can independently perform and the level one can achieve with the help of others, especially those who are more capable such as teachers. This metaphoric distance was referred to as ‘Zone of Proximal Development’ (Vygotsky, 1978), which formed the stepping stone for dynamic assessment.

Unlike traditional testing which aimed at tapping into fully grown abilities, dynamic assessment intends to capture both fully ripen abilities or what learners can individually do and the abilities which are in the process of being shaped; to this aim, DA furnishes learners with assistance calibrated to their level of need and withdraws or recalibrates it whenever the need is satisfied. In this way, not only is the actual level of the learners measured but also their problems are diagnosed as well as they are scaffolded to go beyond their current level of abilities (Lantolf, 2004).

Later on Aljafrah and Lantolf (1994) maintained that a ZPD-sensitive feedback should meet three criteria: first of all, the level of the need and assistance is best identified through dialogic interactions with the learner, where the more capable other and the learner interact and respond to one another's contributions. That is, feedback should be 'dialogic' rather than 'monologic'. Secondly, it should be 'graduated', offered from the most implicit to the very most explicit. That is, learners should not be readily provided with the explicit true answer without considering their level of need. They highlighted that ready-made answers would curb the movement of the learners toward autonomous performance. Last but not least, the feedback must be withdrawn whenever the need is removed and the learner shows signs of self-control. This is, the provision and explicitness of feedback is 'contingent' upon the responsiveness of the learner (Aljafrah & Lantolf, 1994).

This one-to-one approach to DA faced some severe criticisms on the accounts that it could not engage the ZPDs of different individuals attending the same class. To answer such criticisms, Poehner (2009) redefined the concept of group and proposed Group Dynamic Assessment. Poehner argued that a ZPD-sensitive feedback could create and engage a series of ZPDs inside the class since the process of offering graduated feedback happens on the social context of the classroom where other students can realign their goals and benefit from the feedback types which suits their current level of development. Poehner (2009) drew a distinction between two types of GDA: concurrent and cumulative. The former refers to the time when the teacher invites different learners into the play to fix a problem; that is, a number of students are prompted and invited to make a contribution to resolving a problem; however, the latter is concerned with when only one learner is provided with a gamut of feedback, ranging from the most implicit to the most explicit, so as to repair a problem. More specifically, whenever the learner fails to fix the problem, the feedback granted to him/her is made more explicit so that the learner can ultimately take care of the problem.

The efficiency of GDA in the real context of the classroom has been investigated by several studies over the past few years, showing evidence in favor of GDA over non-GDA studies. For instance, van Compernelle and Williams (2012) delved into the effect of GDA on developing a conceptual understanding of sociocultural features of variation in French for some pronouns like tu 'you-informal', vous 'you-plural' or 'you-singular-formal', nous 'we', and on 'one' or 'we'. Their study evidenced that GDA could help the learners to grow a more profound insight into such features and also provided a lens through which microgenetic development (moment-to-moment) of sociocultural features could be captured. In a similar vein, van Compernelle and Williams (2012) indicated that the students who were not directly addressed by the teacher (i.e., secondary participants) could make embodied participation in dialogic discussions on the sociocultural level of the classroom, and hence make progress within their ZPD.

Mirzaei, Shakibaei, and Jafarpour (2016) made an attempt to compare the efficiency of GDA and Non-GDA intervention in developing vocabulary knowledge. Results of their study indicated that GDA was more efficient in fostering depth of vocabulary knowledge. Moreover, the qualitative analysis of the dialogic feedback sessions revealed that cumulative GDA could serve as a diagnostic means and helped the instructor to identify what the learners actually know about each word and what they could do with the support from her.

Comparing the efficiency of concurrent and cumulative GDA was the focus of a study by Miri et al., (2017), indicating that both types of GDA could successfully assist the learners to learn definite and indefinite articles in English; nevertheless, it was found that concurrent GDA

outperformed cumulative approach since it could better engage learners both verbally and bodily.

More recently, Shabani (2018) also investigated if GDA and Non-GDA differed in developing writing over a twelve-week period. Whilst the GDA group was engaged in dialogic interactions with their teacher and received graduated feedback, the Non-GDA group received non-negotiated feedback. Results of the study indicated the outperformance of the GDA over the Non-GDA instruction in terms of enhancing different aspects of writing ability.

Despite such efforts in the actual context of the classroom, to the best knowledge of the researchers, no studies to date have delved into implementing GDA in the virtual world of some instant messaging applications such as Telegram, which has turned to be used by a considerable number of people, especially in the context of the current study, Iran. It is unofficially said that around 40 million people use Telegram in Iran, which accounts for almost half of its population. To meet these objectives, the present study aimed at investigating the following questions:

**RQ1:** *Does the use of online group dynamic assessment have any significant effects on improving EFL learners' grammatical accuracy measured by a revision task?*

**RQ2:** *Do online group dynamic assessment and non-DA differ in fostering grammatical accuracy of EFL learners measured by a revision task?*

**RQ3:** *Do online group dynamic assessment and non-DA differ in fostering grammatical accuracy of EFL learners measured by a new task?*

## 2. Method

To run the current study, a quantitative method was used. In fact, the design is considered as quasi-experimental since the study failed to include a control group, as one of the basic requirements of a true-experimental design (Mackey & Gass, 2005). It should be noted that this logistic limitation traces back to the fact that the researchers did not have easy access to enough participants.

A total of 60 Iranian EFL female students aged from 10 to 16 participated in the present study. Based on the official documents taken from their institutes, they were supposed to be at the pre-intermediate level of language proficiency. However, Preliminary English Test (PET) (2003), designed and developed by Cambridge University, was administered in order to double-check the participants' language proficiency. Results of the independent-samples t-test on results of the PET showed that there was not a significant difference between the mean of the GDA ( $M = 125.03$ ,  $SD = 3.03$ ) and that of Non-GDA ( $M = 126.13$ ,  $SD = 2.17$ ),  $t(59) = 1.61$ ,  $p = .110$ .

Moreover, given the fact that they have been studying in the EFL context of Iran, they did not have enough opportunity to use English as a communicative tool beyond the walls of the classroom. The participants were assigned randomly to two equal groups, each containing 30 students; the Non-GDA group who received non-negotiated feedback in the context of Telegram, and the experimental group who were provided with feedback tailored to their level of responsiveness in the dialogic context of Telegram.

The teacher who ran both classes was a 37-year-old Iranian EFL instructor who has been teaching English as a foreign language in private language institutes in Iran. Besides, she held an M.A in Teaching English as a Foreign Language (TEFL) at the time the study was run. She was familiar with implementing GDA.

In order to collect the required data for the present study, the following instruments were utilized, which will be elaborated on. Preliminary English Test (PET) was used as a means to assure the participants' language proficiency. This test was selected because it was in line with the students' language proficiency. Furthermore, it enjoys noticeable indices of validity and reliability based on the data presented by its developer, Cambridge University. The pilot study showed that this test was suitable for our students.

This standardized test consists of three parts: paper 1 for reading/writing, paper 2 for listening and part 3 assesses speaking. Each part of the test (reading, writing, and listening) carries 25% of the total score. The first part includes 35 items for reading and three subsections for writing. Part 2 deals with listening that includes 25 items. Part 3 is concerned with speaking ability during which students are paired and first have discussion with the examiner and then with each other. A reliable speaking rating scale developed by Cambridge ESOL was used for assessing the speaking skill of the participants. It comprises four aspects of grammar, vocabulary, pronunciation, and interactive communication. The range of scores is between 0-5. It should be noted that the administration of the whole test took about 135 minutes on average.

In order to examine the effects of the GDA treatment on the participant's grammatical accuracy, a pretest was conducted before the treatment; more precisely, the participants were asked to write a story on a writing task taken from PET. This lasted 20 minutes. Likewise, at the end of the treatment, the participants wrote a story on a new task adopted from PET.

In the course of the instruction, seven writing tasks were selected from the students' regular course book since it could enhance the ecological validity of the data (Moradian, Miri, & Hossein Nassab, 2016; Suzuki, 2012). This was due to the fact that the students took the tasks as a natural part of their regular classrooms and performed them more seriously. Moreover, it could be argued that the tasks fit the participants' level of language proficiency.

Initially, the writings were scored by the second and third researchers separately. Then they sat together and discussed the points of difference to reach consensus. Afterwards, the normalized error score was utilized to determine the accuracy of writings (Moradian et al., 2016; Suzuki, 2012). To this aim, initially the number of errors in each composition was divided by the total number of errors in all writings, which was then multiplied by the average of words produced by all the group members. The arithmetic formula is as follows:

The normalized error score =  $\frac{\text{the number of errors in a composition}}{\text{the number of the words in a composition}} \times \text{the average number of the words produced by each group.}$

At the beginning of the study, a sample of PET was administered to homogenize the participants. Next, based on the results, the participants were assigned to two homogeneous groups: GDA and Non- GDA group. Then both groups were asked to write a story on a writing task adopted from PET which served as the pretest.

To run the intervention sessions, the following steps were undertaken. Initially, both groups were asked to install Telegram Application on their cellphones. Then their teacher

briefed both groups on how the online sessions were supposed to be exactly run. Afterwards, both groups were assisted to edit their essays on Telegram; more specifically, the GDA group received dialogic feedback in the context of Telegram where the teacher started reading one of the students' writing and then tried to repair the grammatical errors through dialogic and graduated feedback, ranging from the most implicit to the most explicit. Whenever the student herself failed to fix the error based on the initial feedback, the teacher made the feedback more explicit and invited other students to correct the error. This chain of tailored feedback with a higher degree of explicitness went on and more learners were invited to make a contribution until all the grammatical errors were fixed. After working on the first student's story, the teacher asked all the students attending the online session to take 10 minutes and revise their own stories in the light of the graduated feedback exchanged in the dialogic context of the group. Following this, another student's writing was shared. This interactive graduated error correction during which different students made a contribution was followed by another ten-minute self-correction based on the dialogic feedback. That is, the students were asked to reconsider their own writing and make further corrections. It should be mentioned that each online session took 90 minutes.

Concerning the Non-GDA group, it should be mentioned that the same procedures were undertaken except for the fact that the erroneous parts of the learners' in this group were repaired by means of direct corrective feedback. More specifically, whenever there was an error in each student's writing, the teacher provided the correct form without engaging the learners in the process of error correction in a dialogic and graduated fashion. After correcting each writing through the provision of direct corrective feedback, the students were given a 10 minute time bracket to reconsider their own writings and make required modifications.

It should be noted that one day after the last treatment session, both groups were asked to revise their pre-test writings in class. To this aim, a copy of their writings without any traces of feedback was given to the learners and told to fix its problems in 30 minutes. During this revision process, they were not allowed to refer to other sources or talk to their peers. Moreover, two days later, both groups wrote in response to a new writing task taken from a sample of PET in 20 minutes to investigate if the students could transfer what they have learned to a new situation. Finally, the revised and new writings were marked by the second and third researchers as mentioned earlier.

### **3. Results and discussion**

The prime objective of the current investigation was to explore the effects of group dynamic assessment on developing writing accuracy in online context and then comparing its efficiency with non-dynamic online assessment.

The first question of the study aimed at delving into the effect of online group dynamic assessment on fostering grammatical accuracy over the revision task. To this aim, a paired-samples *t*-test was conducted on the scores of the online group before and after the treatment sessions. The paired-samples *t*-tests results revealed that there was a significant difference between the pretest and posttest of the learners' scores in online group dynamic assessment condition, the experimental group,  $t(30) = -31.65$ ,  $p = .00$ , with the Cohen's effect size value being 4.9, which can be considered as a huge effect size. As can be seen in Table 1 and Table 2, the learners in the posttest ( $M = 41.93$ ,  $SD = 7.48$ ) had a better performance, as against theirs in the pretest ( $M = 20.41$ ,  $SD = 3.92$ ), with having approximately 21 points improvement over

two testing times. Thus, it could be argued that the use of online group dynamic assessment had played a significant role in improving EFL learners' accuracy measured by a revision task.

Table 1 *Descriptive Statistics of Two Testing Times of Students in Online Group Dynamic Assessment Condition ( N= 31 )*

		Mean	N	Std. Deviation	Std. Error Mean
GDA	Pretest	20.41	31	3.92	0.70
	Posttest	41.93	31	7.48	0.25

Table 2 *Paired-Samples t-test for Comparing Pretest and Posttest of Students in Online Group Dynamic Assessment Condition*

		Paired Differences		95% Confidence Interval of the Difference		t	f	S d ig. (2- tailed)
	Mean	d. Deviation	Lower	Upper				
Pretest	-	3.	-	-	-	-	3	.
Posttest	21.51	78	22.90	20.12	31.65	0	00	

The second research question intended to investigate whether the online group dynamic assessment and non-DA differed in fostering grammatical accuracy of EFL learners measured by means of a revision task. To investigate this research question, an independent-samples t-test was conducted since two sets of scores were accrued from two distinct groups. The statistical analysis procedure was employed to compare the gain scores (the deviation score), the difference between the pretest and the posttest of students for both groups. The improvement (gain) from the pretest to the posttest (measured by a revision task) can be estimated for each student by subtracting each person's posttest score from his or her pretest score. It should be pointed out that before conducting t-test, the normality assumption was tested and the skewness and kurtosis of the pretests and the posttests in both groups, experimental and control, were between -2 and +2 (See Tables 3 and 4 for the descriptive statistics of two groups in two testing times); hence, the normality assumption of independent-samples t-test was fulfilled.

Table 3 *Descriptive Statistics of Two Testing Times for GDA Group*

	N	Min	Max	Mean	Std. D	Skewness	Kurtosis
Pretest	31.00	13.00	27.00	20.42	3.92	0.05	-1.03
Posttest	31.00	30.00	59.00	41.94	7.48	0.51	-0.07

Table 4 Descriptive Statistics of Two Testing Times for Non-GDA Group

	N	Min	Max	Mean	Std. D	Skewness	Kurtosis	td.	td.
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Error	Error
	c	c	c	c	c	c	c	r	r
Pretest	30.00	12.00	30.00	20.53	4.19	0.05			
Posttest	30.00	26.00	49.00	37.10	6.43	-0.12			
t								.43	.83
								.43	.83

The results of the independent-samples *t*-test on gain scores of grammatical accuracy of EFL learners, from the pretest to the posttest (measured by a revision task), indicated that there was a significant difference between the mean of the gain for the GDA ( $M = 21.51, SD = 3.78$ ) and that of Non-GDA ( $M = 16.56, SD = 2.45$ ),  $t(59) = 6.03, p = .00$ , equal variance assumed (See Tables 5 and 6), with Cohen's *d* effect size of 1.55, considered a very large effect size (Sawilowsky, 2009). It can be said that students in the GDA group made far more progress from the pretest to the posttest (an average 21-point increase) in comparison with that of their counterparts in the Non-GDA (an average 16-point increase). Thus, it can be concluded that the GDA and Non-GDA groups differed in fostering grammatical accuracy of EFL learners measured by a revision task.

Table 5 The Descriptive Statistics of Grammar Gain Scores of both Groups from Pretest to Posttest

Group	N	Mean	Std. D	Std. Error
Gain				
GDA	31	21.51	3.78	.67
NON-GDA	30	16.56	2.45	.44

Table 6 Independent Samples *t*-test of Gain Scores from the Pretest to Posttest

		Levene's Test		t-test for Equality of Means						
		F	Sig.	t	df	Sig.	Mean Difference	95% CI		U
								Lower	Upper	
Gain Score	Equal variances assumed	1.25	.26	6.03	59	.00	4.94	3.30		6.59
	Equal variances not assumed			6.07	51.70	.00	4.94	3.31		6.58



The third research question intended to investigate if GDA and Non-GDA treatment could lead to different gains in fostering grammatical accuracy of EFL learners measured by a new task. Given the fact that two sets of data were collected from two separate groups, another independent-samples *t*-test was run. This time, the *t*-test was conducted to compare the gain scores (the deviation score), the difference between the pretest and the posttest (measured by a new task). It should be said that, as discussed before, prior to conducting the *t*-test, the normality assumption was tested and the skewness and kurtosis of the pretests and the posttests for both groups were examined, which was between -2 and +2 (Tables 7 and 8); that is, the normality assumption of the independent-samples *t*-test was tenable.

Table 7 *Descriptive Statistics of Two Testing Times for GDA Group*

	N	Min	Max	Mean	Std. D	Skewness	Kurtosis	td. Erro r	td. S Erro r
	Statisti c	Statisti c	Statisti c	Statisti c	Statisti c	Statisti c	Statistic		
Pretest	31.00	13.00	27.00	20.41	3.92	0.05	-1.03	.42	.82
Posttes t	31.00	31.00	60.00	42.16	7.44	0.68	0.13	.42	.82

Table 8 *Descriptive Statistics of Two Testing Times for Non-GDA Group*

	N	Min	Max	Mean	Std. D	Skewness	Kurtosis	td. Error	td. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic		
Pretest	30.00	12.00	30.00	20.53	4.19	0.05	-	.43	.83
Posttest	30.00	27.00	48.00	37.26	6.23	-0.05	-	.42	.83

As presented in Tables 9 and 10, the results of the independent-samples *t*-test on gain scores of grammatical accuracy of EFL learners measured by a new task indicated that there was a significant difference between the mean of gains for the GDA group ( $M = 21.74$ ,  $SD = 3.78$ ) and that of Non-GDA ( $M = 16.73$ ,  $SD = 2.30$ ),  $t(59) = 6.21$ ,  $p = .00$ , equal variance assumed, with Cohen's *d* effect size being 1.60, construed a very large effect (Sawilowsky, 2009). It can be said that the students in GDA group progressed far better, from the pretest to the posttest (an average 21-point increase), than did their counterparts in in the Non-GDA (an average 16-point increase). Accordingly, it can be concluded that group dynamic assessment and non-DA differed in fostering grammatical accuracy of EFL learners measured by writing on a new task.

Table 9 *The Descriptive Statistics of Grammar Gain Scores of Different Groups from Pretest to Posttest*

	Group	N	Mean	D	Std.	Std.	Error
					Mean	Mean	
Gain Score	GDA	31	21.74		3.78	.67	
	Non-GDA	30	16.73		2.30	.42	

Table 10 *Independent Samples t-test of Gain Scores from Pretest to Posttest*

	Test	Levene's		t-test for Equality of Means					
		F	Sig.	t	df	Sig.	Mean Difference	95% CI	
								Lower	pper
Gain Score	<b>Equal variances assumed</b>	<b>1.73</b>	<b>.19</b>	<b>6.21</b>	<b>59</b>	<b>.00</b>	<b>5.00</b>	<b>3.39</b>	<b>.62</b>
	Equal variances not assumed			6.26	49.80	.00	5.00	3.40	.61

As indicated, the results of the study indicated that online GDA in the context of Telegram could assist students to make significant progress in terms of writing accuracy. Besides, it was shown that the students in the GDA group significantly outperformed those in the Non-GDA group in terms of gains in writing accuracy measured by both a revision task and writing a new essay. The results of this study were in line with Mahdavi's study (2014), comparing the effect of dynamic assessment, Mediated Learning Experience, and Non-DA on writing ability of Iranian EFL learners. After 10 sessions of intervention, it was found that the DA-based intervention was more effective in assisting learners to enhance their writing abilities. The results of the present study were also similar to Khoshsima, Saed and Mortazavi (2016). They made an attempt to employ the principles of dynamic assessment in the context of process-genre approach to writing. Their study indicated that the students who were instructed based on the DA principles outperformed those who received non-graduated feedback in a non-dialogic context. That is, the graduated and dialogic feedback helped the experimental group to benefit more from those who received non-dialogic direct feedback.

The results of this investigation were also similar to Amerian and Mehri (2015), delving into the impact of interactionist DA on gaining control over the past tense. The three students attending their study made significant progress at the end of the instructional sessions. More specifically, the participants managed to use the past tense in new situations while needing far less support from their teacher. They associated the results to the fact that graduated and dialogic feedback could create appropriate ZPD for the learners so as to work efficiently and co-construct new knowledge and co-repair the existing gaps in their knowledge about the target grammatical structure.

Moreover, the results were in keeping with Moradian, Rashi and Norollahi (2016) who examined the effect of G-DA on learning the passive structures offered by a mediator during the teachers' GDA interactions with a group of L2 learners. To this end, two intact Iranian EFL classes at low-intermediate level were randomly assigned to two experimental groups,

concurrent ( $n = 25$ ) and cumulative ( $n = 25$ ). Results of their study illuminated that both groups made significant progress from the pre-test to the post-test, which was a multiple-choice test on passive structures. That is, the graduated feedback, whether given concurrently or cumulatively, is capable enough to help the learners to go beyond their individual abilities and obtain mastery over the knowledge which is initially co-shaped on the social level.

Results of the present study could be attributed to several factors. As underscored by Poehner (2009), interactions on the classroom level can be beneficial for both students who directly receive dialogic and graduated feedback (i.e., primary participants) and those who are exposed to the interactions but not directly addressed (i.e., secondary participants). Following this line of argument, it could be argued that the feedback given by the instructor assisted those who were directly addressed since this ZPD-sensitive feedback was tailored to their needs and gaps (Miri et al., 2017; van Compernelle & Williams, 2013). Additionally, it should be highlighted that the ZPD-sensitive feedback shared in the online milieu remained there and other participants had access to it for a long while, so they could have gone back to it several times and benefitted from it in the opportune time when they could pay enough attention to it. In this way, the secondary participants could have reflected upon their own current strengths and weaknesses and then taken advantage of the co-built knowledge shared in their context (Poehner, 2009).

Similarly, Poehner and Infante (2016) maintained that affording students with appropriate feedback tailored to their needs and lacks could bolster the students to co-shape further knowledge and awareness, and hence move beyond their solo abilities. In fact, this is congruence with one of the most fundamental tenets of Vygotskian sociocultural theory that knowledge is initially co-constructed on social level where learners have the opportunity to interact with more capable others (Lantolf & Poehner, 2014).

The superiority of the ZPD-sensitive feedback could be partly ascribed to the diagnostic capability of the GDA (Poehner, Zhang, Lu, 2015) in the sense that the graduated and contingent nature of the feedback opened up precious opportunities for the instructor to diagnose the grammatical structures over which the learners had full mastery as well those which were in the process of being shaped; hence, the instructor provided the addressed learners with the feedback suiting the gaps and holes in their existing knowledge about the target grammatical structures. This is in fact in keeping with Vygotsky (1999), proposing that graduated feedback within one's ZPD could serve as a potent means to uncover the fully formed abilities along with those which are in the course of development.

In contrast to GDA, which provided a lens to delve into emergent abilities of learners, the non-GDA group received direct feedback to repair the deficiencies in their grammatical knowledge. This feedback could help the learners to fix some of their grammatical errors, which they managed to transfer them to the revision task and writing a new task; however, direct non-dialogic feedback did not take account of the learners' ZPDs, so it was not efficient enough to help the instructor to develop an insight into the emergent abilities of the learners, and then nurture them (Lantolf, 2000; Lantolf, 2004). As a result, the non-ZPD sensitive failed to efficiently support the learners' development of autonomy.

#### **4. Conclusion**

It could be concluded that ZPD-sensitive feedback could be efficient enough to scaffold learners to build upon their existing level of abilities such as grammatical accuracy and make further headway or progress. In fact, this verifies one of the main maxims of Vygotskian

sociocultural theory that learning is a social enterprise which best happens within the ZPD of learners when they are supported with graduated and contingent feedback in a dialogic context (1978). This study suggests that as long as the aforementioned criteria are satisfied, GDA would be effective no matter if it is performed in the conventional context of the classroom, virtual world, or online context of social media. Nevertheless, the non-GDA feedback, though helpful to some extent, is not efficient enough to aid learners to pinpoint the deficiencies in their current knowledge and then move toward independent use of them in new contexts. That is, unlike graduated feedback, the non-dialogic and untailed feedback fails to support learners to move toward autonomy. Another drawback of the direct non-dialogic feedback is that the provision of feedback is not withdrawn when the learners make progress, which is more likely to keep learners dependent on the teacher, and hence curb their movement toward autonomous task performance.

Findings of the current study could be advantageous for some stakeholders and beneficiaries. First and foremost, language teachers can benefit from the findings of the present study to provide their students with graduated and dialogic feedback which considers their students' ZPDs. Moreover, the teachers are suggested to run some parts of their classes such as writing in online context since the feedback given by the teacher or other peers can remain in the online context, so their students can refer to them on several occasions and learn from them. Also, teacher educators can be the beneficiaries of the present study and draw upon its findings so as to make teachers aware of the advantages of holding some sessions online. In fact, the teacher educators can incorporate the findings of the current study into in-service and pre-service courses and make teachers informed of how using online social network can help them to not only save more time but also enhance the efficiency of feedback sessions. Moreover, the teacher educators can refer to the findings of the study to inform teachers about the edge of dialogic graduated feedback over non-dialogic one. Textbook developers can also take advantage of to the findings to stimulate teachers and learners to benefit from social networks like Telegram. Moreover, they can stimulate teachers to utilize dialogic feedback through teacher guides. Last but not least, findings of the current study could be beneficial for EFL learners since they can devote some time to working on their essays in online contexts. That is, instead of construing applications like Telegram, students can take them as invaluable learning tools which open up precious opportunities for dialogic analysis of their writing or speaking. In this way, they can learn not only from their teachers but also from their peers.

The present study delved into the effect of GDA on fostering written grammatical accuracy in the context of Telegram. Other studies are suggested to explore the following line of research to examine the generalizability of the findings and make a contribution to this domain. First and foremost, future studies are suggested to replicate this study with participants at other age groups like teenagers and school students. Secondly, other researchers are suggested to include students with different proficiency levels such as beginner and elementary ones who require more care and support. Thirdly, the role of the context was not investigated by the current study; hence, future studies are recommended to compare the efficiency of GDA in the context of classroom and social networks such as Telegram and WhatsApp. Fourthly, the present study adopted the interactive approach to GDA; thus, another line of research could be comparing the efficiency of interactive and interventionist approaches to GDA in online context since no study has examined this issue so far. Fifthly, this present study only delved into the effect of GDA on one aspect of writing, grammatical accuracy; hence, other studies could examine the role of online GDA in fostering other aspects of writing and also other skills such as reading and speaking. Last but not least, the reciprocity of the learners in the current study was not investigated; thus, future studies are suggested to adopt a qualitative

approach and examine how learners respond to the graduated feedback they are provided in the online context.

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