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Exploring Use of Mobile-mediated Hybrid Dynamic Assessment in Improving EFL Learners' Descriptive Writing Skills

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Abstract

The present study investigated the potential of a pedagogical hybrid dynamic assessment (HDA) approach to foster second/foreign language (L2/EFL) descriptive writing development through the use of a mobile instant messaging application namely Edmodo. Learners' zone of actual and proximal development is observed through the use of pretest and posttest descriptive essays test through mobile-mediated and face-to-face mediation to learners. Thirty learners taking an intermediate English course at the language institute of one of the cities of Iran were examined. A mixed-methods methodology was used to analyze the differences between two intact classes groups (control and experimental), each consisting of 15 participants. Both groups received the same tuition and content, and learners in the experimental group participated in a daily conversation in the application during a period where negative feedback was provided by the teacher through the use of an inventory of immediate feedback, from most implicit to most explicit. Throughout the study, pedagogical mobile-mediated HDA and face-to-face mediation became a central part of the learners' learning process, extending learning in-class and beyond the in-class time and becoming a constant source of L2 input and feedback. Moreover, results indicated that HDA and mediation helped learners to save their time and utilized more teacher-to-learner interaction.

Keywords: Dynamic Assessment, Hybrid Dynamic Assessment, Mobile Assisted Language Learning, Descriptive Writing

Introduction

The need to modify learning environments to the characters of learners has developed teachers' approaches to teaching and learning in several distinct ways. In this

regard, the interaction between learners and the teacher constitutes a crucial part of a classroom environment that typically, because of the traditional restrictions of time and place, lacks a piece of steady and continuous information from the teacher. Concerning this interaction, mobile phones have been employed to enhance traditional classroom environments, enabling learners to access content from various places, and abandoning stable devices to become technological nomads (Ally, 2008; Kukulska-Hulme, 2009).

Mobile-based applications are introduced as a virtual environment where the teacher can trace learners' improvement as well as give continuous feedback in the status where language errors are made through the interaction. The basic features of these applications, such as immediate delivery of messages through a pop-up device, a listing of users, a device to show when they are available, or their synchronous and asynchronous frame, make them resourceful ground to use in a dynamic assessment (DA) approach (Feuerstein et. al., 2003; Lantolf & Poehner, 2007, 2011; Poehner et. al., 2017). This kind of assessment, based on Vygotsky's (1978) theory of mediation and zone of proximal development (ZPD), emphasizes the process of promoting cognition along with the social setting in which learning takes place, instead of on the product of this process. Put differently, from a researchers' viewpoint, the use of a DA approach has commonly focused on examining the gradual development of learners and various environments, that models of DA have been used to achieve this end (e.g., Yang & Qian, 2017). However, most of the studies investigating DA in language learning have also indicated its pedagogical utility as a formative assessment device (e.g. Poehner et. al., 2015; Yang & Qian, 2017). There are two main types of DA: interventionist and interactionist. The interventionist model of DA is similar to the standard testing but it focused more on the measurement. The interactionist model of DA focus is more on the social interaction of the learners and the mediator (Lantolf & Thorne, 2006). Nonetheless, a new model of DA, hybrid dynamic assessment (HDA), has recently been proposed to integrate aspects of both interactionist and interventionist models (Sadek, 2015; Roohani & Shafiee Rad, 2019). HDA includes the characteristic of the interventionist DA model as well as an interactionist DA component manifested in the spontaneous interaction between the mediator and the learners' socio-cultural interaction (Roohani & Shafiee Rad, 2019). This last type of DA will be the focus of the present investigation in which an HDA approach is implemented.

In this sense, either in a computerized or in-class version of HDA, there is a need for providing constant feedback to learners as mediation becomes a fundamental element during the development of this type of approach. This mediation is normally carried out by the teacher and in some cases learners, responsible for intervention during

social interaction. To achieve a higher degree of mediation during this process, mobile-based applications become a powerful tool to develop an HDA due to their inherent characteristics such as pervasion and accessibility. In this manner, this investigation attempted to bridge the gap in the existing literature concerning the use of a mobile-mediated HDA to foster second language (L2) development as well as to further understand the potential of mobile-based HDA to conduct this kind of assessment on EFL learners' descriptive writing skill. Like expository and argumentative writing skills, descriptive writing is a basic form of writing and it is very significant for intermediate-level L2 learners since all kinds of writing include some parts of descriptive writing that cause a reader to see, think, feel, and react (Meyers, 2009). At first sight, it seems simple for academic discourse, yet it is "the fundamental and the best way to lay the foundation of the writer's craft" (Meyers, 2009, p. 245). Consequently, the current research aimed to examine the effect of using mobile-based HDA assessment on EFL learners' descriptive writing and evaluate the proposed mobile-based HDA model as a means of assessing their writing.

Literature Review

Mobile-based language learning is regarded as a subset of the burgeoning field of mobile learning which deals with the adoption of mobile tools in language learning (Miangah & Nezarat, 2012). The implementation of mobile-based language learning has gained high popularity in English as a second/foreign language (EFL/ESL) education due to the facilitative role of mobile-based language learning in improving the quality of learning and teaching. Mobile-based language learning allows numerous benefits that can facilitate the process of learning and improve the quality of instruction considerably. Some of the main benefits of mobile-based language learning are portability, internet connectivity, interactivity, multimedia capacities, universality, convenience, and cost-effectiveness (Ally & Samaka, 2016; Torabi & Safdari, 2020). Besides, mobile-based language learning affords a setting to improve the culture of formal participation where teachers and learners can involve in joint endeavors with multiplicative consequences of greater success (Shipee & Keengwee, 2014). These benefits have supported academic institutions and organizations to examine mobile-based language learning as an efficient learning approach to improve learners' language learning. However, a limited set of answers may narrow the feedback afforded to learners as well as the probabilities of labeling problematic aspects in learners'

performance in mobile-based language learning. In this regard, formative or pedagogical DA and mediation may assist to widen the kind of responses given by learners, which may result in more specific and individualized feedback.

Two distinct approaches to mediation have been observed in DA (Lantolf & Poehner, 2004). First, an "interventionist" approach involving a list of immediate feedback or hints provided by the mediator or instructor to learners, in which the level of explicitness diversifies gradually, and the mediator supports a preset scale that operates from most implicit to most explicit. This approach concentrates on a specific aspect of the language and limits the communication to a series of drills that learners have to implement. Second, an "interactionist" approach in which the mediator develops a crucial element to help learners' performance, detecting their problems and formulating answers for each of the problems learners may have during the conversation (Feuerstein et al., 2003). One of the main distinctions between these two conceptualizations is the level of freedom the mediator has to answer to learners, with the "interventionist" being the most confining as materials and prompts are planned to predict the kind of problems learners may encounter (Poehner & Lantolf, 2011). Concerning further perceive these two approaches to DA, the subsequent literature review will be classified into "interventionist" and "interactionist" approaches to DA.

Interventionist approaches to DA have been broadly used to evaluate learners' improvement, namely Kozulin and Garb (2002) who examined a DA of EFL text comprehension in several pre-academic centers in Israel. Throughout the application of a test-teach-test methodology, researchers were able to observe the impacts of mediation on learners' (n = 23) text comprehension. This procedure provided several learning variations in learners' potential following the mediation. Likewise, Darhower (2014) made use of an interventionist approach to examine the past-tense narration within the synchronous computer-mediated interaction of two Spanish learners. This type of assessment was also found to be a positive instrument to clarifying learners' ZPD and further understand learners' potential in the L2. More interventionist approaches to DA such as Poehner and Lantolf's (2013) research examined the use of computerized dynamic assessment (C-DA) to investigate listening and reading comprehension in an L2 online test. Through using a graduated immediate feedback approach for each of the test items, the test not only assembled comment information concerning learners' ZPD but also improved learners' expertise in respect of listening and reading. Alike research making use of a graduated immediate feedback approach, such as Ai's (2017) or Poehner et al.'s (2015) studies, verified these findings. In this latter research, learners concerning performed, apart from the test scores in listening and reading, a mediated

score that showed the immediate feedback approach needed by each learner. The researchers argued that the blending of both scores provided a definite diagnosis of learners' L2 development as well as related information to further teaching and learning.

On the contrary, interactionist approaches to DA like Poehner and Lantolf's (2005) or Ant´on's (2009) studies into oral proficiency concentrated on learner-teacher interaction as well as on the repetition of prior assessments to assess learners' development. Although small sample size was applied in both cases, outcomes in the two investigations highlighted the effectiveness of DA in a safer understanding of learners' strengths and discuss individual requirements. Both research also highlighted the possibility of improving learners' expertise through DA in line with most of the aforementioned interventionist approaches. Moreover, Shrestha and Coffin's (2012) study examined the value of tutor mediation in academic writing. An analysis of the tutor mediation compared with the DA sessions, learner interviews, and a custom studies tutor was assessed. Mediational moves such as simplifying a task, asking to interpret the meaning, or asking to analyze a possible answer among others were used during DA. The investigation of this interaction showed it improved learners' recognize areas where they needed the most support.

Recently, a new model of DA was introduced namely the HDA, and proposed and supported by researchers and scientists (e.g., Sadek, 2015; Roohani & Shafiee Rad, 2019). The suggested HDA approach is rooted in SCT and ZPD (Sadek, 2015; Roohani & Shafiee Rad, 2019). HDA approach integrates aspects of both interactionist and interventionist DA forms. The main interventionist features of the HDA approach is the presence of a measurement segment displayed in grading student improvement. In the study done by Sadek (2015) the HDA structure is explained and was evaluated through utilizing pre-and post-tests, interviews, and observations on six ESL learners' writing. Finally, the results showed improvement in students' writing skills and participants reported their positive evaluation of the HDA model. In another study by Roohani and Shafiee Rad (2019), the effectiveness of HDA was evaluated on 40 EFL learners through pre- and post-test and the HDA questionnaire. The results show significant differences between the HDA and the control group mean scores. Also, most of the students were agreed with this type of assessment but regarded writing skills as difficult yet.

Based on the earlier studies, it is obvious that different model of computerized DA has a positive impact on the development of writing skills of L2 learners. But there is little research to examine the impact of mobile-based HDA on the writing of EFL

learners, especially their descriptive writing. The current study examined the role of mobile-based HDA in the learners' descriptive writing skill development in the Iranian EFL context to find out if the new model of mobile-based DA had any influence on them and how they would evaluate this approach. In light of the above issues, this study sought to address the following research question:

1. Does the implementation of the mobile-based HDA classroom have any significant effect on the performance of EFL learners' descriptive writing?
2. How do the EFL learners perceive the mobile-based HDA as an effective means of teaching/learning writing?

Method

Participants

Thirty Iranian EFL learners, consisting of only females, at a language institute in Shahrekord, participated in this research. They were selected from one proficiency level, namely intermediate. They aged between 19 to 27. All the participants had studied the general English course at the Adult Shafagh Language Institute for at least two years. Their classes were held two sessions a week for 25 sessions, with each session lasting for 1 hour and 30 minutes. Besides, the results obtained from the DIALANG, a free online assessment system to determine learners' proficiency level, were also suggestive of the homogeneity of the participants. In this respect, among the 40 participants, the outcomes showed that 30 were at the B2 level which shows they were at the intermediate level. Because of the rules of the institute, we could not select our sample randomly and, hence, two intact groups were chosen forming one experimental (consisting of 15 intermediate learners in the mobile-based HDA) and one control group (consisting of 15 intermediate learners who received non-mobile-based HDA).

Instruments

The first instrument employed in this study was DIALANG. DIALANG is a free online assessment website designed for adult language learners who want to receive diagnostic information about their ability for three of the four main skills that are reading, listening, and writing. Besides, their two subskills, that is grammar and

vocabulary in various languages. DIALANG has guidance for the learners and tests in all these languages. DIALANG's assessment framework and self-assessment reports are based on the Common European Framework of Reference for Languages (CEFR); therefore, it also provides feedback on the strengths and weaknesses of the learner's proficiency and gives hints about the ways to improve language skills.

Two descriptive essays were administered to both control (traditional format of the test-based approach) and experimental (mobile-based HDA) groups as the pretest and posttest. Two topics, not requiring any special kind of knowledge, were given to the participants of both groups. For the pretest, the participants were asked to write a 60-minute descriptive essay on the topic: "*Describe the house in which you grew up*". And for the posttest, they were asked to write on the topic: "*Describe one of your friends".* The number of words in each essay was about 150-175 words. Cares were taken to make the titles of the essays as similar as possible in terms of the complexity of language, readability, and frequency of words. To assess the quality of the writing performance of the participants in the pretest and posttest, an analytic scoring rubric developed by Wang and Liao (2008), which contains the focus (5 marks), elaboration/support (5 marks), organization (5 marks), convention (5 marks), and vocabulary (5 marks) subskills, were used. To increase the dependability of the data, both pretest and posttest essays were scored by two raters and interrater reliability was calculated. The interrater reliability coefficients were $r = .931$ ($p < 0.01$) for the pretest and $r = .943$ ($p < 0.01$) for the posttest, indicating a strong relationship between the scores awarded by the raters. Also, the intrarater reliability coefficients with a subset of six essays were .92 and .98 for the pretest and posttest, respectively.

A semistructured interview was the other means of data collection of this study. The questions of the semistructured interview were formulated by the researcher/mediator, which was conducted with the participants of the experimental group at the end to examine their perceptions towards the influence of mobile-based HDA on academic descriptive writing skills in an online context. The semistructured interview aims to examine how the learners describe and evaluate their learning experience in more detail so that to further offer to the outcomes of the study. To be assured about the credibility of the participants' responses to the semistructured interview questions, a member checking technique (Creswell, 2003) was administered. To this purpose, for checking the accuracy of the participants' responses, the researcher/mediator explained the information in each question throughout the interview sitting and at the end returned the reproduced interviews to the participants to further

review for its accuracy and make modifications and/or adjustments if needed (see Appendix A).

Data collection and analysis procedures

Research implementation included several steps. At first, two intact classrooms from one proficiency level were selected. To be assured about the homogeneity of the learners, the DIALANG online placement test was administered. The results showed that all the thirty participants were at the intermediate (B2) level according to the CEFR. The participants in the mobile-based HDA were 15 females and the same (15 females) were in the control group. After selecting the participants in the two groups based on the intact classroom, the same teacher trained the participants in both mobile-based HDA and traditional test-based groups, before administering the pretest. The same content also was chosen to be thought by the teacher for the two groups, and the teacher used similar materials for teaching in both groups. Training by the teacher for both groups lasted six weeks and two sessions in each week regarding teaching descriptive writing (see Table 1).

Table 1

General Scheme of Teaching Descriptive Writing

Week	Focus	Session
1	Overview of the Descriptive Writing	2
2	How to Getting Started to Write a Descriptive Essay	2
3	How to Develop the Thesis Statement in Descriptive Writing	2
4	How to Drafting and Revising the Sentences in Developing Descriptive Writing	2
5	How to beginning and ending the paragraphs in Developing Descriptive Writing	2
6	How to Write Effective Sentences in Developing Descriptive Essay	2

There were two weeks between the last sessions of teaching descriptive writing skills to the control and experimental group and the pretest essay administration. The learners in the control group did not receive any treatment between these two weeks, and they should study in their homes by themselves. But, in the experimental group, the learners were responsible to write a piece of composition on the topics close to their interests in the home as a piece of writing task and sharing them with the mediator by Edmodo App every night. The topic of each piece of writing was close to the learners'

interests (their favorite sports, birthday planning, daily activities, etc.) to motivate them to write and express their thoughts. After teacher (mediator) received the learners' composition through the Edmodo App, she has to provide learners problem through hinting, asking the question, clarification, giving feedback.

Practical considerations involved requesting learners' mobile-phone number; creating an Edmodo App registration and adding them to the class; guaranteeing all learners had a smartphone with 3G connectivity and a data plan; minimizing privacy threats (Boyd & Ellison, 2007) by coding learners' names in the application and introducing common topics that did not include participants' details; and scheduling a one-hour lesson in the experimental group to explain the activity and how to use the Edmodo App in case any error was made.

As earlier discussed, pre- and post-tests were used to answer the research question regarding the impact of the mobile-based HDA on the improvement of 30 EFL learners' descriptive writing in Iran. The pre- and post-tests included two main components: (1) a non-dynamic essay test component given to the 15 participants in the control group and (2) a mobile-based HDA component in the form of a mediation session between the mediator and the participants in the experimental group both before, after, and also during the administration of the pretest through Edmodo App. During the administration of the pretest, the learners were allowed to ask for a face-to-face mediation to get comments and feedback from the mediator to complete their essay. Besides, the participants in the experimental group were informed about the mistakes in the pretest after the administration of the pretest and received a remedy on the weak points through the Edmodo App. The mediator provided the learners in the experimental group with correction, explanation, hinting, questions, non-verbal cues, and translation. The experimental group received the mobile-based HDA instruction for four weeks, in addition to pre- and post-test. During the treatment, they had to write a descriptive essay every night and send it to the mediator in an Edmodo App to improve their writing. The mediator had to read the participants' emails one by one and explained to them the areas of difficulty and mistakes made by each of the participants. During the instruction, the teacher (mediator) observed the participants and helped them correct their mistakes by hinting, and asking the question. After the instruction, all the participants in both the experimental and control group were asked to write a timed-essay descriptive essay (*Describe the house in which you grew up)*.

The participants in the control group were assessed just in the traditional standardized method. Traditional assessment scales were limited independence of motor responsiveness and therefore were of limited or no application to patients receiving

paralytics or those requiring very high doses of anxiolytics. They did not receive mediation or dynamic assessment. There were also four weeks between the pretest and posttest for both control and experimental groups. In the four weeks, the learners in the control group had to write a descriptive essay every week, and the teacher scores them and reports the results. As the teacher of the control group asserted learners were not much interested in writing class as they are in other skills. In these four weeks, the participants in the experimental group had to write an essay every other day and just like before the pretest share with the mediator through the Edmodo App and get feedback and help.

After the four weeks, the posttest was administered by inviting them to write another descriptive timed-essay (*"Describe one of your friends"*) both for the experimental and control group. Like the pretest, the posttest was also administered through dynamic and non-dynamic assessment. The control group had merely received the non-dynamic assessment. But the experimental group received a mobile-based HDA. That is, they received feedback and mediation through the pre- and post-test and also negotiation with a mediator before, between, and after the pretest. The mediator had observed the testing sheet in the posttest, too, and offered them help in their errors in the experimental group through the Edmodo App (see Table 2 for the procedure of the control and experimental groups of the study).

Table 2.

The Procedure of the Two Groups of the Study

Group	Types of Testing	Mobile Tool	Material for Testing	Testing Method		
				Before Test	*During Test*	*After Test*
				None		
Control Group	Non-Mobile-mediated HDA	None	Paper and pencil with a teacher as a proctor during in-class test administration.		60-minute to write a descriptive essay based on what they learn before and without any help.	Informing the scores to the learners.

Exp. Group	Mobile-mediated HDA	Edmodo App	Before and after test learning, mediation was made available through the mobile-based application, Edmodo app. But during the test mediation was available through face-to-face and paper and pencil.	Preparing a piece of composition and share it with the teacher (mediator) and receive feedback about the weaknesses or strengths of it.	60-minute to write a piece of descriptive essay and solve her problems through face-to-face contact with the mediator.	Informing the scores to the learners and giving feedback about the weaknesses and strengths of the learners.

To increase the dependability of the data, both pretest and posttest timed-essays were graded by two raters and interrater reliability was computed. The interrater reliability indices for the pretest and posttest were found to be .98 and .99 respectively. Finally, the pretest-posttest scores were compared to address the first research questions for the study. Given the pretest and posttest design of the study, Mann-Whitney Test was used as a statistical tool for data analysis (to answer the first question of the study) because the number of learners was < 20. Besides, to answer the fourth research question, descriptive statistics and coding through Nvivo10 software were used.

Results

The first research question of the present study regarding does the employment of mobile-based HDA in EFL classes be effective in terms of improving intermediate EFL learners' descriptive writing skill was answered through the obtaining of scores from the control and experimental groups essay administration before and after the intervention. To investigate this research question, the researcher compared the pretest and posttest scores of the mobile-based HDA and the traditional standardized testing group. Moreover, the pretest and posttest scores obtained from each group were compared. The results are presented in the following table (see Table 3).

Table 3

Descriptive Statistics of Control and Mobile-mediated HDA Groups in the Pretest and Posttest Essays

Group		N	Mean	Std.	Min	Max	Percentiles		
							25th	50th (Median)	75th
Control group	Pretest	15	13.00	2.67	8	18	11.00	13.00	15.00
	Posttest	15	14.00	2.90	8	20	12.00	14.00	15.00
Mobile-mediated HDA	Pretest	15	12.73	2.37	8	17	11.00	12.00	15.00
	Posttest	15	19.20	3.09	14	24	17.00	19.00	22.00

According to Table 3, regarding the participants' pretest writing scores, the mean scores were roughly the same, i.e., 13.00 and 12.73 for the control and mobile-mediated HDA groups, respectively. This initial similarity was reassuring in the sense that both groups were homogeneous in terms of prior expository writing knowledge. However, regarding the groups' posttest writing scores, the difference between their mean scores looked rather large (14.00 and 19.20 for the control and the mobile-mediated HDA groups respectively), which was submitted to further statistical analysis. Then, in Table 4, the Mann-Whitney Rank Test was calculated to found that if the differences exist between the two groups' posttest scores or not.

Table 4

The Mann-Whitney Rank Test of the Mobile-mediated HDA and Control Group in the Pretest and Posttest Essays

Group		N	Mean Rank	Sum of Ranks
Pretest	Control Group	15	16.10	241.50
	Mobile-mediated HDA Group	15	14.90	223.50
Posttest	Control Group	15	9.63	144.50
	Mobile-mediated HDA Group	15	21.37	320.50

As Table 4 shows, the Mean Rank of the control and mobile-mediated HDA groups were nearly the same in the pretest (MR of the control group is 16.10, and the MR of the mobile-mediated HDA group is 14.90). In the posttest, the Mean Rank is different (for the control group MR = 9.63, and the mobile-mediated HDA group MR = 21.37) and this means further statistical analysis is needed. Then, Table 5 shows the test statistics of the Mann-Whitney Test was calculated to discover significant differences between the control and the mobile-mediated HDA groups.

Table 5

The Mann-Whitney Test of Significance between the Mobile-mediated HDA and the Control Group

	Pretest	Posttest
Mann-Whitney U	103.50	24.50
Wilcoxon W	223.50	144.50
Z	-.37	-3.66
Asymp. Sig. (2-tailed)	.706	.000
Exact Sig. [2*(1-tailed Sig.)]	.713(a)	.000(a)

In Table 5, the pretest (U = 103.50, and *P* = .706) indicates the samples in the control and mobile-mediated HDA group were homogeneous and there is no significance between the descriptive writing of the learners in the two groups before the treatment and the pretest score. But, the results of the posttest (U = 24.50, and *P* = .000) indicate the significant differences between the mobile-mediated HDA and the control group. It can be concluded that the treatment is significant and the mobile-mediated

HDA models improve the descriptive writing of the EFL learners more than the traditional standardized testing.

Furthermore, considering the quantitative part of the research regarding the second question regarding the perception of participants in the mobile-mediated HDA about this kind of teaching, themes, and subthemes developed from the semistructured interviews, together with their descriptions, are summarized in Table 6.

Table 6

Themes and Sub-Themes Developed from the Semi-Structured Interview

Codes	Description	Sub-codes	Description
Mediator-to-learner interaction	This code presents a report from the learners in mobile-mediated HDA about how their teacher provided them with guidance through the Edmodo App.	Self-confidence	This sub-code regards the participants' impressions on how when they communicate via the Edmodo App they feel more confident than face-to-face communication.
		Face-saving	In this sub-code, the learners from mobile-mediated HDA presented their beliefs on the level of their face-saving by digital communication and not directly seeing the teacher and talking about their problems during learning.
		Stress-free	In this sub-code, the teacher's mediations through the Edmodo App made the learners be stress-free regarded when in the face-to-face mediation the learners

			have more stress because of the presence of the classmate.
Time-saving approach	In this code, the focus is on the process in which the learners perceived the mobile-mediated HDA as a time-saving method. It involves the kind of assistance afforded by the Edmodo App and saves their time in not attending face-to-face classes to get feedback and help from the mediator.	Availability of the mediator	This sub-code holds the availability of the mediator through the Edmodo App who can help and encourage them in finishing an activity and solving their problems.
		Effectiveness of online feedback	This sub-code involves a report of individual agreement with the effectiveness of the mediation through the digital app more than the face-to-face help because of the availability of feedback everywhere and every time.

The analysis of the gathered data based on the learners' interviews indicated that the learners described their evaluative experiences about the instructions in different ways, categorized into 2 themes: (1) mediator-to-learner interaction and (2) time-saving method of testing. In the mobile-mediated HDA, the learners showed positive opinions towards their mediator, especially in giving them feedback, answering their questions, and encouraging their self-confidence through the Edmodo App, and allowing them to talk about their problems without any stress or shame (self-confidence). As regards the theme of mediator-to-learner interaction, the learners further described how their practice through the Edmodo App helped them develop their understanding and saving their faces in the class. Most of them report that face-to-face mediation in a class with

the presence of other classmates maybe make them not talk about their problems regarding writing (face-saving). Besides, the learners' reported about the time-saving of mobile-mediated HDA approach (time-saving approach) during the interview. Reportedly, the availability of the mediator and encouragement to learn better and have a friendly relationship with their classmates every time and everywhere were seen (availability of the mediator). Just as an example, one learner reported in the interview, "My favorite part of this experience was being able to cooperate with my and learn with the mediator at any time I want." About 75% of participating learners reported that they had good interactions with the teacher through the Edmodo App. Moreover, there were many instances of agreement with the effectiveness of the online feedback approach of learning from the mediator, especially with the Edmodo App (the theme of the effectiveness of online feedback).

Discussion

The necessity to provide learners with a more precise evaluation of their ZPD has been one of the most obvious goals in the DA literature reviews (e.g. Ant´on, 2009; Poehner et al., 2015). Moreover, a very prevalent finding, aside from a precise diagnosis of learners' ZPD, has been the pedagogical potential of the aforementioned type of assessment. Maintaining this last perspective, the outcomes achieved in this study have provided further understanding of the pedagogical value of formative or pedagogical besides an interactional DA (hybrid dynamic assessment). Learners increased the number of immediate feedbacks needed overtime and needed more explicit immediate feedback in line with previous DA studies (e.g. Aljaafreh & Lantolf, 1994; Yang & Qian, 2017), which proposed an increase in their linguistic competence as well as in the level of reflection on the language used as an outcome of mediation procedures in the platform. The findings also indicated that the potential of a mediator–learner as well as a learner-learner interaction to promote L2 improvement already highlighted in earlier research (e.g. Andujar, 2016; Andujar & Salaberri-Ramiro, 2019; Andújar-Vaca & Cruz-Martínez, 2017; Bueno-Alastuey, 2013; Jepson, 2005) may also be employed to DA approaches. The conversation was not limited to a particular number of grammatical structures or forms, which was found to be one of the main challenges of interventionist approaches (McNeil, 2018), giving learners the possibility to experiment with the new genre of the language they may not have applied in a classroom environment.

Since this approach to HDA is original to this investigation, results cannot be directly contrasted with similar literature review in the field. Nevertheless, earlier research into DA making use of a graduated immediate feedback approach such as Poehner and Lantolf's (2013), Poehner et al.'s (2015), or Ai's (2017) also highlighted the opportunities of DA to shed light on learners' weaknesses and strengths in the L2/EFL context. Further agents such as the asynchronous and seldom synchronous character of computer-assisted language learning also became requisite to properly promote the pedagogical DA. As exposed to investigations examining computerized DA in which automatic answers were given to predetermined linguistic reminders through the use of an inventory of immediate feedback (e.g. Poehner et al., 2015; Teo, 2012), or where learners could select among the mediation immediate feedback in the computer program (e.g. Yang & Qian, 2019), the asynchronous characteristics of mobile-mediated HDA allowed the teacher to observe and examine the essays, and afford appropriate answers to participants in the interaction ensuring the quality of the feedback. At the same time, the chance of answering directly to each of the learners within the group simplified the progress of this type of HDA.

Conclusion and Implication

During this study, mobile-mediated HDA applications were employed to put into practice a pedagogical HDA assessment to foster learners' language proficiency in the L2. The use of mobile-mediated HDA attempted to maximize the benefits of the DA type of assessment using the inherent features of mobile devices and limiting the drawbacks found in earlier research on HDA. Challenges such as the necessity to avoid predetermined linguistic features to afford more individualized learning common to interventionist approaches, or the difficulty of representing the results of DA regarded to interactionist approaches, were succeeded through mobile-mediated HDA. In line with earlier investigations (e.g., Abdolrezapour, 2017; Poehner et al., 2015; Roohani & Shafiee Rad, 2019), HDA provided the possibility of exploring learners' ZPD in the experimental group and replaced the paradigm of traditional test-based assessment that, although it was also used in both groups, presented a restricted picture of learners' language abilities. To address this problem, learners' ZPD offered a more detailed evaluation of descriptive writing potential in the experimental group.

Results showed that by the end of the interaction, learners needed less implicit feedback to understand their writing errors within the Edmodo App, showing that

learners were able to comprehend faster a particular language error and compose a more target-like form. Nonetheless, this research did not measure the exact learner uptake aside from the grammar and vocabulary test, thus conclusions can only be drawn concerning the type of feedback applied in the scale for intervention and its progress throughout the experiment. Researchers into DA, such as Aljaafreh and Lantolf (1994) and Lantolf and Poehner (2011), understand learners' progress as not only concentrating on a proper performance but also highlighting self-regulation and control over that achievement. If feedback is afforded in a particular way, whether implicitly or explicitly, learners are satisfied equally regardless of their level of control over a particular language feature. Thus, it would be difficult to discover how much supervision a learner is obtaining over her or his performance and, consequently, to what extent the process of language development remains hidden or restrained (Lantolf & Poehner, 2011). In this regard, the tendency towards implicit feedback may show that learners gained control over their language production.

Nevertheless, limitations such as learners becoming more mindful of their mistakes in the interaction as they got used to the teacher's immediate feedback may have an impact on the number of implicit immediate feedback in this investigation. Despite whether the teacher had to negotiate in the conversation when necessary, the active participation of the mediator even when the intervention was not needed as well as open-ended conversation formulated an environment that supported dialogic mediation. In this approach, mobile-mediated HDA developed in-class time and converted it into an individualized source of L2 input and feedback. Notwithstanding, practical suggestions such as the time investment of the teacher who had to implement continuous feedback may not be possible in many instructional settings; thus additional research into mobile-based HDA may involve peer feedback or native speaker tutors that could help decrease teacher workload.

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Appendix A

Semistructured Interview Questions

1. What differences did you observe between the earlier types of assessment and the current method? Which one would you prefer? Why?
2. To what extent did the teacher interaction/ mediation during the assessment help you improve your descriptive writing skills ?
3. Which style of interaction do you like to work on your writing (e.g., Edmodo App, face-to-face chat, etc.)? Why?
4. What is your overall view of the new assessment method?
5. Do you have any other comments or suggestions?