Research article

Effects of Dynamic Assessment of Grammatical Structures on Learners’ Speaking Accuracy: The Case of Hawassa University, Ethiopia

Abayneh Feleke Managdew & Taye Regassa Seda

Abstract
One of the central problems second language (L2) students face during speaking is the frequent use of ungrammatical structures. Scholars suggest Dynamic assessment (DA), which integrates language instruction and assessment in L2 classrooms, is very helpful in enhancing learners’ speaking accuracy. However, the DA as an approach to L2 instruction/assessment and the concept of Weighted Clause Ratio (WCR) as a method of analyzing speaking accuracy have never been addressed in Ethiopia before. Therefore, this research examined the extent of the effects of DA on English language structures during dialogues on learners’ speaking accuracy during monologues. To do so, an experimental study was conducted on 48 second-year English language students of Hawassa University, Ethiopia. The participants took static pretests prepared based on the IELTS Speaking Exam Syllabus. Subsequently, each student’s monologue was transcribed and the grammar accuracy was scored using a Weighted Clause Ratio (WCR). Then, the students (n=48) were assigned to the experimental and control groups based on systematic random sampling, and the equivalence of these two groups was checked. Finally, the treatment group received DA of speaking skills, whereas the control group got a Non-dynamic assessment (NDA) of speaking skills for 12 weeks. The result showed that DA had a statistically significant effect on students’ oral accuracy. The finding implies that applying DA in ELT classrooms helps to facilitate learners’ L2 acquisition.

Keywords: dynamic assessment, non-dynamic assessment, grammatical structures, speaking accuracy, Weighted Clause Ratio (WCR), second language.
1. Introduction

In the context of Ethiopia, the English language plays a prominent role as a medium of instruction in educational institutions, and also as a bridge for international relations for foreign affairs in different government departments. Hence, producing graduates with an efficient command of the English language is of paramount importance to satisfy the country’s needs for English language professionals. However, many local educators complain that there is a drastic decline in the quality of English language education in general and oral skills in particular. For example, Desalegn, (2020) and Getie (2020) revealed that students’ oral skill is by far less than the standard that their grade level requires of them. Similarly, Tuan and Mai (2015) assert that second-language students, even after many years of studying, cannot use the English language fluently. More specifically, Kormos (2006) reveals that students’ oral performance is considerably lower in a second language than in a first language due to a lack of knowledge of L2 grammatical structures. This implies that there is a need to conduct robust studies on the methodology of L2 oral assessment vis-à-vis instruction to bring better quality of L2 education thereby producing graduates with communicative competence.

Undoubtedly, most teachers and students are aspiring to be good at English language oral skills; however, the trends of speaking instruction/assessment, among other things, do not seem to help them realize their dreams. One of the trends that have remained challenging is the age-long misconceptions of stakeholders regarding the relationship between language assessment and instruction. Many stakeholders view language assessment and instruction as separate elements. However, scholars such as Hughes (1989) and Prodromou (1995) state that language teaching and testing are very much interrelated and we should by no means separately treat them. The relationship between assessment and instruction is described as two sides of the same coin because they are inseparable components of second language development. However, practically, these two components are viewed as having a dichotomous relationship. In other words, instruction and assessments seem to emerge as two different areas of specialization with their traditions and professional journals and meetings (Poehner, 2008). For instance, the widely used terms in L2 pedagogy and assessment issues such as ‘teaching to the test’; ‘narrowing curriculum’ ‘wash back effect’, and ‘assessment driven instruction’ make classroom assessment look very different and separate from the overall goal of teaching (Prodromou,1995 and Poehner, 2008).

Therefore, to integrate teaching and testing simultaneously and to enhance learners’ oral proficiency, second language testing/teaching experts and psychologists recommend the application of dynamic assessment (DA) in L2 classrooms. Scholars such as Vygotsky (1978) and his proponents, for instance, Feuerstein et al. (2010), Poehner (2008), Poehner and Lantolf, (2010) and Ableeva and Lantolf (2011) propose DA, which is one part of socio-cultural theory, as an effective approach of L2 instruction/assessment, since it helps to minimize learners’ problems through provision of contingent mediation tailored to their cognitive needs. This is because, as these scholars contend, firstly, DA assumes that teaching and assessment should be unified and threaded to bring about change in second language education, that is, teaching and assessment or tests are not seen as two distinct parts; rather, they are practically interpreted as if they are two sides of the same coin. Also, implementing DA and MLE can help teachers measure learners’ potential performance through mediation. Secondly, DA is originally proposed to help children
who have problems learning a second language. So, applying DA in a classroom setting can help students, who are deprived of meditational strategies at their early age with the target language to improve oral proficiency (Vygotsky, 1978).


As to the researchers’ knowledge, there haven’t been empirical studies in Ethiopia that have employed DA as an alternative approach to speaking assessment/instruction to enhance learners’ speaking accuracy. Also, as methodology, there haven’t been similar works on speaking accuracy that used an objective measure of accuracy, that is, Weighted clause ratio [WCR] to rate learners’ level of control over grammar based on the gravity of errors.

Thus, the present study attempts to fill these important contextual, theoretical, and methodological gaps, which in turn paves the ways for future studies in the area of L2 assessment/instruction. Hence, the objective of this experimental study was to empirically look into the effects of interactionist dynamic assessment of speaking skills on learners’ English language oral performance during a monologue. The study specifically attempted to find out whether or not a dynamic assessment of grammatical structures during dialogue helps learners improve their speaking accuracy. The hypotheses formulated were as follows:

\[ H_{a} = \text{DA of English structure can help students improve their speaking accuracy.} \]
\[ H_{o} = \text{DA of English structure cannot help students improve their speaking accuracy.} \]

2. Theoretical Framework

Dynamic Assessment is conceptualized within the sociocultural theory (SCT) f, which explains that the human mind is mediated and that every individual’s overall development should encompass both his/her actual and potential development (Vygotsky, 1978 and Feuerstein, et al. 2010). The concept of DA was primarily reflected in the works of Vygotsky (1978) in his noble idea of the Zone of Proximal Development (ZPD). Vygotsky(1978) explains the term ZPD as “the distance between the actual developmental level as 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.”

For Vygotsky (1978) and his proponents, Kozulin and Garb (2004). Poehner (2008) and Feuerstein, et al. (2010), second language acquisition/learning becomes effective if the instruction and assessments are unified in the classroom to meet learners' ZPD. Vygotsky explained what a good learning process should look like as follows:

...an essential feature of learning is that it creates the zone of proximal development; that is, learning awakens a variety of internal developmental processes that are able to operate
only when the child is interacting with people in his environment and in cooperation with his peers. Once these processes are internalized, they become part of the child's independent developmental achievement (Vygotsky, 1978:90)

Strengthening this view, Lantolf & Poehner (2014) assert that learning progress takes place when there are active interactions of peer groups, and family members, in various cultural, linguistic, and historical settings such as schooling, workplaces, or other organized social activities. The various literature and studies show that ZPD-oriented assessment provides a lens to see not only a picture of learners’ potential development but also their already completed development through assistance and hints provided by a mediator.

Thus, this study is built on Feuerstein’s MLE model of dynamic assessment and employs an interactionist approach where the mediations are not pre-designed, but rather adjusted based on the immediate cognitive needs of each student. The dynamic assessment follows the sandwich format in which mediation is structured in between the pretest and posttest of static assessments.

3. Conceptual Framework

Figure 1. Conceptual Framework of the Study

- **Student:** The Student produces utterances on a specific topic.
- **Mediator:** The Mediator presents the speaking task, clarifies its purpose, and elicits learner’s idea on the topic.
- **Intentionality:**
- **B. Reciprocity:** learner addresses speech
- **C. Mediator intervenes and provides hints**
- **D. Learner corrects error based on mediation**
- **F. Grammatically accurate speech**
- **E. Learner’s ZAP transcends to ZPD**
4. Literature Review

4.1 Models of Dynamic Assessments

Dynamic assessments can be categorized under four major models. These include Feuerstein’s highly intuitive and clinical approach, Budoff’s standardized procedure, Campione and Brown’s graduated prompts, and Lidz’s curriculum-based dynamic assessment (Lidz, 2003).

This study followed Feuerstein’s model of dynamic assessment. Feuerstein’s model of Interactionist DA was developed independently from Vigotsky’s work; however, much of the research work and instructions done at Feuerstein’s International Centers for the Enrichment of Learning Potential in Israel are the extension of the works begun by Vigotsky and Luria some 70 years ago (Poehner and Lantolf, 2010). This model of DA helps to obtain pieces of evidence of the learner’s responsiveness to interaction on a descriptive level, as well as information regarding the types of interactions and mediations that yielded positive effects and the intensity of effort involved in eliciting learner modifiability (Feuerstein, et al., 2010 and Lidz, 2003).

In Feuerstein’s model of DA, which is also called Mediated Learning Experience (MLE), the interaction between the learner and the mediator must satisfy three universal criteria of mediation. These are the mediation of intentionality and reciprocity, mediation of meaning; and mediation of transcendence. Intentionality refers to initiating learners for participation and maintaining their focus by scheduling the stimulus, and reciprocity is to mean active participation of the learner. Similarly, mediation of transcendence refers to the learners’ cognitive development or what the learner has achieved due to mediations; mediation of meaning refers to the significance of what the student is learning (Feuerstein, et al, 2010, Isman, and Tzuriel, 2008 and Poehner and Lantolf, 2010).

4.2. Testing speaking skill

Evaluating speaking skills is an essential element in testing overall language proficiency (Luoma, 2004). Learners’ level of oral proficiency is mostly measured through interviews using scoring scales; the scoring scales usually measure learners’ language use such as oral fluency, grammatical accuracy, intelligibility, and richness of vocabulary (Nation, 2011, De Jong, et al., 2012, and Hsieh and Wang 2019). Also, some English language proficiency testing organizations, for instance, IELTS, evaluate speaking skills based on certain criteria such as fluency, coherence, lexical resource, grammatical range, and accuracy. From the scholars’ explanation, therefore, grammar accuracy can be considered as one major item of speaking skill worth teaching and studying to help learners improve their communicative competence.

4.3. Defining Grammar Accuracy

According to Skehan (1996), accuracy refers to “a learner’s capacity to handle whatever level of interlanguage complexity s/he has currently attained” (p.46). In other words, grammar accuracy means the ability of students to gain control over grammatical structures during speaking. Therefore, in this study context, accuracy is related to learners’ production of speech which is free from any error related to grammatical structure.
4.4. Measuring Grammar Accuracy

There are different ways of scoring the grammar accuracy of learners' oral production. However, the most reliable one is the measure of Weighted Clause Ratio (WCR) since it categorizes clauses based on the gravity of errors (Foster & Wigglesworth, 2016). This scoring method measures grammar accuracy by categorizing clauses into four divisions: entirely accurate clauses, clauses with the least serious errors (Level 1 error), clauses with more serious errors (Level 2 error), and clauses with the most serious errors (Level 3). Entirely accurate clauses are free from any errors; clauses under the category of level 1 have some minor errors which are related to morphosyntax which never compromise the meaning of the whole clause; clauses under level 2 have serious errors which include verb tense, word choice, word order; however, the meanings are comprehensible; Clauses categorized under level 3 contain very serious errors that impede understandability of the utterance (Ibid: 106). The weight for each category is 1.0, 0.80, 0.50, and 0.10 respectively. These scholars also define the level of errors as follows:

Clauses at Level 1 contain only minor errors (such as the omission of "s" in the third-person singular in the English present tense) that do not impact comprehensibility. Clauses at Level 3 have errors that do impact comprehensibility, rendering the intended meaning difficult to recover. Clauses at Level 2 sit between these; their meaning is impacted by error but not derailed by it (Foster & Wigglesworth, 2016).

To practically score accuracy in the WCR measure, it is very important to follow the three steps: clause boundary identification, clause categorization, and clause rating (Foster & Wigglesworth, 2016).

5. Research Methodology

5.1. Research Design

This study employed an experimental design, specifically a Pretest-Posttest Control-Group Design in which the present researchers randomly assigned participants into control and treatment groups based on systematic random sampling.

5.2. Participants and Context of the Study

The study was conducted at Hawassa University, which is one of the higher education institutions in Ethiopia. Participants of the study [n=48] were second-year university students who were studying English Language and Literature in the academic years of 2020/21. In the context of Ethiopia, students start learning the English language as a subject beginning in grade one, and most of them do not get enough exposure to learn English outside of their classrooms.

The participants of this study came from different regions of Ethiopia. Out of 48 students, 16 were females and 32 were males. The researchers conveniently selected second-year students since they were relatively larger in number (n=48) as compared to first-year and third-year students which contained 17 and 21 students, respectively. Since the number of participants [n=48] was not appropriate to employ probability sampling, the researchers took the available sample size and divided students into treatment and control groups using systematic random sampling.
Also, two TEFL instructors, who ran the intervention program (DA and NDA), were selected from the Department of English Language and Literature based on voluntary sampling. Similarly, two observers (the principal researcher along with a co-observer from TEFL professionals) conducted an observation to crosscheck whether or not features of DA and NDA procedures were implemented during the instruction process in the treatment and control groups, respectively.

5.3. Instruments for Data Collection

The data used for this study were obtained from the six speaking pre/posttests (monologues). The present researchers designed the pre/posttests based on the IELTS Speaking Exam Syllabus. To further ensure the appropriateness of the questions to the level, two TEFL experts validated the test items based on six criteria adopted by Muñoz, et al (2003). The experts’ evaluation was made of the objectives of the instructional material of this research. Moreover, random classroom observations were conducted by the principal researcher and co-researcher to crosscheck how well the DA and NDA procedures were implemented in the treatment and control groups, respectively. The observers used checklists showing features of DA/MLE procedures and NDA procedures to see how well the two approaches of teaching were being implemented.

5.4. Procedures of the Study

Before the actual study began, the researchers conducted a pilot study on second-year English language students at Dilla University (which is about 90 kilometers away from Hawassa University or the main study site). The purpose of the pilot study was to check how well the data-gathering instruments and procedures of the study were effective in addressing the research objective. Based on the lessons and insights gained from the pilot, some questions which do not let students make extended speeches were replaced by questions that demand students to make longer speeches. Next, the main study was started. The study was conducted in three phases: pre-instruction/assessment phase, while-instruction /assessment phase, and post-instruction /assessment phase.

5.4.1. Pre-instruction/Assessment Phase

During the pre-instruction/assessment phase, four major activities were carried out. During the first activity, we [researchers] provided training to mediators on the concept and application of DA. The training was designed based on the Dynamic Assessment Training manual Developed by Lidz (2015) and procedures of MLE (Mediated Learning Experience) introduced by Feuerstein, et al. (2010). In the second activity, we oriented students to the purpose of the study to get their consent. The researchers and the head of the department administered a letter of ethical consent to students to ensure their willingness to take part in the study. It was found that all students put their signatures expressing their interest and commitment to enroll in the experiment. Next, we administered the pretests. The pretests, which consisted of six speaking items, were administered in two phases within a one-day interval. During phase I, the first, second, and third questions were administered; during phase II, the fourth, fifth, and sixth questions were tested. The students’ monologues were recorded using Audacity Software in a WAV format. After we collected the pretest data, transcribing the spoken data was started right away. Then, the grammar accuracy of each learner’s monologue was scored based on the measure of Weighted Clause Ratio (WCR) proposed by Foster and Wigglesworth (2016)]. The last activity was to randomly categorize
learners into control and treatment groups based on systematic random sampling. That means, first, all 48 students’ scores were put from ascending to descending order (highest to lowest marks). Second, based on an even and odd category, we formed two groups of students; those students falling under odd numbers such as 1, 3, 5, 7, etc., and those students falling under even numbers such as 2, 4, 6, 8, etc. Finally, we checked the homogeneity of the two groups, and we started the experiment.

5.4.2. While-instruction Phase

The two trained mediators offered the course by sharing the 12 units of speaking material. So, the two instructors handled six units each. Therefore, the same contents of tasks were presented to both groups by the same instructor. Said in other words, the first instructor taught the first six units of speaking tasks to both the control and treatment groups by employing the conventional approach [non-dynamic assessment] and the new approach-MLE/DA, respectively. In the same way, the second instructor delivered the remaining parts of the contents to the control and treatment groups employing NDA and DA, respectively. The researchers avoided teaching both groups by a single instructor or teaching both groups similar contents by two different instructors to control extraneous variables such as differences in teachers’ teaching effort, style, and oral skills that could affect learners’ performance.

The various dynamic assessments in the teaching material consisted of two different tasks: retelling stories from listening material (video) and IELTS-type conversations. For example, students watched a video about the mini-biography of Abraham Lincoln and retold the story to their teacher. The following excerpt is a sample dialogue to show how one of the teachers provided contingent grammar mediation to students on a one-on-one basis during storytelling:

**T:** Please retell me the biography of Abraham Lincoln.

[436] **S:** Abraham Lincoln born February 12, 1809. [S-produced wrong structure]

[437] **T:** Repeat please [T-asks for repetition]

[438] **S:** Abraham Lincoln was born on February 12, 1809. When he won the election for [439] house of the representative of America, his age was 46. He got married when he [440] was 33. He had four children. [S-correction of first error but commits another error] [441] **T:** four..? [T asks for repetition by showing the location of error]

[442] **S:** Childrens. [S-repeats error]

[443] **T:** Ok. Childrens..? Correct it. [T-questioning looks at SS to confirm the wrong structure]

[444] **S:** Yes. Ok. Children. [S-understands the error and corrects it.]

[445] **T:** yes, four children. [T-confirms answer]

[446] **S:** His mother is died... [S-makes error]

[447] **T:** His mother ..? [T-asks for repetition]

[448] **S:** died [S-corrects error]
Similarly, the teachers conducted a non-dynamic assessment and conventional instruction to the control group students. The teachers conducted a one-on-one dialogue with each student, but they never intervene and gave mediation while the students produced the wrong structures. Instead, they gave a general explanation of grammar structures at the end of every student’s presentation. This is because in our conventional approach of speaking instruction/assessment [that is non-dynamic assessment], intervening with students and giving feedback on the spot is regarded as unethical and a distraction.

5.4.3. Post-instruction Phase

After twelve weeks of intensive instruction, both treatment and control groups of students sat for a posttest, and data about learners’ speaking accuracy was collected to examine the effects of the teacher’s mediation on learners’ production of accurate structures in their speech.

6. Material for Instruction/Assessment

The same material was used to teach and assess the speaking skills of both control and treatment groups. The speaking tasks involved narration, description, comparison/contrast, and other problem-solving activities. The tasks and activities were selected from Luoma (2004), Folse (1996), and other online sources. This instructional material, like that of the pre/posttests, was designed in line with the IELTS syllabus of the speaking exam. The instructional material consists of 12 units. The material presents different activities and language structures by integrating all language skills such as listening, reading, writing, and speaking. Since there are no minimum eligibility criteria for test-takers to sit for the IELTS tests, the issues of the test items’ appropriateness or relevance were not of big concern in the study. It is disclosed on various online sources that anyone above the age of 16 can sit for the IELTS exam. However, to avoid doubts and to further ensure the materials’ relevance and appropriateness to the intended level, that is, to second-year university students, the material was evaluated by two TEFL professionals. The overall evaluation revealed that the material was appropriate and relevant to students of the specified level.
7. Methods of Instruction/Assessment

The assessment/instruction process lasted for 12 weeks. The course was given for 3 hours every week (i.e. the instruction/assessment process was a 5 ECTS course, where there were 3 contact hours in which mediators and students met and 2 tutorial hours that students used to do their home-take exams and group activities). The mediators were also paid fees based on the contact hours and the trends in the university.

Regarding the method of instruction, the teacher in the treatment group implemented interactionist dynamic assessment and Feuerstein’s procedures of MLE to help learners did problem-solving tasks, thereby paving ways to improve their speaking accuracy. That is, the teachers conducted a conversation with students on a one-on-one basis and mediate their grammatical structures by providing graduated hints. On the other hand, the teachers in the control group presented tasks in the class and briefly explained what learners do with the various tasks. The teachers asked students to discuss the problems (tasks), such as retelling stories in pairs or groups. They also provided general comments about learners’ grammar accuracy and oral fluency. The classroom teachers never provided graduate hints to students of the control group.

8. Methods of Analysis

The pretest and posttest static assessments which were administered in the pre-instruction and post-instruction phases were transcribed. Then the grammatical accuracy of each learner’s speeches of pretest and posttest monologues were scored using a Weighted Clause Ratio [WCR], which could help to rate grammar accuracy based on the gravity of errors. Then, to identify the effects of DA of grammatical structures on learners’ speaking accuracy, a comparison was made between students’ pretest and posttest scores of grammar accuracy, and SPSS was run to examine whether or not there was a statistically significant difference between pretest and posttest performances.

9. Results

To examine the effects of DA on learners’ grammar accuracy during speaking, a comparison was made, first, between the posttest scores of the control and treatment groups followed by the pretest and posttest performances of the treatment group. Finally, a comparison was done between the pretest and posttest scores of control groups to get a complete picture of the effect of DA and NDA on learners’ control over structure during the monologue. As a first procedure of all the data analysis, a normality test of data distribution was conducted to determine the type of statistical test (parametric or non-parametric test) to be used.
9.1. Comparison between post-test results of the control and treatment groups

Table 1. Normality test of control and treatment students’ score on grammar accuracy

<table>
<thead>
<tr>
<th>Tests of Normality</th>
<th>students of control and treatment groups</th>
<th>Kolmogorov-Smirnov(^a)</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Posttest Accuracy Scores of Control and Treatment Groups</td>
<td>Control Group</td>
<td>.176</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Treatment Group</td>
<td>.148</td>
<td>24</td>
</tr>
</tbody>
</table>

\(a\). Lilliefors Significance Correction

In Table 1, above, the Shapiro-Wilk’s test provides significance values of 0.434 and 0.339 for the posttest scores of control and treatment groups, respectively, that is, \(P > 0.05\), which shows normal distribution of the data. Moreover, the visual inspection of their histograms and normal Q-Q plots revealed a skewness of -0.144 (SE=0.472) and kurtosis of -0.089 (SE=0.918) for the control group and a skewness of -0.432(SE= 0.472) and kurtosis of 0.636 (SE=0.918) for the treatment group. Since these skewness values are between -1 and 1, the data were approximately normally distributed (Morgan, et al., 2004). Therefore, the data were appropriate to use a parametric T-test. Hence, an Independent Sample T-test was run and presented below in Tables 2 and 3.

Table 2. Descriptive statistics of the SPSS output

<table>
<thead>
<tr>
<th>Group Statistics</th>
<th>students of control and treatment groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>posttest accuracy scores of control and treatment groups</td>
<td>control group</td>
<td>24</td>
<td>4.0000</td>
<td>.44205</td>
<td>.09023</td>
</tr>
</tbody>
</table>
As can be seen in Table 2, the group statistics revealed that there is a considerable difference between the post-test grammar accuracy scores of the control group \([M=4.00, SD=0.44]\) and the treatment group \([M=4.85, SD=0.5]\). Most importantly, the statistical figure in Table 3 depicts \(t(46) = -5.745, P = 0.000\) or the \(t\)-value indicates, \(t = -5.745\) with 46 degrees of freedom at \(P < 0.05\) level of significance. In other words, the \(P\)-value shows 0.000, which is less than 0.05. Therefore, it can be
deduced that dynamic assessment of English language structures during dialogue has a significant effect on learners’ production of accurate structures during oral performances (monologues). This justifies that students receiving ZPD-sensitive feedback on grammatical structures during the speaking assessment/instruction/outperformed those students in the control group in terms of the production of accurate structures in their monologues.

The result clearly depicts an improvement in learners’ use of accurate grammar in their oral speech. To see the magnitude of the effect of the intervention, computing the effect size is crucial. Hence, Cohen’s D was calculated based on the following formula:

\[ D = \frac{M_1 - M_2}{s_{pooled}} \]

where \(M_1\) is mean score of control group, and \(M_2\) is mean score of treatment group

\[ s_{pooled} = \frac{SD_1 + SD_2}{2} \]

Therefore, \(4.0000 - 4.7858 / 0.44205 + .50364/2 = 1.7\)

Based on Cohen’s D cut-off points for effect size such as 0–0.20 = weak effect, 0.21–0.50 = modest effect, 0.51–1.00 = moderate effect, and >1.00 = strong effect (Muijs, 2004), it could be inferred that Cohen’s D =1.7 is a strong effect. Thus, the null hypothesis is rejected. Therefore, it is possible to conclude that dynamic assessment of speaking activities is very much invaluable to enhancing students’ production of accurate English language structures during monologues.

9.2. Comparison between pretest and posttest scores of treatment groups

To obtain additional information on the impact of the intervention on learners’ speaking performance, a comparison was made between the pretest and posttest scores of the treatment group. To do so, first, the normality of the data of the pretest and posttest was checked as presented in Table 4 below.

**Table 4. Normality test of pretest and posttest accuracy scores of treatment groups**

<table>
<thead>
<tr>
<th>Tests of Normality</th>
<th>Kolmogorov-Smirnov(^a)</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Pretest Accuracy Scores of the Treatment Group</td>
<td>.147</td>
<td>24</td>
</tr>
</tbody>
</table>
As it is indicated in Table 4, Shapiro-Wilk’s test provides significance values of 0.033 and 0.041 for the pretest and posttest grammar accuracy scores, respectively. That is, the P value is less than 0.05, which means that the data was not approximately normally distributed. Moreover, the visual inspection of their histograms and normal Q-Q plots revealed that the scores were not normally distributed since the values of skewness for both the pretest and posttest phases (that is, -1.735 and -1.512, respectively) were not between 1 and -1 (Morgan, et al., 2004). Therefore, the data were appropriate to use a non-parametric T-test. The result is displayed in the following tables (Tables 5a and 5b).

Table 5a. Wilcoxon Signed Ranks Test

<table>
<thead>
<tr>
<th>Posttest Accuracy Scores of Treatment Group</th>
<th>.223</th>
<th>24</th>
<th>.003</th>
<th>.913</th>
<th>24</th>
<th>.041</th>
</tr>
</thead>
</table>

a. Lilliefors Significance Correction

<table>
<thead>
<tr>
<th>Ranks</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest Accuracy scores of treatment group - Pretest Accuracy scores of Treatment group</td>
<td>Negative Ranks</td>
<td>0&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>Positive Ranks</td>
<td>23&lt;sup&gt;b&lt;/sup&gt;</td>
<td>12.00</td>
</tr>
<tr>
<td></td>
<td>Ties</td>
<td>1&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

a. Posttest Accuracy scores of treatment group < Pretest Accuracy scores of Treatment group

b. Posttest Accuracy scores of treatment group > Pretest Accuracy scores of Treatment group
Table 5b. Test statistics of the Wilcoxon signed-rank test

<table>
<thead>
<tr>
<th>Test Statisticsa</th>
<th>Posttest Accuracy scores of treatment group - Pretest Accuracy scores of Treatment group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-4.197b</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

After running the non-parametric Wilcoxon test, SPSS produced two tables: the rank table and the test Statistics. The rank table showed not only students’ mean ranks of the pretest and posttest grammar accuracy scores but also the number of students who gained higher marks in their posttest than in their pretest (that is, 23) and the number of students who scored smaller marks in their posttest than in their pretest (that is, 0). It also displayed the number of ties or the number of students scoring equal marks in both the pretest and posttest phase, which is only 1. This rank table indicates that each student’s posttest grammar accuracy score was larger than his/her pretest scores. This, in turn, implies there was clear progress in learners’ production of accurate grammatical structure during posttest performances. Most importantly, the significance level of the improvement could be determined by results produced in the second table, that is, the Wilcoxon Signed Ranks Test table (i.e., table 5b). This table revealed the p-value of 0.000, which is less than the cut-off point, that is, 0.05. This means there is a statistically significant median difference between the pretest and posttest grammar accuracy scores of treatment group students.

The results in both tables clearly depict improvement in learners’ use of accurate grammar in their oral speech. To see the extent or magnitude of the effect of the intervention, computing the effect size is crucial. Effect size = \( \frac{Z}{\sqrt{N}} \) (Larsen- Hall, 2010). Therefore, \( -4.197 / \sqrt{48} = -4.197 / 6.9 = 0.61 \), which is a large effect (Morgan, et al., 2004). The significance value (P < 0.05) of the Wilcoxon Signed Ranks Test along with the effect size (0.61) reveals that there was significant progress in the learner’s use of correct grammar in the post-test than the pretest phase. Thus, the null hypothesis is rejected. Therefore, it could be deduced that the students exhibited a remarkable change in their use of grammatical structures due to the intervention. That is to say, dynamic assessment of grammar usage during the conversation had a strong effect on enhancing students’ production of accurate English language structures during monologues.
9.3. Comparison between pretest and posttest scores of the control group

It also seems logical to examine the extent of structural improvement of control groups to justify that the change that occurred in the treatment group was not due to a mere chance; but rather the intervention program. To do so, the normality of the data was checked to decide whether to use parametric or non-parametric statistics. The result is displayed below in Table 6.

Table 6. Normality Test for pretest and post-test accuracy scores of the control group

<table>
<thead>
<tr>
<th>Tests of Normality</th>
<th>Kolmogorov-Smirnov(^a)</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>control group scores of the pretest</td>
<td>.186</td>
<td>24</td>
</tr>
<tr>
<td>control group scores of posttest</td>
<td>.086</td>
<td>24</td>
</tr>
</tbody>
</table>

\(^*\). This is a lower bound of the true significance.

a. Lilliefors Significance Correction

As can be displayed above in Table 6, the Shapiro-Wilk test produced two p values, p=0.011 and p=0.582. Of the two p values, only the post-test data assumes a normal distribution of the data. Also, the visual inspection of the box plots and histograms of the SPSS output suggests that the data are not approximately normally distributed. Similarly, the skewness values are not between 1 and -1. In such a situation, it is generally recommended to check the result using both parametric and non-parametric tests and take the result which depicts a strong power (Larson-Hall, 2010). The results of the analysis are presented below in Tables 7a and 7b.

Table 7a. Results of Non-Parametric Test [Wilcoxon Signed Ranks Test]

<table>
<thead>
<tr>
<th>Test Statistics(^a)</th>
<th>control group scores of posttest - control group scores of pretest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-1.872(^b)</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.061</td>
</tr>
</tbody>
</table>

\(^a\). Wilcoxon Signed Ranks Test
b. Based on negative ranks.

Table 7b. Results of Parametric test [Paired sample test]

In times of doubt regarding the normality of the data distributions, statisticians recommend a need to check parametric and non-parametric tests and consider the result with the most power. Accordingly, Wilcoxon Signed Ranks Test and Paired sample t-test were run and the results were displayed in the above tables. As can be seen in these two tables [tables 7a and 7b], both the non-parametric and parametric tests rendered p values, p=0.061 and 0.055 respectively. In both cases, the p-values are above the cut of point, which is 0.05. Therefore, it could be concluded that there is no statistically significant difference between the pretest and post-test scores of the control groups. However, this does not mean that there was no change at all in terms of their performance. This is because the descriptive statistics in Table 8 revealed that there was a kind of improvement in learners’ production of accurate utterances, though it was not significant.

Table 8. Descriptive statistics of pretest and posttest accuracy scores of the control group

As can be seen in the above table, there is a slight change in the mean score between the pretest score [4.2] and posttest score [4.4] though it is not significant.
To sum up, all the analyses of the SPSS output reveal that implementing DA of grammatical structures during dialogue could help learners produce structurally accurate utterances during oral delivery. This is because students who received DA of grammatical structures during dialogue outsmarted those of the control group [students who did not receive DA of structures in their dialogue] in terms of the production of accurate structures during oral performances.

10. Discussions

The major determining components of speaking skills include grammar accuracy, oral fluency, pronunciation, and vocabulary. To help students improve these sub-skills, L2 researchers should gear their studies toward new instructional/assessment approaches.

In the area of second language instruction/assessment, prominent scholars such as Vygotsky (1978), Lantolf and Poehner (2004), Haywood and Lidz (2006), and Poehner (2008, 2011) assert that the application of DA in classrooms can speed up learners’ L2 acquisition. In an attempt to unearth the extent of the impact of DA on learners’ language proficiency, pioneer researchers, namely, Taylor (2000), Kozulin and Garb (2004), Ableeva and Lantolf (2011), Tajeddin and Tayebipour (2012), Nazari and Mansouri (2014), Mehrnoosh and Rassaei (2015) and Azarian, et al (2016), Hooshang and Sajad (2016), Yaksik and Cakir (2017) revealed that DA has a significant effect on learners L2 overall performance. However, the issue of DA and L2 instruction in general and the impact of DA on learners’ oral performance, in particular, has never been addressed in the Ethiopian context. The purpose of this study was, therefore, to examine the effects of interactionist DA procedure on learners’ English language speaking accuracy. The study specifically focused on the impact of dynamic assessment of learners’ English language structures during a dialogue on learners’ control over grammar during the monologue.

This experimental result revealed DA of speaking skills helped students significantly improve their ability to control grammatical structures during speaking. This result is similar to the findings of the previous studies conducted by Poehner, and Lantolf (2010), Fahmy, M.(2013), and Ebrahim, E. (2014). Sharafi, M & Sardareh, A. (2016), and Ebadi and Asakereh (2017) that proved teachers’ mediation of L2 structures during speaking helped learners improve their control over grammar during oral performances.

The result also coincides with the findings of Bahador, (2020), Pratolo, and Zahruni (2020), Safdari and Fathi (2020), Gahderijani, et al. (2021), and Chen, et al. (2022), which revealed DA helped learners improve their control over L2 structures, which in turn, made learners significantly progress their oral production, reciprocating ability and independent performance. The finding is also in line with the result of studies recently revealed by Abdulaal, et al. (2022), and Alshammar (2022) that confirmed DA has a great impact on the development of learners’ accurate speech production.

Thus, the result of the present study implies that dynamic assessment (DA) played an invaluable role in helping learners bring significant change in their production of accurate speeches. It also signals that grammar accuracy is a central component of speaking skills worth teaching/assessing to boost learners’ oral proficiency. This is because the hints provided to students whilst the student-teacher conversation enabled learners’ knowledge and skills of structures to move from the Zone of actual performance [ZAP] to the Zone of Proximal Development [ZPD], which in turn,
helped them have control over structures during monologues. Hence, applying DA which simultaneously integrates assessment and instruction is an effective alternative instructional/assessment approach to enhance learners’ oral proficiency.

11. Conclusion
One of the most important communicative competencies L2 students need to develop is grammar accuracy. To help learners improve their control over grammar during a speech, many scholars recommend employing DA in the instruction/assessment process. This study, therefore, attempted to examine the extent of the effect of DA on learners speaking accuracy in the Ethiopian context. The result of the study showed that implementing DA in the classroom boosts learners’ actual and potential performance through teachers’ contingent and graduated hints which are tailored to the cognitive needs of learners. Crucially, in other words, the finding suggests that including DA as an alternative approach in the L2 speaking curriculum can enhance learners’ oral proficiency. The significant contribution of this study is that it potentially sheds light on future studies that will focus on how oral language capacities can be improved through the application of various DA models.

Delimitations of the Study
This experimental study employed a non-probability sampling technique (convenient sampling) instead of a probability sampling technique. This is because the total number of participants was very small [n=48]. Nevertheless, the study employed systematic random sampling to assign participants into treatment and control groups.

Limitations of the Study
The study focused only on the effect of DA of structures on learners’ speaking accuracy. Other factors that could affect learners’ speaking proficiency, such as learners’ knowledge of vocabulary and pronunciation were not addressed in this study.

Declaration of Conflicts of Interests
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References


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