



Research Paper**Investigating Learner Reciprocity in Online Dynamic Assessment of Oral Fluency: A Case Study**Saman Ebadi¹ , Yones Ebrahimzadeh² ¹Associate Professor of Applied Linguistics, Faculty of Humanities, Razi University, Kermanshah, Iran. samanebadi@gmail.com²MA in applied linguistics Razi University, Kermanshah, Iran. Email: yones.ebrahimzadeh@yahoo.com**Abstract**

This case study examined the oral fluency development responses of four adult EFL learners to delayed mediation in online dynamic assessment (DA). To gain insight into the developmental processes of learners, four Iranian EFL learners who obtained IELTS speaking band descriptor scores ranging from 3.5 to 4.5 in fluency were recruited via convenience and purposive sampling. They participated in six one-on-one DA sessions in synchronous computer-mediated communication followed by a Transcendence (TR) session. Microgenetic analysis was used as the general framework to generate reciprocity typology of the primary linguistic repertoires that caused disfluencies. The results showed that “vocabulary” and “grammar” were the primary linguistic repertoires providing comprehensive reciprocity typologies. The reciprocity typology that emerged from the interactions revealed how learners responded to mediation on oral fluency. Also, the microgenetic analysis of learner reciprocity showed that apart from the overall decrease in the quantity of reciprocity moves due to the intervention, the learners became more responsive and made more explicit reciprocating moves. This study provides an in-depth example of learner reciprocity to delayed mediation in an interactionist model of DA on the development of oral fluency. The findings are discussed in the light of the recent literature.

Keywords:

Dynamic Assessment (DA), learner reciprocity, delayed mediation, oral fluency

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Introduction

Second language (L2) speaking development, which, despite its importance, had been neglected over a long time (Lowie & Verspoor, 2022), has received considerable attention in the recent decade (Ellis, 2017; Hanzawa, 2021; Robinson, 2015; Tavakoli et al., 2016). Oral proficiency is the crucial element of L2 learning, and L2 learners may consider speaking equal to success in language learning (Richards, 2008), primarily oral fluency, which is often regarded as the ultimate personal dream (Tavakoli & Wright, 2020). Although mastering L2 speaking skills is frequently regarded as the L2 learners' ultimate goal that they try to attain (De Jong & Perfetti, 2011; Kormos & Denes, 2004), L2 learners may fail to develop their speaking skills, which, in turn, causes paramount concerns among teachers for effective instruction (Goh & Burns, 2012). On the other hand, effective instruction is technically impossible without assessment, and in the same vein, any practical assessment comes with instruction (Vygotsky et al., 1997). Therefore, the role of assessment becomes highly significant in developing L2 learners speaking skills.

Grounding in Vygotsky's Sociocultural Theory (SCT), Dynamic Assessment (DA) integrates instruction and assessment. It creates a cohesive, development-oriented activity (Poehner & Lantolf, 2010) to advance learner development through mediation (Anton, 2018). Through appropriate types of mediation sensitive to learners' Zone of Proximal Development (ZPD), DA helps individuals stretch beyond their current level of functioning (Lantolf & Poehner, 2004). To that end, the mediator and learner must engage in a cooperative activity to interact within the learner's ZPD (Lantolf & Poehner, 2014). Feuerstein, Feuerstein, and Falik (2010) explained that the quality of such interaction is pivotal for development as this kind of interaction allows the mediator to mediate learners' relation to the world. Therefore, much research has been carried out to study mediation offered by mediators (e.g., Darhower, 2014; Ebadi & Asakereh, 2017; Poehner, 2005). However, this cooperative activity has two sides, and learners' contributions should not be ignored. To this aim, Lidz (1991) emphasized learners' contribution to interaction and responsiveness to mediation and invented the term Learner Reciprocity. Learner reciprocity gained popularity and became crucial to development as changes in reciprocity indicate learner development (Poehner, 2008). Poehner also argued that learner reciprocity allows researchers to gain an in-depth insight into the development process. Shrestha (2020) mentioned that tracking changes in learner reciprocity in DA is necessary for developmental purposes. Despite the importance of learner reciprocity and the call for equal attention between learner reciprocity and mediating techniques and principles by Aalsvoort and Lidz (2002), reciprocity has yet to receive as much attention as mediating techniques and disciplines, especially regarding oral fluency.

Despite the importance of learner reciprocity, there remains a lack of evidence on exploring the moves made by learners when they receive assistance with their problems.

In addition, none of the previous studies dealt with oral fluency, so this study aims to fill in the current gap and provide us with a more complete picture of learners. To this aim, this research seeks to address the following question:

- What do learners' reciprocity patterns on oral fluency problems reveal about their microgenetic development?

Literature review

Following Vygotsky's (1998) insight that learners' independent performance only shows a negligible part of the development and does not show a complete picture, DA distinguishes itself from conventional assessment and attempts to reveal the ripened abilities and promote development (Poehner, 2018). DA is theoretically based on the notion of ZPD, which enables DA to assess cognitive development. Vygotsky (1978, p. 86) defined ZPD as "the distance between the actual developmental level determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers." These forms of assistance and collaboration in DA are called mediation, which is central to ZPD. Poehner (2018) adds that these forms of mediation are vital to regulating our thinking and problem-solving. As a result of mediation, individuals can move from the other-regulation stage and gain the capacity to self-regulate (Aljaafreh & Lantolf, 1994).

In DA, there are different approaches to constructing ZPD with learners. Lantolf and Poehner (2004) invented the terms interventionist and interactionist to refer to the major approaches to mediation. While the former follows a procedure of standardization and generalizability of the results, the latter allows for flexible and cooperative interaction (Poehner, 2008). In interactionist DA, mediation emerges from the interaction between the mediator and the learner (Poehner, 2008b). During this interaction, both the mediator and the learner make moves, contribute to the interaction, and help the learner promote development and move toward self-regulation. While the quality of mediation is essential, learners' responsiveness to it and how it changes over time indicates development (Poehner, 2008). Van Der Aalsvoort and Lidz (2002) and Poehner (2005) were among the first studies that developed inventories for learner reciprocity to understand development.

Building on the work of Van Der Aalsvoort and Lidz (2002), Poehner (2005) emphasized the learner's responsiveness to mediation. He explored learner reciprocity in the development of using perfect-imperfect aspects of grammar in oral narratives in L2 French. In his study, as shown in Figure 1, learner reciprocity moves were categorized.

Figure 1

Learner Reciprocity Typology

- | |
|---|
| <ol style="list-style-type: none"> 1. Unresponsive 2. Repeats mediator 3. Responds incorrectly 4. Requests additional assistance 5. Incorporates feedback 6. Overcomes problem 7. Offers explanation 8. Uses mediator as a resource 9. Rejects mediator's assistance |
|---|

In another study, Ableeva (2010) explored the effectiveness of DA in developing L2 listening ability among seven L2 French university students. The study followed the pretest, enrichment, and posttest structure. Ableeva found that learners’ development involves both progression and regression, and it is not a linear process. Vygotsky (1997) argued that revolutionary changes, backslidings, and regressions are part of development. Ableeva

categorized learners’ progressive and regressive moves, as shown in Figure 2. The findings of this study showed that learner reciprocity can be used to track the development of listening abilities within the ZPD.

Figure 2

Learner regressive and progressive responsive moves within the ZPD

Regressive Moves	Progressive Moves
1. Unresponsiveness	1. Responsive
2. Provides negative response	2. Provide a positive response
3. Makes a wrong choice	3. Makes a correct choice
4. Does not decipher a pattern or a word	4. Decipher a pattern or a word correctly
5. Does not overcome the problem	5. Overcomes problem

DA and Oral Fluency

To achieve greater fluency, learners must have automatized access to a more extensive repertoire of grammatical and vocabulary knowledge, which can be developed through practice (Kormos, 2006). Lack of automaticity or ability to deliver the intended meaning may result in disfluency through slower speech, breakdown or repair, filled and silent pausing, repetition, or reformulation (Skehan, 2003; Tavakoli, 2011). Some research findings indicated that learners may face difficulties when they want to formulate their utterances accurately, particularly in dialogic interaction (e.g., Wright, 2013). Although some started to assume that fluency operates in contrast to accuracy (e.g., Brumfit, 1984), it has been found that accuracy should be considered within both syntactic and lexical domains. This way, it would be categorized as linguistic knowledge, which fluency interacts with (Segalowitz, 2003). Also, it has been found that producing more complex and longer stretches of speech correlates with fluency (Skehan, 2003). Furthermore, the frequency (de Jong et al., 2015; de Jong, 2016) and the use of chunks, formulaic sequences, or multiword expressions (Wray, 2002; Tavakoli & Uchihara, 2020) can impact fluency, and the use of formulaic sequences promotes fluency (Tavakoli, 2011). Overall, accuracy, lexis, and complexity are highly significant to fluency.

Several studies have indicated that DA is a constructive approach to fostering L2 development, including L2 speaking. In one of the most extensive research projects in the field, Poehner (2005) thoroughly investigated the use of verbal aspects of six advanced French learners while they were narrating scenes from movies. After recognizing the learners' most common problems in the pretest, he ran a six-week enrichment program, adjusted to the learners' ZPD to tackle their problems. In the end, Poehner reported a significant increase in the learners' control over the verbal aspect of their speech in French. The study's findings revealed that the participants reached a stage where they could self-regulate their oral performance and transfer their knowledge in DA sessions to more demanding tasks.

In a recent study similar to the current study, Ebadi and Asakereh (2017) investigated advanced and beginner L2 learners to see if DA can develop their speaking skills. They used six pictures to elicit spoken language for DA and non-DA sessions. The study's results revealed that DA helped the participants make fewer mistakes and enhance their responsiveness to mediation. In sum, they reached self-regulation and were satisfied with the DA process, as reported in the final interview.

Unlike the studies above, which did not consider speaking fluency, Safdari and Fathi (2020) investigated the role of DA on both speaking accuracy and fluency, though,

unlike the studies mentioned above, through interventionist DA. They selected 62 learners for their study and ran an eight-session program where they held DA and non-DA sessions for two groups. The study's findings demonstrated that the DA group could significantly improve their speaking accuracy while there was no significant improvement in their fluency. Furthermore, the semi-structured interview results indicated that the participants had a positive perception of DA in improving their speaking accuracy but not fluency because the mediator offered mediation immediately and interrupted learners' speech, which affected their fluency negatively. Moreover, the results of this study are somehow unclear as it does not show any form of mediation regarding speaking fluency. To clarify, it is worth mentioning that because of the vague nature of fluency to many teachers and researchers, there has not been any comprehensive study investigating speaking fluency through DA. Even Safdari and Fathi (2020) have not provided any further details regarding mediation on speaking fluency, while they have reported relevant information regarding speaking accuracy. However, this might be because accuracy-based spoken work ultimately leads to greater fluency, developing simultaneously (Ellis & Shintani, 2013).

Methodology

Design

DA studies have traditionally utilized a case study design to explore the nature and the development of learners' responsiveness to mediation (e.g., Ableeva, 2010; Ebadi, 2016; Poehner, 2005). A case study approach allowed more profound insight into the interactions between the mediator and learners and tracked learners' microgenetic development across the sessions. This is in line with Duff (2014), who identified the same as the goal of a case study. Moreover, Duff (2014) mentioned that most qualitative studies in applied linguistics focus on how learners' performances are mediated, performed, and understood, which is supported by the backbone of this study, the SCT.

Participants

The free speaking course and research study were announced via Instagram, and 19 volunteers declared readiness to participate. Initially, all of them were given a non-DA IELTS speaking sample test, and seven learners who scored between 3.5 and 4.5 in oral fluency were invited to an interview. The final four participants were selected based on their fluency band score, availability, and willingness to participate. The backgrounds and English profiles of the cases have been described in the following sections.

Maryam (pseudonym) was a 47-year-old housewife who got her bachelor's degree in Theoretical Finance when she was 23 and pursued a master's degree in Teaching English as a Foreign Language in her forties. Apart from school, she began learning

English after she got her bachelor's degree and studied the East-West English book series for two years. She mentioned that she stopped taking the class because she disliked her teacher. She continued learning English when she was 38 and completed American English File. Then, she took part in a TOEFL preparation course but lost interest after a few sessions. She has been self-studying English since then. Maryam mentioned that external factors such as migration and travel motivate her to develop her speaking skills.

Setareh (pseudonym) was a 35-year-old accountant with a master's degree in Computer Science. She started learning English when she was 31. She has continuously taken and dropped English courses in different language institutes because she lost her motivation shortly after a while. She suggested that speaking is the most critical aspect of learning English, and fluency greatly matters because she wants to move abroad for work. Also, she believed that using various words during speech is the most challenging aspect of speaking.

Sana (pseudonym) was a 31-year-old accountant with an undergraduate English translation degree. She pursued her master's degree in Watershed Management. She passed Top Notch courses when she was 27. She loved teaching English and aimed for an undergraduate degree in English Translation. She also took an introductory IELTS course but did not continue the course because of the COVID-19 breakout. She was interested in studying abroad and mentioned that it motivates her significantly. Regarding the significance of different language skills, she prioritizes speaking, mainly speaking fluency. She believes the most difficult to achieve is becoming fluent and coherent in speaking.

Melika (pseudonym) was a 22-year-old junior Teaching English as a Foreign Language student. She has the experience of taking a private English course for six months. Although listening was the most critical skill to her, speaking was still of great significance to her. Also, she believed grammar is the most complicated part of speaking and causes disfluency.

The mediator was one of the researchers, who had been teaching English as a tutor for four years and was doing his master's thesis at the time of the study. He demonstrates a good command of English, and he speaks English fluently. Although he has never formally applied DA to his classes, he is enthusiastic about using DA to improve speaking skills, particularly fluency. He has also been teaching English through SCMC environments since the beginning of the COVID-19 breakout. Therefore, he had a positive attitude toward online teaching and demonstrated excellent abilities.

The researcher explained that his study involved tutoring learners one-on-one on a video-based SCMC platform. All the selected participants were informed that their participation in this study was not compulsory and that they could withdraw from the study at any stage. They were also informed that all the sessions were audio-recorded. They permitted the researchers to use the transcripts of the audio files in academic studies. Moreover, pseudonyms were used instead of their real names to ensure confidentiality.

Speaking Tasks

The primary purpose of speaking tasks is to provide learners with opportunities to speak to achieve greater fluency (Goh & Burns, 2012). Therefore, five IELTS speaking sample tests were employed for six DA sessions. It should be mentioned that this study utilized a different procedure than most DA studies (e.g., Ebadi & Asakereh, 2017; Safdari & Fathi, 2020) and implemented a delayed mediation procedure on participants' replies rather than immediate mediation. This way, the immediate responses to the tasks in each session can be considered non-DA speaking tests because they received no form of mediation while responding to tasks.

“Sports” and “Relatives” topics were employed for the pretest and posttest of this study. In the first part of the exam, the participants replied to some personal questions about sports. Then, in the second part, they had to describe a relative they were like. In this part, they had one minute to prepare to perform a two-minute monologue. Finally, they discussed topics related to “Relatives” and responded to some critical questions on “the importance of family,” “spending time with relatives,” and “the changing family.” All the questions were abstract; there was no clue or visual aid, which made the tests challenging, especially the monologue, as they had to speak non-stop to reply to all the questions under time pressure. The study lasted for two months. During this course, the participants attended six one-on-one DA sessions where their linguistic problems regarding speaking fluency were identified and developed through interactionist DA.

Moreover, one more session was held as the transcendence session to ensure the internalization of learning. Unlike the DA sessions, the participants responded to novel speaking tasks in the transcendence session. They took the CELPIP speaking sample test on the www.celpip.ca website. CELPIP, or the Canadian English Language Proficiency Index Program, is a general English language proficiency test. The CELPIP speaking test includes nine speaking tasks where the candidates need to talk to a computer rather than an examiner. Candidates are given a specific amount of time, shown on the screen, to do each task; then, they should perform a monologue until their time is up. Not only were the tasks in the transcendence session novel to the participants, but they were also more challenging. First, participants had to perform a monologue for all the questions, making the test harder than dialogic speaking tests regarding speaking fluency (Michel, 2011; Tavakoli, 2016; Witton-Davies, 2014). Also, familiarity with the interlocutor affects candidates' fluency positively. At the same time, there was no interlocutor in this test, and the participants had to talk to a computer, making it difficult to speak fluently (Lazaraton, 1996; Nakatsuhara, 2011).

Procedure

To begin this study, one of the researchers announced the need for participants for a study, and 19 volunteers declared readiness to participate. Then, they were invited to take a non-DA IELTS speaking sample test to assess their speaking performance in terms of fluency. At the end of the exam, they were asked for further information regarding their English learning background and preferences. Four people from the initial sample were chosen for the study. Before the study, the participants received an explanation of the project, and ethical clearance was obtained from them. They were also informed that their participation in the study was not compulsory and that they could withdraw from the study at any stage.

Once the participants were recruited, the mediator started the DA sessions. In each DA session, the participants took an IELTS sample speaking test. As the audio recording app allowed the mediator to use delayed mediation in this study, the participants were offered mediation after responding to the questions. However, they did not receive mediation all at once. Instead, they first responded to part 1 tasks and received mediation afterward. Then, the mediator asked part 2 and 3 questions, followed by the mediation process. In such a manner, they took a non-DA test, DA test, and TR altogether in one session. Parts 2 and 3 include different speaking tasks and are more challenging, so they can be considered TR tasks. Following Safdari and Fathi's study (2020), which revealed that learners do not perceive mediation as a helpful tool for improving fluency because of interrupting learners' speech, this study adopted delayed mediation to allow learners to continue speaking.

After 5 DA sessions, the speaking tasks adopted in the first session were used as the posttest of the study to ensure that the DA sessions impacted the participants' speaking fluency. A week after the posttest, the participants underwent the transcendence session to respond to more challenging and novel tasks. As explained previously, the participants took the CELPIP speaking sample test in the transcendence session, which was new to them. Each session in this study took 50-60 minutes, giving the mediator a complete picture of the participant's ZAD and ZPD.

Data Analysis

All the interactions between the participants and the mediator were audio recorded, and the relevant parts were transcribed. Only the parts where self-regulation happened were extracted to facilitate the analysis process. This process is referred to as Language-Related Episode (LRE). Swain (2001) defines LRE as "any part of a dialogue where students talk about the language they are producing, question their language use, or other- or self-correct their language production" (p. 287).

All the transcribed interactions were analyzed using the microgenetic method. The traditional methods show the product of change rather than the process (Lavelli et al.,

2005), while DA focuses on the process rather than the product (Ebadi, 2016). Therefore, microgenetic analysis is one of the few methods that could be used to analyze the moment-by-moment changes, indicating the learning process. As Chinn and Sherin (2014) stated, microgenetic methods aim to elucidate the learning process as it occurs. In that study, they mentioned that many other methods cannot achieve this goal. According to what has been said, learners' reciprocity and their movement from other-regulation toward self-regulation were analyzed based on microgenetic analysis. It is worth mentioning that although the mediator offered mediation on all the disfluencies in speaking and helped the learners move toward self-regulation regarding speaking fluency, only the top linguistic factors allowed the researchers to develop a comprehensive reciprocity pattern. Therefore, the linguistic repertoires that affected fluency were identified at the outset of data analysis. Then, the researchers analyzed those which were rich in data in detail.

Being responsive to mediation, either correctly or incorrectly, is significant as it indicates development (Ableeva, 2018). Mediators can assess their learners' potential level of development by analyzing their responses to mediation (Rassaei, 2021), and according to Leung (2007), this responsiveness indicates their future development.

Learners' developmental process was explored based on their movement toward self-regulation. Learners move from other regulation, where their performance is mainly controlled by the mediator, toward self-regulation, where they show control over their performance (Lantolf & Poehner, 2011). Learner reciprocity determined this transition from intermental to intramental functioning to achieve self-regulation (Aljaafreh & Lantolf, 1994).

Results

The Linguistic Repertoires Causing Disfluencies

To develop reciprocity typologies for the development of speech fluency, it was necessary to identify the primary linguistic repertoires that caused disfluencies throughout the course. To this aim, the mediator utilized perceived fluency to identify disfluencies in learners' speech. The results of perceived fluency are consistent with the measurement of temporal features (Préfontaine, 2010). Furthermore, during the dialogic interaction, the mediator asked learners to mention the source of their disfluencies to ensure that he had perceived the cause of each disfluency correctly. It is also worth mentioning that the mediator only offered mediation on disfluencies, and the errors and mistakes that did not interrupt the fluidity of speech were neglected.

As shown in Table 1, lexical and grammatical problems are the primary causes of disfluencies among the participants. Therefore, reciprocity typologies were only developed for these two subskills. It is also worth mentioning that other causes

(pronunciation and comprehension) did not allow the researchers to develop a separate and comprehensive typology.

Table 1

Classification and Frequency of Linguistic Repertoires Caused Disfluencies

Linguistic Repertoires	Participants	DA1	DA2	DA3	DA4	DA5	DA6	TR	Total
Vocabulary	Maryam	5	7	4	3	4	2	4	29
	Melika	3	5	7	4	7	1	4	33
	Sana	11	10	6	5	4	5	4	45
	Setareh	3	6	4	2	2	7	1	25
Grammar	Maryam	3	4	2	3	3	2	2	19
	Melika	9	7	2	3	3	7	3	34
	Sana	3	2	2	8	0	2	4	19
	Setareh	2	7	5	2	2	2	2	22
Pronunciation	Maryam	0	0	0	1	1	0	1	3
	Melika	0	0	0	0	0	0	0	0
	Sana	0	1	0	0	0	0	0	1
	Setareh	0	1	0	1	1	0	0	3
Comprehension	Maryam	0	0	0	0	0	0	0	0
	Melika	0	0	0	0	1	0	3	4
	Sana	0	0	0	0	0	0	0	0
	Setareh	0	2	0	0	0	1	0	3
Total	-	39	52	32	32	28	29	28	240

Learners' Reciprocity Typology

As previously mentioned, in this study, vocabulary and grammar problems were the leading causes of learners' disfluencies in speaking, which caused around 95 percent of all disfluencies. Through thematic analysis of learners' responsiveness to mediation, four main themes emerged from the interactions. These central themes are lack of reciprocity, partial reciprocity, overcoming the problem, and assuming full responsibility. These are similar to Ebadi (2016), where the same themes emerged from the interactions. However, the categories are different. As shown in Figure 3, each theme is categorized into different categories.

Figure 3*Learners' reciprocity to mediation*

	Themes	Categories
R1	Lack of reciprocity to mediation	R1.1 Unresponsiveness
R2	Partial reciprocity to mediation	R2.1 Uttering fluently without identifying the problem
		R2.2 Incorrect identification of the problem
		R2.3 Offering Persian Translation
		R2.4 Making an unsuccessful attempt
		R2.5 Asking for more assistance
R3	Overcoming the problem	R3.1 Correcting the error but asking for verification.
		R3.2 Correcting the error confidently.
		R3.3 Correcting the error and offering a paraphrase.
R4	Assuming full responsibility	R4.1 Justification of the response.

Lack of Reciprocity to Mediation

In the mediation typologies of grammar and vocabulary, the moves made by the mediator were analyzed. Similarly, Figure 2 represents learners' moves and how they contributed to interactions. Furthermore, the hierarchy of moves is also implicit to explicit. However, quite the reverse, the more explicit the move made by learners showed a higher level of development. In contrast, in mediation typology, more explicit moves made by the mediator indicate lower development levels in learners.

As shown in Figure 2, being unresponsive was the only category of lack of reciprocity. As the name implies, learners did not become involved in a dialogue with the mediator to attempt to notice, locate, or solve the issue. The state of being unresponsive to mediational moves could be because of failure to understand the mediation. Alternatively, the learners might have ignored the mediation. However, there is an exciting aspect to this reciprocity. Although the first mediational move, pausing the audio, was a move from the mediator to notify learners that there was something wrong, it happened a lot that learners did not respond to it and waited for the mediator to make another move. It should be clarified that the mediator told the study participants that he only paused the audio when there was a sign of disfluency. Even during DA3, Setareh mentioned this. The following excerpt from Setareh's DA3 shows they knew that pause was a key move from the mediator.

Recorded audio: I reckon to uh uh uh immigrate.

Setareh: My sentence is incorrect?

Mediator: Why do you think so?

Setareh: Because you paused (laughing)

As shown in the excerpt above, Setareh responded to the pause and asked if her sentence was incorrect. When the mediator asked *why you think so*, she laughed and said *you paused*. The following excerpt from Maryam's pretest indicates her lack of reciprocity to the first and second mediational moves on grammar.

Recorded audio: Because it can help me to be uh uh uh uh uh more healthy

Mediator: Can you repeat what you said?

Maryam: Uh

Mediator: So, it can help you to be more healthy, right?

Maryam: No, that's incorrect.

Mediator: OK, it can help you to be MORE healthy?

Maryam: I don't know. I don't have any idea.

Mediator: Is it correct to make the comparative using "more" here?

Maryam: Comparative ... uh uh. Is it correct to say "more healthier"? No, what could I say?

Mediator: So (repeated the sentence emphasizing the comparative "more healthy")

Maryam: No, Uh, uh

Mediator: Is it correct to omit "more" in the sentence?

Maryam: No, uh, uh

Mediator: What should we do?

Maryam: It can help me to be, uh, healthier! (laughed)

Mediator: That's right!

As shown in the excerpt above, Maryam did not show any form of reciprocity to pausing the audio. Therefore, the mediator asked her to repeat her sentence. However, she just whispered *uh* and said nothing. She seemed to be slightly confused, and she could finally overcome the problem.

Partial Reciprocity to Mediation

One of the most common reciprocity moves to mediation was partial reciprocity, where learners attempted to locate and overcome the problem. However, they still had problems in error identification or giving an error-free response. Partial reciprocity has been categorized into different categories, as explained below.

Uttering Fluently Without Identifying the Problem

In a few cases, the learners tried to say the utterance fluently without noticing or making an attempt to correct the lexical or grammatical errors, which caused the disfluency. This

kind of reciprocity indicates that learners identified as not being fluent but did not understand why the speech was disfluent. Although this kind of reciprocity usually results in long and detailed interactions with the mediator, it has been placed near the low end of the hierarchy in Figure 3. An example of this kind of reciprocity is represented below. The following excerpt is taken from Sana's pretest, where she tried to reply to speaking part 1 questions regarding *sports*.

Recorded audio: When I have work that I didn't have time to do, I prefer to be at home.

Mediator: [Repeated her utterance]

Sana: When I have work that I didn't time to do them.

Mediator: When I have work that I DIDN'T TIME to do them?

Sana: No, I didn't HAVE time to do them.

Mediator: Right!

As shown in the excerpt above, Sana could not speak fluently when she wanted to use the negative of the simple past to *have time*. After receiving the first mediational move, which she did not respond to, the mediator repeated the utterance. Then, Sana only identified her filled pauses and made another attempt. The only change she made was removing the filled pauses and speaking fluently. However, after she heard that the mediator emphasized *didn't time*, she noticed the error and overcame it, where she stressed even *have* as the missing word.

Incorrect Identification of the Problem.

To overcome a problem, the first and foremost thing is to identify the problem. However, this identification must be correct. There were some responses in this study that learners noticed an error in their speech and disfluency, but they could not identify or locate the error correctly. An example of this category has been extracted from Sana's DA3, where she was trying to talk about improving her knowledge of English.

Recorded audio: I'm going to uh improve uh uh my uh uh knowledge uh uh English.

Sana: I'm going to improve my knowledge.

Mediator: Right. But you're going to improve your KNOWLEDGE ENGLISH?

Sana: My information is English?

Mediator: Nope. knowledge English?

Sana: Uh, My knowledge of English?

Mediator: Right.

In the excerpt above, the mediator emphasized *knowledge English*, but Sana identified the problem incorrectly and changed *knowledge* to *information*. However, Sana noticed her error this time and corrected it when the mediator offered a more explicit mediational move.

Offering Persian Translation

Another category of reciprocity that mainly occurred when learners identified the problem but could not overcome it was offering Persian translation. They somehow felt relieved when they said their target utterance in Persian. They tried to use this form of reciprocity to deliver the intended meaning. An example of this kind of reciprocity can be seen in Sana's DA2, where her facial expression and the tone of her speech show how desperate she is, and she immediately says what she wants to say in Persian.

Recorded audio: They uh uh uh don't have any information uh uh about each other to uh uh uh understand each other

Sana: چطور بگم از حال هم بی خبر نیستن و با هم در ارتباطن؟
[How can I say that they are in touch with each other?]

Mediator: Stay in touch

Sana: Without the internet, they can't stay in touch easily.

While responding to the question, Sana had fluency issues in saying what she wanted. As she had no idea what to say, she immediately offered the Persian translation. The mediator saw how desperate she was; therefore, she provided her with the answer and expected her to use the phrase and repeat her utterance. She met the mediator's expectations and used the phrase correctly.

Unsuccessful Attempt

When learners identified the problem, they had to correct it in the utterance, but there were many cases that the learners could not overcome it. Most of these cases had a long stretch of dialogue. An example of an incorrect response can be referred to Melika's TR session, where she wanted to use the first conditional.

Recorded audio: For example, if I want to talk uh uh uh If I want, If I have a problem, uh uh uh I can said to her

Mediator: If I have a problem,?

Melika: I can say her.

Mediator: There's something wrong with the verb

Melika: I can talk to her?

Mediator: Right

As shown in the excerpt above, Melika had many filled pauses while speaking, especially before the last part of her sentence where she incorrectly said *I can said*. As we can see, the mediator uttered the first part of the first conditional and waited for her to complete the sentence. Then, Melika showed that she identified the error and attempted to correct it, but her response was incorrect. After receiving the next mediational move, she could overcome the problem. In this example, at first, the problem was grammar, and the mediator tried to allow her to fix that error, but immediately after she understood that

she had to use *can* with the simple form of the verb *say*, the mediator found it unnecessary to offer her more mediational moves to change *talk to say to*.

Request Additional Assistance

Through this reciprocity move, learners asked the mediator questions to identify or overcome the problem. In some interactions, like the excerpt below, learners did not guess or give incorrect responses. Instead, they asked questions regarding the problem to ensure they could answer correctly.

Recorded audio: I plan to uh uh uh immigrate

Setareh: My sentence is incorrect?

Mediator: Why do you think so?

Setareh: Because you paused (laughing)

Mediator: I paused because you had a long pause (laughing)

Setareh: I don't know which one I should use. Is it "emigrate" or "immigrate"? Can you tell me the difference?

Mediator: The one with "e" means leaving a country permanently, while the one with "I" means coming to a new country.

Setareh: Oh, thank you

Mediator: So, which one is correct?

Setareh: I plan to emigrate.

Mediator: Right

In the excerpt above, firstly, Setareh noticed an error in her utterance and asked the mediator for verification and more assistance. Then, Setareh explicitly mentioned the problem in her utterance and asked the mediator to provide her with detailed information regarding *emigrate* and *immigrate* to see which one she should use. After the mediator's additional information, Setareh overcame the problem and uttered it fluently.

Overcoming the Problem

The next theme that emerged from the interactions between the mediator and learners was overcoming the problem. As the title suggests, learners could correct and utter the errors fluently through this reciprocity move. However, the way that they responded when they achieved the correct answer was different. Therefore, it has been categorized into three categories below.

Correcting and Asking for Verification

Although learners achieved the correct answer up to this point, in some cases, they were still in doubt and asked the mediator to ensure the response was correct.

Recorded audio: He's far from us two years

Sana: I could say it's about two years that we didn't see my cousin

Mediator: Better, but you should use another tense

Sana: I can't see my cousin?

Mediator: You should use something which started in the past, and it's still true

Sana: I used to see her?

Mediator: No, you should use present perfect

Sana: I didn't have see my cousin?

Mediator: It's present perfect: have or has plus past participle

Sana: I haven't see her

Mediator: Past participle

Sana: I haven't seen her?

Mediator: Right

In Sana's TR session, when she wanted to talk about family. In the excerpt above, we see how she responded to mediational moves, from the first, which was the most implicit move, to the last, where the mediator explicitly mentioned what rule she should use. In the last part, Sana responded correctly, but she was unsure. Therefore, she used a rising intonation to make sure that was right.

Correcting the error confidently

Contrary to the previous kind of reciprocity, where learners were in doubt about their answers, learners were confident about their responses to some other mediation. For example, in Melika's DA5, she corrected a grammatical error by only receiving the first mediational move on grammar. However, she immediately responded to that move and was confident that her answer was correct.

Recorded audio: I prefer uh uh uh eat fast food.

Melika: I prefer TO eat fast food.

In this example, she soon realized she needed a preposition to complete her sentence and say it fluently. Melika corrected her error and said it fluently and loudly to show her confidence.

Offering a paraphrase

The following reciprocity move offers a correct paraphrase and corrects the error. This kind of reciprocity illustrates how confident they were that they could say the same sentence in different ways. An example of this reciprocity move can be seen in the following excerpt when Maryam is offered different forms of utterance after overcoming the initial problem. After she found out that *exciting* was the correct answer, apart from her initial utterance, she said *it excites me*, where she used the verb *excites* instead of the adjective *exciting*.

As another example, Sana made an error in grammar in her TR session and used *to be* verbs and simple present together. As a result, the mediator began the mediation

process to assist her to overcome the problem. The following excerpt indicates how she was able to use different forms to respond to the question.

Recorded audio: We are uh uh support each other

Mediator: We support each other?

Sana: We support each other. Or she's very supportive

As shown in the excerpt above, the mediator repeated the learner's utterance as a question to help her identify and overcome the error. Consequently, she overcame the initial problem and offered a paraphrase using the adjective *supportive* instead of its verb form.

Assuming Full Responsibility

The highest level of reciprocity in this study was assuming full responsibility, where learners provided the correct answer and eagerly offered explanations to uncover the reason behind their responses. Such a reciprocity move in grammar can be seen in the following excerpt, which is taken from Melika's DA2.

Recorded audio: Because my family uh uh uh like them and they uh uh went to the zoo, and I should uh uh uh I should go with them.

Melika: Here, I had long pauses.

Mediator: Yes. How about the last part of your answer?

Melika: I should went.

Mediator: Are you sure?

Melika: I had to go is better, I think. I should went is wrong; we can't use should with past.

Mediator: Yes, that's correct.

In the excerpt above, at first, Melika corrected her utterance and then justified why *I should went* was wrong. This form of reciprocity shows she found herself fully responsible for her speech. Another example of this reciprocity move can be seen in Sana's posttest, where she identified and corrected the wrong word that she had used and then offered an explanation.

Recorded audio: In terms of uh uh our uh uh uh our uh our body

Sana: I wanted to say "appearance." Body is different. Appearance means how we look, not body!

Mediator: That's right! Excellent.

In the excerpt above, Sana used *body* in her utterance, and she had many filled pauses before that, which shows the word, *body*, caused these pauses. When the mediator paused the audio, Sana immediately corrected her sentence. Afterward, she explained why the *body* was incorrect, and the *appearance* was correct.

Assessment within the ZPD

As opposed to the mediational moves that the mediator offered to the participants, reciprocity moves indicate learners' level of responsiveness to those mediational moves. As shown in Table 2, being unresponsive was the lowest level of learners' reciprocity to mediation in this study, while justification of the response was the highest. As the title implies, through this reciprocity category, the learner could overcome the problem and justify and explain why her answer was correct.

Table 2
Reciprocity Moves across the Sessions

Categories	Sessions	Maryam		Melika		Sana		Setareh		Total	
		Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y
R1.1 Unresponsiveness	Pretest	6	3	3	3	2	5	2	3	13	14
	DA2	1	1	3	1	2	1	2	2	8	5
	DA3	1	0	1	1	0	2	0	0	2	3
	DA4	0	1	0	0	1	2	0	1	1	4
	DA5	0	1	0	1	0	0	0	0	0	2
	Posttest	0	0	1	1	0	0	0	1	1	2
	TR	0	0	0	0	0	0	0	0	0	0
R2.1 Uttering fluently without identifying the error	Pretest	1	0	0	0	0	1	1	0	2	1
	DA2	0	0	0	0	0	0	0	0	0	0
	DA3	0	0	1	1	1	1	0	0	2	2
	DA4	0	0	0	0	2	0	0	0	2	0
	DA5	0	0	0	0	0	0	0	0	0	0
	Posttest	0	0	0	0	0	0	0	0	0	0
	TR	0	0	0	0	0	0	0	0	0	0
R2.2 Incorrect identification of the error	Pretest	1	0	2	1	0	0	1	0	4	1
	DA2	0	0	2	1	0	0	1	0	3	1
	DA3	0	0	0	1	1	1	0	0	1	2
	DA4	0	0	0	0	1	0	0	0	1	0

Categories	Sessions	Maryam		Melika		Sana		Setareh		Total	
		Grammar	Vocabulary	Grammar	Vocabulary	Grammar	Vocabulary	Grammar	Vocabulary	Grammar	Vocabulary
	DA5	0	0	0	0	0	0	0	0	0	0
	Posttest	0	0	0	0	0	0	0	1	0	1
	TR	0	0	0	0	1	0	0	0	1	0
R2.3 Offering Persian Translation	Pretest	3	2	0	0	0	4	0	0	3	6
	DA2	0	1	1	1	2	1	1	0	4	3
	DA3	0	1	0	1	2	0	0	1	2	3
	DA4	0	0	0	0	2	0	0	0	2	0
	DA5	0	1	0	0	0	0	0	0	0	1
	Posttest	0	1	0	0	0	0	0	2	0	3
	TR	0	0	0	0	0	0	0	1	0	1
R2.4 Making an unsuccessful attempt	Pretest	5	1	5	1	1	6	1	2	12	10
	DA2	2	0	6	4	1	2	5	5	14	11
	DA3	2	0	2	5	3	4	4	3	11	12
	DA4	2	2	4	3	4	4	1	1	11	10
	DA5	3	3	5	4	2	2	0	3	10	12
	Posttest	0	0	6	4	0	0	2	4	8	8
	TR	5	0	3	6	5	1	0	2	13	9
R2.5 Asking for more assistance	Pretest	2	1	0	0	3	0	0	0	5	1
	DA2	0	0	2	0	0	3	0	0	2	3
	DA3	3	0	0	0	1	2	0	0	4	2
	DA4	0	1	1	2	2	0	0	1	3	4
	DA5	1	0	2	2	1	2	0	0	4	4
	Posttest	0	0	4	1	0	2	1	1	5	4
	TR	0	0	3	0	2	0	0	0	5	0
R3.1 Correcting the error but	Pretest	1	0	0	0	1	2	1	1	3	3
	DA2	2	1	3	0	0	1	2	2	7	4

Categories	Sessions	Maryam		Melika		Sana		Setareh		Total	
		Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y	Gr am ma r	Vo ca bul ar y
asking for verification.	DA3	0	2	1	3	2	3	0	2	3	10
	DA4	0	0	0	0	1	0	0	0	1	0
	DA5	0	0	1	3	1	1	0	0	2	4
	Posttest	0	1	2	1	0	3	2	2	4	7
	TR	1	0	0	3	4	2	0	1	5	6
R3.2 Correcting the error confidently.	Pretest	2	1	7	5	2	3	1	1	12	10
	DA2	0	4	4	4	1	2	4	2	9	12
	DA3	1	2	1	1	1	1	3	3	6	7
	DA4	1	2	3	2	4	1	1	2	9	7
	DA5	2	1	4	2	0	2	2	2	8	7
	Posttest	1	3	4	4	1	3	1	2	7	12
	TR	1	4	2	1	1	1	0	1	4	7
R3.3 Correcting the error and offering a paraphrase.	Pretest	0	1	0	0	0	2	0	0	0	3
	DA2	0	0	0	0	0	0	0	0	0	0
	DA3	0	0	0	0	0	0	0	0	0	0
	DA4	1	1	0	0	0	0	0	0	1	1
	DA5	0	0	0	0	0	0	0	0	0	0
	Posttest	0	0	0	0	0	0	0	0	0	0
	TR	0	0	0	0	0	0	0	0	0	0
R4.1 Justification of the response.	Pretest	0	0	0	0	0	0	0	0	0	0
	DA2	0	1	1	0	0	0	0	0	1	1
	DA3	1	0	0	0	0	0	0	0	1	0
	DA4	0	0	2	0	0	0	0	0	2	0
	DA5	0	0	0	0	0	0	0	0	0	0
	Posttest	0	0	0	0	0	1	0	0	0	1
	TR	0	0	0	0	0	0	0	0	0	0

Categories	Sessions	Maryam		Melika		Sana		Setareh		Total	
		Gramma r	Vocabu lary	Gramma r	Vocabu lary	Gramma r	Vocabu lary	Gramma r	Vocabu lary	Gramma r	Vocabu lary
Total	Pretest	21	9	17	10	9	23	7	7	54	49
	DA2	6	8	21	11	6	10	15	11	48	40
	DA3	8	5	6	13	11	14	7	9	32	41
	DA4	4	7	10	7	17	7	2	5	33	26
	DA5	6	6	12	12	4	7	2	5	24	30
	Posttest	1	5	17	11	1	9	6	13	25	38
	TR	7	4	8	10	13	4	0	5	28	23
Total		52	44	92	74	61	74	39	55	244	247

The mediational moves that the mediator offered to the learners to assist them in overcoming their disfluencies provoked responses or reciprocity moves on the part of the learners. As illustrated in Table 2, the total number of reciprocities moves regarding grammatical and lexical problems decreased across the sessions with a few minor regressions. Regarding the mediational moves on lexical problems that caused disfluencies, it can be seen that the learners had the most reciprocity moves in the pretest and the fewest in the TR session. Also, regarding the grammatical problems, they had the most reciprocity moves in the pretest and the fewest in DA5. It should be mentioned that their posttest and TR performance was close to their DA5. However, the decrease in the quantity of reciprocity moves cannot prove any results regarding the effectiveness of mediation on learners’ speaking fluency and their microgenetic development. This decrease can be justified because when learners move toward self-regulation in their ZPDs, they require fewer mediational moves, necessitating fewer reciprocities. Therefore, it is crucial not to interpret the information based on the total quantity of reciprocities. Instead, as shown in Table 3, this study used the percentage of each reciprocity move in each session and compared it to the other moves and also the percentage of the same move in other sessions to gain an in-depth insight.

Table 3

Percentage of each reciprocity move across the sessions

Categories	Grammar							Vocabulary						
	Pr ete st	D A2	D A3	D A4	D A5	Po stt est	TR	Pr ete st	D A2	D A3	D A4	D A5	Po stt est	T R
R1.1 Unresponsiv eness	24. 07 %	16. 66 %	6.2 5%	3.0 3%	0%	3.5 7%	0%	28. 57 %	12. 5%	7.3 1%	15. 38 %	6.6 6%	5.2 6%	0%
R2.1 Uttering fluently without identifying the problem	3.7 %	0%	6.2 5%	6.0 6%	0%	0%	0%	2.0 4%	0%	4.8 7%	0%	0%	0%	0%
R2.2 Incorrect identificatio n of problem	7.4 %	6.2 5%	3.1 2%	3.0 3%	0%	0%	3.5 7%	2.0 4%	2.5 %	4.8 7%	0%	0%	2.6 3%	0%
R2.3 Offering Persian Translation	5.5 5%	8.3 3%	6.2 5%	6.0 6%	0%	0%	0%	12. 24 %	7.5 %	7.3 1%	0%	3.3 3%	7.8 9%	4.3 4%
R2.4 Unsuccessfu l attempt	22. 22 %	29. 16 %	34. 37 %	33. 33 %	41. 66 %	32 %	46. 42 %	20. 4%	27. 5%	29. 26 %	38. 46 %	40 %	21. 05 %	39. 13 %
R2.5 Asking for more assistance	9.2 5%	4.1 6%	12. 5%	9.0 9%	16. 66%	20 %	17. 85 %	2.0 4%	7.5 %	4.8 7%	15. 38 %	13. 33 %	10. 52 %	0%
R3.1 Correcting the error but asking for verification.	5.5 5%	14. 58 %	9.3 7%	3.0 3%	8.3 3%	16 %	17. 85 %	6.1 2%	10 %	24. 39 %	0%	13. 33 %	18. 42 %	26. 08 %
R3.2 Correcting the error confidently.	22. 22 %	18. 75 %	18. 75 %	27. 27 %	33. 33 %	28 %	14. 28 %	20. 4%	30 %	17. 07 %	26. 92 %	23. 33 %	31. 57 %	30. 43 %
R3.3 Offering a paraphrase.	0%	0%	0%	3.0 3%	0%	0%	0%	6.1 2%	0%	0%	3.8 4%	0%	0%	0%
R4.1 Justification of the response.	0%	2.0 8%	3.1 2%	6.0 6%	0%	0%	0%	0%	2.5 %	0%	0%	0%	2.6 3%	0%

Perhaps the most compelling finding of the study is the learners' improvement in their responsiveness to mediation. As shown in Table 3, the percentage of implicit reciprocity moves, including unresponsiveness, uttering fluently without noticing the problem, incorrect identification of the problem, and offering Persian translation, decreased across the sessions. On the other hand, the percentage of explicit reciprocity moves, except for offering a paraphrase and justification of the response, which occurred occasionally during the course, increased noticeably. This indicates that not only did the learners gradually become more responsive to mediation, but also the quality of responses improved. Contrary to expectations, the percentage of the last two reciprocity moves where learners could offer a paraphrase or justify their responses did not increase

throughout the course, and they occurred occasionally. Regarding offering a paraphrase, it is interesting that they mostly tended to offer a paraphrase regarding lexical problems, not grammatical ones. A possible explanation for this might be that when learners knew the necessary words and phrases, they could offer more flexibility than when they knew the grammatical rules.

Discussion and Conclusion

Although few studies noted the importance of learner reciprocity (e.g., Ableeva, 2010; Poehner, 2005), no data was found regarding learner reciprocity to mediation on oral fluency. To this aim, this study was designed to explore learner reciprocity to mediation on the development of oral fluency. This way, it attempted to pay more attention to learners' contributions to interactions.

To explore learner reciprocity, in the beginning, this study identified the primary linguistic repertoires that cause disfluencies to develop a reciprocity typology. The results of this study indicate that vocabulary, grammar, pronunciation, and comprehension, respectively, are the causes of disfluencies. Lexical and grammatical items were the leading causes of disfluencies, as they caused almost 95 percent. Therefore, reciprocity typology was developed only for these two subskills, and the others did not allow the researchers to develop a comprehensive typology. The finding is in agreement with those obtained by Canale and Swain (1980), DeJong et al. (2013) and Kormos (2006). The result is also consistent with that of Hilton (2008), who found that lexical knowledge is the most critical factor in L2 oral fluency.

The results of this study indicate how learners respond to mediational moves on their fluency problems and explore the themes and categories of learner reciprocity. The study showed that contrary to the “commonsense” view, learners showed a range of behaviors when receiving mediation, rather than simply answering correctly or incorrectly, which is in line with previous studies (e.g., Ableeva, 2010; Ebadi, 2016; Poehner, 2008). Lack of reciprocity, partial reciprocity, overcoming the problem, and assuming full responsibility were the main themes of learner reciprocity, similar to the reciprocity typology found by Ebadi (2016). However, the categories are different as the studies explored other skills. Although the typology that emerged from the interactions in this study is similar to Ableeva (2010) and Poehner (2005), there are noticeable differences between the moves and the order. A possible explanation for these differences is that these studies explored different skills. For instance, “uttering fluently without noticing the problem” is a move that can be specific to oral fluency. Also, the differences between the typologies may have been influenced by learners. These differences among the participants of these studies indicate that different learners have unique ZPDs (Lantolf & Poehner, 2004). These differences also indicate the learners' abilities that are emerging and have not been internalized to be used independently (Vygotsky, 1998).

The current study also found that the quantity of reciprocity moves decreased over the sessions with a few regressions. The overall decrease can be explained by the fact that as a result of DA, learners moved toward self-regulation, which is consistent with previous studies (e.g., Ebadi & Asakereh, 2017; Poehner, 2005). Therefore, the percentage of each reciprocity move has been measured in this study to consider both quality and quantity. The results show that the percentage of implicit reciprocity moves decreased over the sessions, but the percentage of explicit reciprocity moves increased. This shows that the learners tended to become more responsive and show more responsibility for their learning to move toward self-regulation, which is consistent with the literature (e.g., Aljaafreh & Lantolf, 1994; Anton, 2009; Poehner, 2005). The regressions and backslidings can also be perfectly explained by Vygotsky's (1997) argument that development includes both evolutionary and revolutionary changes. The reciprocity typology sheds light on the role of learners in DA sessions and their responsibility for developing their oral fluency. By monitoring the fluctuations in the quantity and quality of reciprocity moves performed by the learners, one could contend that interactionist DA facilitated the development of their oral fluency. This finding is consistent with the research conducted by Ritonga et al. (2022). The results are also in agreement with Ebadi and Asakereh (2017), Minakova (2020), and Poehner (2005), who all proved that interactionist DA can enhance speaking skills in general. Concerning overall development, the findings align with the views of Aljaafreh and Lantolf (1994), who posited that the quality of responsiveness impacted development. In addition, it offers insight into the future development of the learners (Vygotsky, 1998).

However, it is essential to exercise caution due to the limited sample size, as the results may lack generalizability to different demographics and circumstances. There are at least two noteworthy aspects to the presented results. This research is pioneering in its investigation and formulation of a typology of learner reciprocity, establishing a foundation for subsequent studies to build upon and compare their emergent typologies. Furthermore, delayed mediation was utilized in this research endeavor to improve oral fluency, representing a new approach to implementing interactionist DA. Further study should be conducted to examine the reciprocity of learners from various backgrounds and to see whether delayed mediation can successfully promote oral fluency in larger samples.

Mobile education represents a pivotal asset within the information and communication technology sector. Traditional methods of engaging young learners in educational settings have often proven ineffective, highlighting the efficacy of mobile learning as a compelling alternative. The contemporary educational landscape is characterized by increased portability, adaptability, and engagement facilitated by the integration of mobile technology. Learners are empowered to take the initiative, benefiting from the seamless transition between indoor and outdoor learning environments across formal and informal settings. The ubiquity of mobile devices has redefined the boundaries of education, enabling learning to transcend physical constraints

and occur irrespective of the presence of an instructor. The industrialized world has demonstrated remarkable progress across various domains, particularly in the realm of science and technology, where innovative methods have supplanted traditional approaches. The pervasive influence of the Internet and other contemporary technologies has precipitated significant transformations in the educational sphere, reflecting the broader societal advancements driven by human endeavor. The dynamic evolution of science and technology has consistently led to the obsolescence of erstwhile state-of-the-art technologies, giving way to more advanced innovations. This paradigm shift, coupled with the proliferation of the Internet, has exerted profound effects on the field of education, catalyzing a paradigm shift in pedagogical practices. Furthermore, educators in EFL/ESL classes have adeptly leveraged high-quality smartphones to enhance language learning experiences for students within and beyond the confines of the classroom.

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