The Effect of Interactionist vs. Interventionist Dynamic Assessment on Writing Accuracy of Young vs. Adult IELTS Candidates

Leyli Kashef[1], Nasser Ghafoori [2*], Akbar Valizadeh Oghani [3], Azadeh Mehrpouyan[4]

ARTICLE INFO	ABSTRACT
	The present study explored the effects of interactionist Dynamic Assessment (DA) and age on the writing accuracy of IELTS candidates. This research investigated the existence of an interactional effect between the age of learners and the type of treatment they received. First, 140 IELTS candidates were split into two age groups, adult and young. Each group was divided into two equal smaller groups, randomly assigned to two types of DA. All four groups took a writing pre-test. After a nine-session treatment of interactionist DA in study groups and interventionist DA in control groups, all groups took a writing post-test. The data collected during the post-test were analyzed by two-way ANOVA and compared with the pre-test data. The findings showed that implementation of interactionist DA significantly improved the learners' writing accuracy while the learners' age had no significant effect on their writing accuracy. With respect to the study findings, EFL teachers could use interactionist DA to enhance the accuracy of learners' writing skills by providing more opportunities for the learners to interact.

1. Introduction

Among the four language skills, writing is the most challenging one for a second/foreign language learner to master (Kushki et al., 2022). The reason might lie in the complexity of the interaction between the writer who attempts to convey ideas and thoughts in writing, and the reader who tries to decipher the intended meaning out of the text. Therefore, writing requires special instruction and its teaching is also a challenging task (Irwin & Liu, 2019). Second language writing is assessed in terms of accuracy, complexity, and fluency (Bychkovska, 2021). In this regard, writing accuracy, as one of these three essential pillars, prevents communication misunderstandings while conveying the writer's desired ideas (Tabatabaee et al., 2018).

Dynamic Assessment (DA), as a complement to traditional assessment, has assumed a prominent status in discovering the problems of language learners and assisting them in overcoming their difficulties. DA is conceptually aligned with Vygotsky's sociocultural approach to education and is directly related to the development of the potential abilities of learners (Leung, 2007, Poehner & Lantolf, 2005). The interactionist and interventionist approaches to DA refer to two kinds of mediation that intend to solve the learners' learning problems. In interventionist approaches to DA, the mediation is pre-scripted hints from implicit to explicit so it can be similar for all learners (Rahmani et al., 2020). In interactionist approaches to DA, the learner's zone of proximal development (ZPD) is highly involved since the mediator assists the learner through interaction (Zarei & Rahmaty, 2021). Furthermore, DA

[1] Department of English, Islamic Azad University, Sarab Branch, Sarab, Iran, Email: l-kashef@tvu.ac.ir
[2] Department of English, Islamic Azad University, Tabriz Branch, Tabriz, Iran, (* Corresponding Author) Email: Ghafoori@iaut.ac.ir
[3] Department of Management, Islamic Azad University, Sarab Branch, Sarab, Iran, Email: valizadeh@iausa.ac.ir
[4] Department of English Literature, Velayat University, Iranshahr, Iran, Email: a.mehrpouyan@velayat.ac.ir

focuses on integrating assessment and instruction to gauge and advance learning potential (Fulcher & Harding, 2021). It also seems to have good potential in teaching writing.

Over the past three decades, researchers have proved the influence of dynamic assessment in foreign/second language teaching and learning. Alsaadi (2021) noted the nature and effects of dynamic assessment as an effective way to evaluate and maintain learners' progress. In another study, Shabani (2018) proved the efficiency of DA in developing writing accuracy. On the other hand, measuring second language (L2) performance, spoken or written language is a significant aspect of Second Language Acquisition (SLA) research and has a long tradition. Although L2 writing, DA, and learners' age have been the focus of attention in many studies (Derakhshi, 2019; Khodabakhsh et al., 2018; Malmir, 2020; Poehner, 2007; Rahmani et al., 2020), fewer types of research have been carried out considering the interactionist vs. interventionist DA and learners' writing accuracy, particularly IELTS candidates in different age categories. Interactionist DA ensures Vygotsky's willingness to cooperate in dialogue, in which help plays a role in continuous communication between the learner and the mediator. Consequently, it is highly sensitive to the learner's ZPD as students learn when they are in their ZPD (Lantolf & Poehner, 2023).

Safdari and Fathi (2020) asserted that DA integrates teaching and assessing into an integrated classroom intervention to enhance learning by providing appropriate types of mediation in the form of prompts and hints. Currently, two DA models accelerate significantly in simultaneous teaching and assessing different language skills and sub-skills, which are interactionist and interventionist approaches (Malmir, 2020). In the interactionist approaches to DA, mediators interact with learners to continually evaluate their current state of development. This 'interaction' justifies using the word 'dynamic' (Ahmadi Safa & Beheshti, 2018). In interventionist DA approaches, mediators standardize mediation using pre-planned and pre-determined sets of hints and cues so it can be similar for all learners (Barabadi et al., 2018). The current paper aims to substantiate the effect of implementing interactionist DA vs. interventionist DA procedures on young and adult IELTS learners' writing accuracy. In addition, the differential effects of interactionist DA on young versus adult IELTS candidates are explored and the interactionist effect between two independent variables, treatment type, and age of learners are examined.

On the other hand, this study focuses on the International English Language Testing System (IELTS) candidates, one of the most popular high-stakes English proficiency tests for global migration. With a high record of tests taken all over the world, it has reinforced its position. Currently, more than 11,000 educational institutions and employers in 135 countries around the world consider IELTS as a prerequisite for studying or finding a job. Writing accuracy, which is defined as how much the produced language corresponds to the target language's norms (Skehan & Foster, 1997), plays a significant role in gaining high scores on the test (https://www.ielts.org). In this regard, Skehan (1996) stated that the level of accuracy shows what level of inter-language grammatical correctness and proficiency a learner has attained. In other words, accuracy is the question of how the produced language by the learners is similar to the target language norms.

Considering the objectives of the study mentioned earlier, this study will answer the following research questions:

1. To what extent is a significant difference found between the impacts of interactionist DA and interventionist DA approaches on the writing accuracy of IELTS candidates?
2. To what extent is a significant difference found between the effects of interactionist DA on young and adult candidates' writing accuracy?
3. To what extent is an interactional effect found between the learners' age and their treatment types?

2. Review of Literature

Some studies suggest that interactionist and interventionist models of DA are effective for developing second/foreign language proficiency in different contexts (e.g. Ahmadi Safa et al., 2015; Ahmadi Safa & Jafari, 2017; Anton, 2009; Zhang et al., 2017). DA also has a significant role in developing reading comprehension (Abdolrezapour, 2017; Yang & Qian, 2020; Kao & Wu, 2021; Kazemi et al., 2020), writing skills (Alavi & Taghizadeh, 2014; Ebadi & Rahimi, 2019; Heidari, 2019; Tang & Ma, 2022), listening and speaking (Alshenqeeti, 2019; Ahmadi Safa & Rozati, 2017; Ebadi & Asakereh, 2017; Sohrabi & Ahmadi Safa, 2020), vocabulary (Karami et al., 2019), and grammar (Estaji

& Ameri, 2020) in different EFL and ESL contexts. Moreover, Derakhshi (2019) stated the positive effect of DA on both test performance and writing linguistic accuracy of EFL learners.

In addition, some DA studies carried out on L2 writing have assessed this ability holistically without paying attention to DA types (interactionist/interventionist) or components of writing ability (accuracy/complexity/ fluency). For instance, Aljaafreh and Lantolf (1994) reported the improvement of learners' writing skills through the application of the DA approach. Khoshsima et al. (2016) demonstrated that the instructors' mediation help learners understand their problem and remove them better. Besides, Ebadi and Bashir (2021) affirmed that DA enhances EFL learners' writing ability due to the instructor's mediation. In another study, Rashidi and Bahadori Nejad (2018) noted that dynamic assessment significantly influences learners' writing confidence and motivation. Correspondingly, Khodabakhsh et al. (2018) indicated that DA enhances learners' levels of language awareness in the process of writing instruction and results in higher levels of metacognitive strategy. Rezai et al. (2022) disclosed a significant improvement in the learners' writing performance through contingent hints and prompts. Additionally, Xian (2020) exhibited that DA exerts a considerable influence in promoting learners' writing accuracy.

However, a few studies have attempted to differentiate between the effects of two types of DA, interactionist and interventionist DA. Recently, Nassaji et al. (2020) investigated the relative impacts of interactionist versus interventionist DA on learners' argumentative writing with a case study. The researchers noted that interactionist DA provides more understanding of learners' ZPDs through interaction between the teacher and the student, which leads to the learners' relatively better improvement. Similarly, Kushki et al. (2022) demonstrated development in learners' writing abilities following the implementation of interventionist and interactionist DA. The scholars ascertained that learners in the interactionist group outperform those in the interventionist group.

The review of the related literature reveals that a large share of DA-based studies targets writing accuracy (Derakhshi, 2019; Larsen-Freeman, 2006; Rahmani et al., 2020; Tabatabaee et al., 2018; Xian, 2020). Thus, a research gap emerges in the related literature about the relative helpfulness of interactionist vs. interventionist DA on learners' writing accuracy of IELTS candidates. Furthermore, little research exists on the effect of the learners' age on writing accuracy and the possible interaction impact between the type of DA and the learners' age. In this regard, Carcueva (2018) detected that learners rarely benefit from teachers' red-pen corrections. The researcher also believed that the teachers' oral feedback in every session helps clarify the learners' errors, rather than students with the corrected papers who might be unable to make sense of the feedback provided. Some other studies reveal that writing teachers spend about 20 to 40 minutes correcting learners' writing, while learners hardly look at written feedback (Guenette, 2007; López Valero et al., 2008). Because of this, some scholars consider written comments time-consuming, vague, impractical, incomprehensible, underused, or useless (Ferris, 2004; Lee, 1997; Truscott, 1996; Zamel, 1985). So, there is a need for more investigation into ways to develop learners' writing skills.

Since the learners' age may have a crucial role in applying interactionist assessment to writing classes, the present paper takes the age factor as one of the main variables of the study. Moreover, the effectiveness of using the techniques of DA in foreign language writing classes is addressed insufficiently in the IELTS context. Therefore, an attempt is made to replicate the previous studies to examine the comparative effects of two types of DA, interactionist and interventionist DA, on Iranian IELTS candidates' writing accuracy across two age groups of young (under 22) versus adult (above 22) learners. The present study findings can refine, revise, and extend existing knowledge in the area under investigation. On pedagogical grounds, the study can contribute to EFL education in terms of assisting instructors in assessing learners' levels of ability and developing their writing accuracy in IELTS teaching circles.

3. Method
3.1. Design
The present study adopted a quantitative and quasi-experimental pretest-posttest control group design. The independent variables of the study were interactionist and interventionist DA models, while the dependent variable was the learners' writing accuracy obtained from their writing assignments. The moderator variable was the learners' age with two levels of young (under 22) and adult (over 22).

3.2. Participants and Setting

The present study was conducted in the spring of 2022 at different English language institutes (i.e., Milad, Safir, and Pars) in Tehran city. In light of the objectives of the current study, an available group of 168 candidates enrolled in an IELTS preparation course is considered as a survey population. Out of the study population (N=168), 140 intermediate-level learners (n=140) were selected based on the results of their performance on the writing section of a standard version of the Preliminarily English Test (PET) as the main participants in the study. Since the research participants were chosen from intact classes, the sampling procedure was convenience sampling. The candidates were both male (n=63) and female (n=77) EFL learners. Their ages were between 15 and 48 years old and the age of 22 was considered the cut-off age to divide the sample into two groups of adult and young participants (Simpson, 2018). The research conducted by Simpson reveals that young adulthood (generally defined as 18 to 22 year old individuals) is a time of dramatic change in basic thinking structures, as well as decision making abilities. The number of participants in the adult and young groups was 76 and 64, respectively. Each group of participants was randomly assigned to two types of treatment, interactionist and interventionist DA.

3.3. Instrumentation

Two instruments were used to collect data in the present study. To homogenize students at intermediate level, a standardized copy of the PET was used and to check their L2 writing ability a standard version of IELTS writing was taken into consideration.

3.3.1 The Preliminarily English Test (PET). The Preliminarily English Test (PET) published by the Cambridge English Exam Center, was used to examine the participants' general English proficiency at the beginning of the study. Orozco and Shin (2019) investigated the inter-rater reliability of writing and speaking of the PET through Pearson correlation coefficient and reported "α=0.83 and α=0.80" (p.7) for writing and speaking sections of the PET, respectively. Likewise, they reported reliability estimates of reading (KR-21=0.90) and listening (KR-21=0.78) sections of this test. Also they employed Structural Equation Modelling (SEM) and found that "the reliability coefficients were within an acceptable range and the SEMs were quite small (reading, 1.98), (listening, 2.24), ensuring that the EPT could be used as an accurate indicator of English Proficiency of EFL learners" (p. 6). They also reported that construct validity of the test was confirmed through confirmatory factor analysis. This exam has four sections, corresponding to assessing four-language skills separately: 1- Reading (six parts), 2- Writing (two parts), 3- Listening (four parts), and 4- Speaking (four parts). However, the reading, speaking, and listening sections were excluded for practical considerations, only the written section was administered. The written section had two parts, part 1 asked to write an email, and part 2 to choose between writing an article or a story. Both writing part 1 and part 2 were marked out of 20. However, the total score for the writing section was 40, 25% of the total score for the exam. In addition, 0 to 5 marks were given for each of the following criteria: Content, Communicative Achievement, Organization, and Language. The test was given to all participants in four groups to check their initial differences in terms of general English proficiency.

3.3.2 IELTS writing test. Another instrument for collecting data regarding the participants' writing accuracy scores was the IELTS writing test, given to the participants at the beginning of the research as the pre-test and after treatment as the post-test. The test was selected out of the standard IELTS writing sections already used by Khosravi et al. (2023) in their study. As they reported, "To assess the inter-rater reliability of writing scores, Cohen's Kappa was run" (p. 6) and the agreement between the two raters was "within the range of 0.42-0.60 which indicated a moderate agreement between the raters (k = 0.428, p < 0.0005)" (p. 6). As the construct validity of the writing test could not be measured directly, following Jin and Yan (2017), factors such as creativity, critical thinking, and writing ability were taken into account by the raters in the present study as the measures of construct validity which could confirm this theorized scientific construct. The general IELTS writing test includes two writing tasks. In Task 1, candidates should respond to a situation by writing a short informal or semi-formal letter (150 words), for instance, writing a letter to a person, a company, or an institution and explaining a condition or requesting information. In Task 2, candidates should write an essay (250 words) in response to an opinion, discussion, problem solution, and the advantages or disadvantages of

a phenomenon. To obtain scores for writing accuracy in the collected writing samples, the researcher used Larsen-Freeman's (2006) profile as a reliable rating scale both in the pre-test and post-test. This profile is an in-depth analysis of English language learners' performance, which uses T-units to assess the productive skills, speaking and writing, focusing on accuracy, fluency, and complexity. Larsen-Freeman (2006) explained writing accuracy operationally as the proportion of error-free T-units out of the total number of T-units (for vocabulary, morphological, and syntactic errors). T-Unit refers to any independent clauses (including subjects and finite verbs) that are conjoined. For example:

There was a handsome boy in class, and he was a football player. (S+S) =2 T-units

T-Unit also refers to one/more clauses (or sentence showed as S) embedded ([S(S)]) in an independent clause. For example:

There was a handsome boy in class who was a football player. [S(S)] = 1 T-unit

3.4. Procedures

In the first step of the study, the participants were selected based on the results of their performance in the writing section of a standard version of PET. The range of test scores obtained from the writing papers of the 168 learners taking part in the study, was 32-40 (out of 40). The study population was considered as B1; intermediate level based on the Common European Framework of Reference (CEFR) (https://www.cambridgeenglish.org). According to the writing test results, the learners whose scores fell within one standard deviation above and below the mean were selected as the main study participants. A training course was designed and carried out to examine the effectiveness of the interactionist DA versus the interventionist DA in the writing accuracy of young and adult IELTS candidates. The main textbooks and writing topics of the training course were based on Cambridge IELTS 14, 15, and 16 General. At first, the participants (n=140) were split into two groups considering their age as young (64) versus adult (76). Then, each young and adult group was randomly split into two equal sub-groups, interventionist versus interactionist DA, during their instructional course. Therefore, there were four groups, young interactionists (32), young interventionists (32), adult interactionists (38), and adult interventionists (38).

At the beginning of the study, the participants in all four groups were given the IELTS writing test, the results of which were considered the pre-test scores of the participants' writing accuracy. The comparison of the pre-test scores showed no substantial difference among the four groups.

The students in the interventionist and interactionist conditions received different types of treatment. Hence, the participants in the interventionist group, which was considered the control group, were given instructions in writing and received standardized oral hints and oral feedback from their teachers, ordained from implicit to explicit pre-planned hints. The following example indicates the teacher's (T) hints as a mediator and feedback given to students (S1 and S2).

1. T: Look at your introductory paragraph. Does it look good?
2. S1: No answer.
3. T: In the first paragraph, what do we do?
4. S2: Restate the topic and indicate the position.
5. S1: The introduction is too long to show only my position.
6. T: Exactly. After the introductory paragraph, what comes next?
7. S1: Two body paragraphs;
8. T: Excellent. So, devote your time to answer the question there.

In the interactionist group, which was considered the experimental group, a writing task was given to the learner in each session. During the session, the learner received the teacher's non-standardized hints and feedback through the interaction based on the learners' responses. Thus, the learners did their tasks with the mediation of their teacher. The mediation might be manifested in the forms of leading questions, explicit feedback, and suggestions. They were taught and assessed individually and continuously. The individual's responsivity formed the type of feedback the learner received. The following example indicates an interaction between a student (S) and the teacher (T).

1. T: Look at your conclusions. See if they look good.
2. S: In conclusion, we should summarize the ideas and restate the position.
3. T: Exactly. What do we need in conclusion?
4. S: Discourse markers.
5. T: That is right. Discourse markers, like what?

6.   S: Like "Consequently", "In consequence", "As a result", "So".
7.   T: Please check your conclusion whether you have used the appropriate discourse marker.
8.   S: Therefore, [I used before]. Consequently, if one wants to avoid traffic….

After the treatment sessions that took about eight weeks (16 sessions), all participants took another version of the IELTS writing test as the post-test. The post-test writing samples were analyzed and scored regarding the accuracy of writing. In the pre-test and post-test, two experienced raters carried out the scoring and their consistency as the inter-rater reliability calculated by Pearson Correlation statistics, which returned a consistency coefficient of 0.94. Some written samples were double-checked and scored by the researcher to check the intra-rater consistency, in which its coefficient turned out to be as high as 0.98. The post-test accuracy scores of the four groups were analyzed statistically to respond to the research questions.

3.5. Data Analysis

The descriptive statistics, such as mean and standard deviation (SD), were calculated for the distributions of scores obtained from the general English proficiency test (PET) and the pre-tests and post-tests of writing accuracy. In line with the first assumption to examine the effects of using interactionist DA on IELTS candidates' writing accuracy, the researchers gave a General IELTS writing test in two tasks. The null hypothesis was a condition that employing interactionist DA did not show any statistically considerable influence on the participants' writing accuracy. As a prerequisite for parametric inferential statistics to compare the groups' means, we checked the normality of the distributions by the one-sample Kolmogorov-Smirnov (KS) test. Consequently, its results confirmed the normality of the distributions. After the normality assumption confirmation, one-way ANOVA was used to distinguish the mean scores of four groups in the PET and the pre-test of writing accuracy. We applied two-way ANOVA statistics for the post-test data because there were two independent variables in the study. Three null hypotheses were considered corresponding to three research questions. The level of significance was .05 to test the null hypotheses. The results and the findings of the analyses are presented in the next section.

4.   Results

After the participants were split into four groups based on their age and the type of treatment they received, the general English proficiency Test (PET) was administered to examine the four groups' level of general English proficiency. Table 1 indicates the results of the descriptive statistics on the collected scores, including mean, SD, the minimum and maximum scores of each group. Groups 1, 2, 3, and 4 were Young-Interactionist, Young- Interventionist, Adult-Interactionist, and Adult -Interventionist, respectively.

Table 1
Descriptive Statistics; PET Scores

Group	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	32.00	39.06	5.48	0.97	37.09	41.04	22.00	47.00
2	32.00	38.69	5.54	0.98	36.69	40.68	24.00	47.00
3	38.00	38.68	4.91	0.80	37.07	40.30	26.00	46.00
4	38.00	38.05	6.48	1.05	35.92	40.18	19.00	48.00
Total	140.00	38.60	5.59	0.47	37.67	39.53	19.00	48.00

As indicated in Table 1, the mean scores perceived in the four groups were very similar. However, slight differences were statistically examined using one-way ANOVA. Table 2 displays the outcomes of the analysis.

Table 2

One-way ANOVA to Check the Equality of Four Groups in PET

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.74	3.00	6.25	0.20	0.90
Within Groups	4326.86	136.00	31.82	-	-
Total	4345.60	139.00	-	-	-

The results in Table 2 exhibit the confirmation of the null hypothesis of equality among the mean scores since the p-value observed (0.90) was higher than the alpha level of significance (p > 0.05). In other words, there was no statistically substantial difference among the four mean scores. It means that all the students, who participated in the current study, were almost at the same level of English proficiency at the beginning.

The second step in the statistical data analysis was the initial comparison among the groups regarding writing accuracy. The participants in all groups were given and instructed to take the writing test IELTS, which had two writing tasks, including a short informal or semi-formal letter of 150 words and an essay of 250 words. The writing samples were collected and scored in writing accuracy according to Larsen-Freeman's (2006) scoring scheme. Writing accuracy for each piece of writing is calculated by dividing the number of error-free T-units by the number of all T-units. For example, student x wrote task 1 writing with 11 T-units, and only 7 T-units of 11 were correct. Therefore, her writing accuracy in the pre-test was 7/11 the portion of error-free T-units per total T-unit was 0.63 (see Appendix A). The obtained scores were considered the participants' writing accuracy pre-test scores. Table 3 testifies the descriptive statistics related to the pre-test scores collected from the four groups.

Table 3

Descriptive Statistics: Writing Accuracy Pre-test Scores

	Group	Observation	Mean	Standard Deviation	Max	Min	Skewness	Kurtosis
Writing Accuracy Pre-test	1	32	0.77	0.33	0.83	0.74	0.66	-1.08
	2	32	0.78	0.03	0.83	0.74	0.61	-1.13
	3	38	0.76	0.05	0.84	0.62	- 0.88	0.61
	4	38	0.73	0.03	0.83	0.69	0.06	-0.37

As displayed in Table 3, the writing accuracy mean scores related to the four groups were very similar. However, the equality of the means of the four groups was statistically checked by one-way ANOVA. Before using ANOVA, the normality of the distributions of scores was confirmed as a prerequisite as a parametric inferential statistic. Although the values for Kurtosis and Skewness were within the range of -2 and +2, which is statistical evidence for the normality of the distributions (Mishra et al., 2019); we examined the normality assumption by applying the one-sample Kolmogorov-Smirnov (KS) test for normality to the data, as demonstrated in Table 4.

Table 4

One-sample KS Test of Normality for Pre-test Scores of Writing Accuracy

Group	1	2	3	4
N	32	32	38	38
Test Statistic	0.10	0.09	0.06	0.09
Asymp. Sig. (2-tailed)	0.07[a]	0.27[c.d]	0.10[a]	0.20[c.d]

As the p-values observed for all sets of pre-test scores were above the alpha level of significance (p>0.05), it confirmed the normality hypothesis. Thus, it was legitimate to use one-way ANOVA to check the equality of the means observed in four groups. The developed null hypothesis stated that there

was no statistically substantial difference among the pre-test means (H0: μ1 = μ2= μ3 =μ4). Table 5 represents the outcomes of one-way ANOVA to test and finally reject or confirm the null hypothesis.

Table 5
The One-way ANOVA Outcomes to Check the Equality of the Writing Accuracy Pre-test Means

Writing Accuracy Pre-test	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.00	3	0.00	1.49	0.21
Within Groups	0.24	136	0.00	-	-
Total	0.25	139	-	-	-

The results in Table 5 demonstrate that the observed Fisher test (F-value) and the p-value were 1.498 and 0.218, respectively, which was above the alpha level of significance (p>0.05), pointing out that the null hypothesis could not be rejected. In other words, it confirmed the equality of the pre-test mean scores. So, the groups were almost equal in writing accuracy level at the beginning of the research.

After nine treatment sessions, another parallel test of the IELTS writing was given to the participants as the post-test. The writing samples were collected and scored based on the same scale as used for the pre-test. Table 6 illustrates the descriptive statistics of the scores related to the learners' writing accuracy in the post-test.

Table 6
Descriptive Statistics: Writing Accuracy Post-test Scores

	Group	Observation	Mean	Standard Deviation	Max	Min	Skewness	Kurtosis
Writing Accuracy Post-test	1	32	0.90	0.13	1.00	0.40	-3.25	10.67
	2	32	0.87	0.03	0.92	0.82	-0.29	-1.51
	3	38	0.88	0.05	1.00	0.82	0.50	-0.20
	4	38	0.84	0.05	0.92	0.73	-0.40	-0.70

As shown in Table 6, there were slight differences among the means of the writing accuracy scores related to the four groups in the post-test. The researchers used a two-way ANOVA to investigate the significance of the differences among the means and to find answers for three research questions because there were two independent variables (the type of assessment and the learners' age), each with two categories and one dependent variable (writing accuracy scores). The two assessment categories were interactionist and interventionist. The age variable had two categories of young and adult. The independent variables were on the nominal scale, while the dependent variable was on the interval scale. Thus, we used a two-way ANOVA to answer three research questions in the study. However, before applying a two-way ANOVA, the researchers had to check the normality of the distribution related to the scores through the one-sample KS test.

The results of the One-sample KS test of normality for post-test scores of writing accuracy testified that for all four sets of scores in the post-test of writing accuracy, the observed p-values were higher than the alpha level of significance (p>.05). Hence, we could assume the normality of the distributions and use a two-way ANOVA as a parametric test of inferential statistics. Table 7 interprets the results relating to the two-way ANOVA.

Table 7
Results of Two-Way ANOVA on Writing Accuracy Post-test Test Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	0.07 [a]	3	0.02	4.06	0.00
Intercept	107.28	1	107.28	16895.14	0.00
IDA	0.05	1	0.05	7.97	0.00
Age Group	0.02	1	0.02	3.71	0.05
IDA*Age Group	0.00	1	0.00	0.20	0.65
Error	0.86	136	0.00	-	-
Total	108.74	140	-	-	-
Corrected Total	0.94	139	-	-	-

Note. IDA: Interactionist Dynamic Assessment; Dependent Variable: Writing Accuracy Post-test
[a] R Squared = 0.082 (Adjusted R Squared = 0.062)

The results furnished in Table 8 answer the three research questions by examining the three corresponding null hypotheses (H0). The first research question asked if using interactionist DA had any significant effect on IELTS candidates' writing accuracy. The null hypothesis stated that it did not have any statistically considerable influence on the participants' writing accuracy. The third line in Table 8 suggests that the observed p-value (0.005) for the effect of interactionist DA on the dependent variable was below the alpha level of significance. Thus, the first null hypothesis was rejected (F=7.979; p> 0.05). Accordingly, the response to the first research question was affirmative. Hence, the participants in the interactionist DA groups could get significantly higher scores in writing accuracy than the interventionist DA groups in the post-test of writing accuracy.

The second research question was whether the learners' age exerted any noticeable effect on their writing accuracy. The H0 developed in correspondence to this question stated that the learners' age did not show any statistically significant impact on their writing accuracy. The fourth line in Table 8 indicates that the observed p-value (0.056) for the influence of age on the dependent variable was above the alpha level (p> 0.05). As a result, the null hypothesis was not rejected, and the response to the second research question was negative.

The third research question asked if there was any interaction between the type of assessment and the learners' age on the participants writing accuracy. The H0 formulated in correspondence to this question stated that there was no interaction between the two independent variables. The fifth line in Table 8 exhibits that the p-value (0.650) for the interaction between the type of assessment and the age variables was above the alpha level of significance (p>0.05). Therefore, the third H0 was not rejected. The answer to the third research question was negative as well. There was no interaction between using interactionist DA and the learners' age on the participants' writing accuracy. Figure 1 illustrates the profile plots for the lack of interaction between the two independent variables graphically.

Figure 1
The Profile Plots for Interaction between Assessment Type and Age
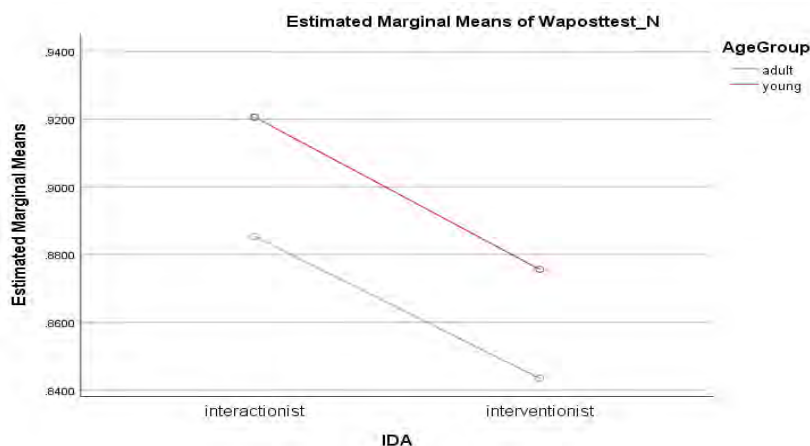
The two lines are parallel and do not meet one another at any point, which graphically affirms that there was no interaction between the two independent variables in the study (Figure 1).

5. Discussion

Utilizing a quantitative design, we investigated the influence of interactionist DA versus interventionist DA procedure in the writing skills of IELTS candidates to examine which of them could help the learners improve their writing accuracy significantly. Regarding the first research question, the statistical analysis of the data revealed that the treatment, given to the groups in the form of interactionist DA, could lead to higher writing accuracy in the post-test. The substantial effectiveness of interactionist DA for bolstering learners' writing accuracy was due to the opportunities that learners had when interacting with peers and teachers. As supported by sociocultural theory and the experts of DA (e.g., Kozulin & Garb, 2002; Poehner, 2007; Poehner & Lantolf, 2013), the main foundation of DA is learners' interaction with peers and/or teachers. A teacher provides a systematic mediation, supports all the learners, and improves their writing over time. Despite the large class size (over 30 students) and the limited class time, which did not allow extended and extensive mediation for all the learners, the interactionist DA could improve the learners' accuracy of writing.

This finding was supportive of the previous research (e.g., Aljaafreh & Lantolf, 1994; Birjandi et al., 2013; Poehner & Lantolf, 2005). The interactionist DA helps the teacher find the problems in writing and assists students better by providing appropriate feedback. The current paper results are in agreement with Miao and Mian's (2013) study in China, which used interactionist DA to investigate the accuracy, fluency, complexity, and local and global coherence. In addition to proving that the experimental group performed better than the control group, the researchers' findings revealed that the mediators' interactionist feedback helps learners not to use lucky guesses in their self-correction. So, they improved more than traditionally treated classes. Furthermore, Ahmadi and Besharati (2017) noted that interactionist dynamic assessment could positively affect students' ability to write better argumentative essays. In other words, based on the interactionist hypothesis (Long, 1981), learners' L2 enhances during interaction by receiving comprehensible input and feedback. In short, comprehended input (but marginally above the learner's current level of proficiency) at the center of language learning is the driving force behind language acquisition (Krashen, 1980).

Regarding the second and the third research questions, the study exemplified neither the main effect of the learners' age (young versus adult) nor any significant interaction between age and the type of DA on the learners' writing accuracy. This result was opposed to that of Malmeer and Zoghi's (2014) study, which investigated the impact of dynamic assessment of grammar on different age groups. They also found that adult EFL learners took advantage more of the DA than teenage EFL learners. Maybe the reason for the difference in results is that, in the current study, the level of interest of young and adult learners to interact with each other or with the teacher has been the same.

On the other hand, the effect of age on SLA has long been an important and controversial issue. Based on the critical period hypothesis, second language learning is limited in the ages after adolescence because the hemispheric functions go to be specialized, and the brain plasticity is lost (Singleton & Leśniewska, 2021). However, Bettoni-Techio (2008) noted that adults could acquire L2, although age has different effects in different language domains. It is impossible to prove or disprove the existence of a critical period of SLA based on just one experiment or study (Zhai, 2020). Furthermore, there might be differences between the effect of age on SLA in FL and L2 contexts. In the FL learning context, the contextual factors should be considered more precisely. Overall, the critical period that appears to achieve L2 is yet debatable, while it is recognized that the effect of age on L2 acquisition is important.

6. Conclusion

The principal objective of the present research was to explore the effectiveness of the interactionist DA on the writing accuracy of IELTS candidates in two experimental groups, young and adult. We also aimed to investigate the relationship of DA between the group of young and adult language learners and the existence of an interactionist effect between two independent variables, treatment type and age of learners. The current study confirmed that implementing the interactionist DA approach significantly affected the writing accuracy of IELTS candidates compared to the interventionist DA approach. Moreover, it was demonstrated that the implementation of DA was equally beneficial for young learners, contrary to the findings of Malmeer and Zoghi (2014). There was no

substantial interaction between the learners' age and the type of DA they received. In addition, an opposite suggestion was added to the findings of Zhai (2020).

Hence, the results of the present study ensure the assumptions of several previous studies (Miao & Mian, 2013; Ahmadi & Besharati, 2017) that the use of the interactionist DA approach in both young and adult experimental groups contributed positively to the participants' writing accuracy. In other words, the instructor's assistance and individual feedback to the learners in the experimental groups improved their writing accuracy.

Consequently, this study contributes to teachers in general, and IELTS instructors in particular, to generate new prompts and strategies to provide more opportunities for the learners to interact, constantly become assessed, and receive prompts/hints until they can accomplish the task on themselves. Our results propose a shift to traditional writing assessment models that emphasize psychometric quantification of student performance and do not provide opportunities for student-teacher interaction and developmental perspectives.

In addition, material developers and syllabus designers benefit from these implications. Few language materials (if any) have been created around the concept of DA and continuous assessment. Although some materials include portfolios and other ongoing assessment tools, the nature of such materials continues to be based on traditional assessment. However, the teachers/designers/developers merely change the assessment process from one-step to continuous and ignore the dynamic nature of test administration and the interaction between examiner and learner or even the concept of feedback.

This study, like others in applied linguistics, has limitations. It took a quantitative quasi-experimental design with limited sample size. So, there is a need for more investigation with larger samples and qualitative and mixed-method designs before making valid conclusions from the current paper. Moreover, since it focused on only writing accuracy as a component of the writing skills in the IELTS General writing test, future research might opt to query the effect of DA types on other skills and components, such as complexity and fluency, or in other types of IELTS exam, such as IELTS Academic module.

Declaration of Conflicting Interests

We declare that this manuscript is original, has not been published before, and is not currently being considered for publication elsewhere. We know of no conflicts of interest associated with this publication.

Funding

We declare that there has been no financial support for this work.

References

Abdolrezapour, P. (2017). Improving L2 reading comprehension through emotionalized dynamic assessment procedures. *Journal of Psycholinguistic Research, 46*(3), 747-770. https://doi.org/10.1007/s10936-016-9464-9

Ahmadi, A., & Besharati, F. (2017). Web-based versus face-to-face interactionist dynamic assessment in essay writing classrooms–a comparative study. *The Journal of Language Learning and Teaching*, *7*(1), 1-29. https://dergipark.org.tr/en/pub/jltl/issue/42178/507805

Ahmadi Safa, M., & Beheshti, S. (2018). Interactionist and interventionist group dynamic assessment (GDA) and EFL learners' listening comprehension development. *Iranian Journal of Language Teaching Research*, *6*(3), 37-56. https://doi.org/10.30466/ijltr.2018.120600

Ahmadi Safa, M., Donyaie, S., & Malek Mohammadi, R. (2015). An investigation into the effect of interactionist versus interventionist models of dynamic assessment on Iranian EFL learners' speaking skill proficiency. *Teaching English Language*, *9*(2), 146-166. https://doi.org/10.22132/tel.2015.53728

Ahmadi Safa, M., & Jafari, F. (2017). The Washback Effect of Dynamic Assessment on Grammar Learning of Iranian EFL Learners. *Journal of Language Teaching and Learning*, *7*(1), 55-68. https://www.jltl.com.tr/index.php/jltl/article/view/37

Ahmadi Safa, M., & Rozati, F. (2017). The impact of scaffolding and non-scaffolding strategies on the EFL learners' listening comprehension development. *The Journal of Educational Research*, *110*(5), 447-456. https://doi.org/10.1080/00220671.2015.1118004

Alavi, S. M., & Taghizadeh, M. (2014). Dynamic assessment of writing: The impact of implicit/explicit mediations on L2 learners' internalization of writing skills and strategies. *Educational Assessment*, *19*(1), 1-16. https://doi.org/10.1080/10627197.2014.869446

Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal*, *78*(4), 465-483. https://doi.org/10.1111/j.1540-4781.1994.tb02064.x

Alsaadi, H. M. A. (2021). Dynamic assessment in language learning: An overview and the impact of using social media. *English Language Teaching*, *14*(8), 73-82. https://doi.org/10.5539/elt.v14n8p73

Alshenqeeti, H. (2019). Dynamic assessment in the EFL classroom: The case of listening comprehension. *Asian Journal of Education and Social Studies*, *5*(4), 1-11. http://dx.doi.org/10.9734/AJESS/2019/v5i430160

Anton, M. (2009). Dynamic assessment of advanced second language learners. *Foreign Language Annals*, *42*(3), 576-598. https://doi.org/10.1111/j.1944-9720.2009.01030.x

Barabadi, E., Khajavy, G. H., & Kamrood, A. M. (2018). Applying interventionist and interactionist approaches to dynamic assessment for L2 listening comprehension. *International Journal of Instruction*, *11*(3), 681-700. http://dx.doi.org/10.12973/iji.2018.11346a

Bettoni-Techio, M. (2008). State of the art discussion on the influence of age on SLA. *Todas as Letras-Revista de Lingua e Literatura*, *10*(1), 68-73.

Birjandi, P., Estaji, M., & Deyhim, T. (2013). The impact of dynamic assessment on reading comprehension and metacognitive awareness of reading strategy use in Iranian high school learners. *International Journal of Language Testing*, *3*(2), 60-77.

Bychkovska, T. (2021). Effects of explicit instruction on noun phrase production in L2 undergraduate writing. *Journal of English for Academic Purposes*, *54*, 101040. https://doi.org/10.1016/j.jeap.2021.101040

Cambridge IELTS 16. (2021). *Cambridge English IELTS: General training with answers: Authentic examination papers from Cambridge English language assessment*. Cambridge University Press.

Carcueva, C. (2018, October 8-11). *Corrective feedback: Probing the preferences of ESL learners* [Paper presentation]. CONELT 2018: The 1st International Conference on ELT, Jakarta, Indonesia.

Derakhshi, Z. (2019). On the role of dynamic assessment on promotion of writing linguistic accuracy among EFL learners: An interventionist model. *International Journal of Research in English Education*, *4*(2), 14-28. http://ijreeonline.com/article-1-182-en.html

Ebadi, S., & Asakereh, A. (2017). Developing EFL learners' speaking skills through dynamic assessment: A case of a beginner and an advanced learner. *Cogent Education*, *4*(1), 1419796. https://www.tandfonline.com/doi/full/10.1080/2331186X.2017.1419796

Ebadi, S., & Bashir, S. (2021). An exploration into EFL learners' writing skills via mobile-based dynamic assessment. *Education and Information Technologies*, *26*(2), 1995-2016. https://doi.org/10.1007/s10639-020-10348-4

Ebadi, S., & Rahimi, M. (2019). Mediating EFL learners' academic writing skills in online dynamic assessment using Google Docs. *Computer Assisted Language Learning*, *32*(5-6), 527-555. https://doi.org/10.1080/09588221.2018.1527362

Estaji, M., & Ameri, A. F. (2020). Dynamic assessment and its impact on pre-intermediate and high-intermediate EFL learners' grammar achievement. *Cogent Education*, *7*(1), 1740040. https://doi.org/10.1080/2331186X.2020.1740040

Ferris, D. R. (2004). The "grammar correction" debate in L2 writing: Where are we, and where do we go from here? (and what do we do in the meantime…?). *Journal of Second Language Writing*, *13*(1), 49-62. https://doi.org/10.1016/j.jslw.2004.04.005

Fulcher, G., & Harding, L. (Eds.). (2021). *The Routledge handbook of language testing* (2nd ed.). Routledge. https://doi.org/10.4324/9781003220756

Guenette, D. (2007). Is feedback pedagogically correct? Research design issues in studies of feedback on writing. *Journal of Second Language Writing*, *16*(1), 40-53. https://doi.org/10.1016/j.jslw.2007.01.001

Heidari, F. (2019). The effect of dynamic assessment of Toulmin model through teacher and collective scaffolding on argument structure and argumentative writing achievement of Iranian EFL learners. *Iranian Journal of Applied Language Studies, 11*(2), 81–100. https://doi.org/10.22111/ijals.2019.5445

IELTS   International English Language Testing System. https://www.ielts.org

Irwin, D., & Liu, N. (2019). Encoding, decoding, packing and unpacking via agnation: Reformulating general knowledge into disciplinary concepts for teaching English academic writing. *Journal of English for Academic Purposes, 42*, 100782. https://doi.org/10.1016/j.jeap.2019.100782

Jin, Y., & Yan, M. (2017). Computer literacy and the construct validity of a high-stakes computer-based writing assessment. *Language Assessment Quarterly*, *14*(2), 101-119. https://doi.org/10.1080/15434303.2016.1261293

Kao, Y. T., & Wu, H. H. (2021). The dialectic integration of dynamic assessment: Assessing and instructing EFL beginning learners' reading difficulties. *The Asia-Pacific Education Researcher*, 31, 749–766. https://doi.org/10.1007/s40299-021-00624-3

Karami, A., Howlett, K. M., & Bowles, F. A. (2019). Implementing dynamic assessment in assessing vocabulary development: What the literature says. *Journal on English Language Teaching*, *9*(2), 52-59. https://files.eric.ed.gov/fulltext/EJ1220698.pdf

Kazemi, A., Bagheri, M. S., & Rassaei, E. (2020). Dynamic assessment in English classrooms: Fostering learners' reading comprehension and motivation. *Cogent Psychology*, *7*(1), 1788912. https://doi.org/10.1080/23311908.2020.1788912

Khodabakhsh, S., Abbasian, G., & Rashtchi, M. (2018). Incorporation of dynamic assessment models into developing language awareness and metacognitive strategy use in writing classes. *Journal of Modern Research in English Language Studies*, *5*(4), 55-79. https://doi.org/10.30479/jmrels.2019.10826.1353

Khoshsima, H., Saed, A., & Mortazavi, M. (2016). The impact of interactionist dynamic assessment on explanation writing ability of intermediate EFL learners. *International Journal of Language and Linguistics*, *4*(5), 183. https://doi.org/10.11648/j.ijll.20160405.13

Khosravi, R., Mohammadi, E., Esmaeili, N., & Zandi, H. (2023, June). Perfectionism and writing anxiety as predictors of Iranian EFL learners' performance in IELTS writing module: a multi-dimensional perspective. *Frontiers in Education*, *8*(2), 1-9. doi: 10.3389/feduc.2023.1108542

Krashen, S. (1980). The Input Hypothesis. In J. Alatis (Ed.), *Current issues in bilingual education* (pp. 168–180). Georgetown University Press.

Kushki, A., Nassaji, H., & Rahimi, M. (2022). Interventionist and interactionist dynamic assessment of argumentative writing in an EFL program. *System*, *107*, 102800. https://doi.org/10.1558/lst.37685

Kushki, A., Rahimi, M., & Davin, K. J. (2022). Dynamic assessment of argumentative writing: Mediating task response. *Assessing Writing, 52*,100606. https://doi.org/10.1016/j.asw.2022.100606

Kozulin, A., & Garb, E (2004). Dynamic assessment of literacy: English as a third language. *European Journal of Psychology of Education, 19*(1), 65-77. https://doi.org/10.1007/BF03173237

Lantolf, J. P., & Poehner, M. E. (2023). Sociocultural theory and classroom second language learning in the East Asian context: Introduction to the special issue. *The Modern Language Journal*, *107*(S1), 3-23.

Larsen-Freeman, D. (2006). The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English. *Applied Linguistics*, *27*(4), 590-619. https://doi.org/10.1093/applin/aml029

Lee, I. (1997). ESL learners' performance in error correction in writing: Some implications for teaching. *System*, *25*(4), 465-477. https://doi.org/10.1016/S0346-251X(97)00045-6

Long, M. H. (1981). Input, interaction, and second language acquisition. *Annals of the New York Academy of Sciences, 379*(1), 259– 278. https://doi.org/10.1111/j.1749-6632.1981.tb42014.x

López Valero, A., Encabo Fernández, E., Iseni, A., & Clarkson, C. P. (2008). Teachers' attitudes towards correcting students' written errors and mistakes. *Porta Linguarum*, 10, 21-30. https://doi.org/10.30827/Digibug.31777

Malmeer, E., & Zoghi, M. (2014). Dynamic assessment of grammar with different age groups. *Theory & Practice in Language Studies*, *4*(8), 1707-1713. https://doi.org/10.4304/tpls.4.8.1707-1713

Malmir, A. (2020). The effect of interactionist vs. interventionist models of dynamic assessment on L2 learners' pragmatic comprehension accuracy and speed. *Issues in Language Teaching (ILT), 9*(1), 279-320. https://doi.org/10.22054/ilt.2020.53398.515

Miao, T., & Mian, L. (2013, June). Dynamic assessment in ESL writing classroom. In *2013 Conference on Education Technology and Management Science (ICETMS 2013)* (pp. 1-4). Atlantis Press. https://doi.org/10.2991/icetms.2013.1

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, *22*(1), 67–72. https://doi.org/10.4103/aca.ACA_157_18

Nassaji, H., Kushki, A., & Rahimi, M. (2020). The differential diagnostic affordances of interventionist and interactionist dynamic assessment for L2 argumentative writing. *Language and Sociocultural Theory*, *7*(2), 151-175. https://doi.org/10.1558/lst.37685

Orozco, R. A. Z., & Shin, S. Y. (2019). Developing and validating an English proficiency test. *MEXTESOL Journal, 43*(3), 1-11.

Poehner, M. E. (2007). Beyond the test: L2 dynamic assessment and the transcendence of mediated learning. *The Modern Language Journal*, *91*(3), 323-340. https://doi.org/10.1111/j.1540-4781.2007.00583.x

Poehner, M. E., & Lantolf, J. P. (2005). Dynamic assessment in the language classroom. *Language Teaching Research*, *9*(3), 233-265. https://doi.org/10.1191/1362168805lr166oa

Poehner, M. E., & Lantolf, J. P. (2013). Bringing the ZPD into the equation: Capturing L2 development during computerized dynamic assessment (C-DA). *Language Teaching Research*, *17*(3), 323-342. https://doi.org/10.1177/1362168813482935

Preliminarily English Test (PET), Cambridge English Exam, https://cambridgeenglish.org

Rahmani, A., Rashtchi, M., & Yazdanimoghadam, M. (2020). Interactionist and interventionist dynamic assessment approaches to teaching argumentative writing: Do complexity, accuracy, and fluency develop? *Journal of English Language Pedagogy and Practice*, *13*(27), 100-128. https://doi.org/10.30495/JAL.2021.680912

Rashidi, N., & Bahadori Nejad, Z. (2018). An investigation into the effect of dynamic assessment on the EFL learners' process writing development. *Sage Open*, *8*(2), 2158244018784643. https://doi.org/10.1177/2158244018784643

Rezai, A., Naserpour, A., & Rahimi, S. (2022). Online peer-dynamic assessment: an approach to boosting Iranian high school students' writing skills: a mixed-methods study. *Interactive Learning Environments, 31*(3), 1-19. https://doi.org/10.1080/10494820.2022.2086575

Safdari, M., & Fathi, J. (2020). Investigating the role of dynamic assessment on speaking accuracy and fluency of pre-intermediate EFL learners. *Cogent Education*, *7*(1), 1818924. https://doi.org/10.1080/2331186X.2020.1818924

Shabani, K. (2018). Group dynamic assessment of L2 learners' writing abilities. *Iranian Journal of Language Teaching Research*, *6*(1), 129-149. https://doi.org/10.30466/ijltr.2018.20494

Simpson, R. (2018). *Young adult development project.* The Massachusetts Institute of Technology (MIT) work life center. https://hr.mit.edu/static/worklife/youngadult/changes.html#three

Singleton, D., & Leśniewska, J. (2021). The critical period hypothesis for L2 acquisition: An unfalsifiable embarrassment? *Languages*, *6*(3), 149-154. https://doi.org/10.3390/languages6030149

Skehan, P. (1996). A framework for the implementation of task-based instruction. *Applied linguistics*, *17*(1), 38-62. https://doi.org/10.1093/applin/17.1.38

Skehan, P., & Foster, P. (1997). Task type and task processing conditions as influences on foreign language performance. *Language Teaching Research*, *1*(3), 185-211. https://doi.org/10.1177/136216889700100302

Sohrabi, S., & Ahmadi Safa, M. (2020). Group dynamic assessment and EFL learners' oral production, motivation, and classroom anxiety. *English Teaching & Learning*, *44*(4), 353-376. https://doi.org/10.1007/s42321-020-00054-2

Tabatabaee, M., Alidoust, M., & Sarkeshikian, A. (2018). The effect of interventionist and cumulative group dynamic assessments on EFL learners' writing accuracy. *Applied Linguistics Research Journal*, *2*(1), 1-13. https://doi.org/10.14744/alrj.2018.36854

Tang, Y., & Ma, X. (2022). An interventionist dynamic assessment approach to college English writing in China. *Language Assessment Quarterly, 20*(1), 1-22. https://doi.org/10.1080/15434303.2022.2155165

Truscott, J. (1996). The case against grammar correction in L2 writing classes. *Language learning*, *46*(2), 327-369. https://doi.org/10.1111/j.1467-1770.1996.tb01238.x

Xian, L (2020). The effectiveness of dynamic assessment in linguistic accuracy in EFL writing: An investigation assisted by online scoring systems. *Language Teaching Research Quarterly, 18*, 98-114. https://doi.org/10.32038/ltrq.2020.18.07

Yang, Y., & Qian, D. D. (2020). Promoting L2 English learners' reading proficiency through computerized dynamic assessment. *Computer Assisted Language Learning*, *33*(5-6), 628-652. https://doi.org/10.1080/09588221.2019.1585882

Zamel, V. (1985). Responding to student writing. *TESOL Quarterly*, *19*(1), 79-101. https://doi.org/10.2307/3586773

Zarei, A., Rahmaty, H. (2021). The effects of interactionist and interventionist dynamic assessment on EFL students' perfectionism, willingness to communicate, and foreign language anxiety. *International Journal of Language Testing*, *11*(2), 13-33. https://www.researchgate.net/publication/355338955

Zhai, W. (2020). *Literature review: Theoretical and empirical research on age effects in SLA: Focusing on critical period hypothesis.* Second International Conference on Educational Reform, Management Science and Sociology (ERMSS 2020). https://doi.org/10.23977/ERMSS2020017

Zhang, R. C., Lai, H. M., Cheng, P. W., & Chen, C. P. (2017). Longitudinal effect of a computer-based graduated prompting assessment on students' academic performance. *Computers & Education*, *110*, 181-194. http://dx.doi.org/10.1016/j.compedu.2017.03.016

Appendix A
A Writing Sample, T-Units, and Writing Accuracy
This appendix consists of a writing sample related to participant "x" who belongs to the experimental group as a young (age=20) participant. The task is given as IELTS writing task 1 as the pretest.

- "T-unit: a minimal terminal unit or independent clause with whatever dependent clauses, phrases, and words are attached to or embedded within it
- Error-free: correct (both dictation and grammar)
- Accuracy: The proportion of error-free t-units per t-units"

General Writing Task 1

A friend from another country is moving to your city for work. He/she has asked you for advice about living in your city.
Write a letter to your friend. In your letter
- **Suggest an interesting part of the city to live in**
- **Describe the public transport in your city**
- **Say how your friend can meet new people there**

Dear Kitty,
It's very exciting to hear that you'll be moving in London (T) and congratulations on your new job! (T)
As you'll probably be working in the city centre (T), perhaps you could think about live near me in Croydon. (T) It's a large town in south London. (T) There are people here from all over the world and it has a friendly, relaxed vibe. (T)
In terms of public transport, you can get around London by bus, train and the Underground. (T) You should just get an Oyster card, which I'll help you with. (T) It means you can get on

and off without having to buy a separate ticket each time. (T) Public transport is pretty crowded in <u>morning</u> but no worse than in Moscow! (T)
I'll introduce you to my friends (T) and <u>I sure</u> you'll meet people at work too. (T) You could try living in a shared house if you want to meet some locals. (T)
Lots of love,
Ali

Number of total T-units= 13
Number of correct (error-free) T-units= 10 (errors are underlined)
Writing accuracy score =10/13 (the portion of 10 per total 13) = 0.76