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# PEER SCAFFOLDING AND ITS EFFECTS ON READING COMPREHENSION: EVIDENCE FROM ETHIOPIA

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## **ABSTRACT**

The influence of peers and working with them is widely accepted as an effective mechanism for the better educational outcomes. The teaching and learning activities became more vibrant and interesting when taught and learnt in the group with peers. Taking into consideration of the growing importance of peer scaffolding, the present study was aimed to investigate its effect on students' reading comprehension. Further, the participants' evaluation of social validity of the intervention was also assessed. The intervention and study was carried out among first year medicine students in University of Gondar, which is one of prominent universities of Ethiopia. A non -equivalent pre-test post-test quasi-experimental design was employed. The experimental group was consists of 44 students in which seven were chosen as scaffolders and thirty seven was scaffoldees. The control group consists of seven group leaders and 36 learners. Both the groups were assessed for reading comprehension at the pre and post levels. Seven students from each group who have scored higher than their fellows in the pre-tests were selected as scaffolders and group leaders in respective groups. The experimental and control group were randomly divided into seven groups under these selected scaffolders and group leaders. Both experimental and control groups were involved in small group reading comprehension activities for six weeks. However, the scaffolders undergone scaffolding strategies training for 15 hours. The six techniques of scaffolding: feeding back, Hints, Instructing, Explaining, modeling, and questioning were employed in the training. The peer scaffolding model adopted in the study was based on Vygotsky's socio cultural theory. The social validity questionnaires were administered at the post-intervention stage. The findings of the study revealed that the scaffolders and scaffoldees showed greater pre-to-postintervention improvement in reading comprehension and rated the intervention as socially valid. Thus, the study assured the efficacy of peer scaffolding intervention as feasible tool to enhance reading comprehension achievement.

#### INTRODUCTION

The recent past has witnessed a plethora of efforts to improve the quality of education and learning levels of the students throughout the globe. Underdeveloped and developing countries have potential challenges to improve the learning levels of its pupils. Currently, there are several

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approaches to teaching, but fewer are based on the way students think and learn. Some believe the best way to help students is to feed them answers to memorize and solve problems themselves. Others believe that children are capable of learning on their own. Theories and practices of learning and thinking, however, reveal the importance of scaffolding. Scaffolding is often presented as an effective instructional method (e.g., Cole 2006; Hogan and Pressley; 1997 Pawan 2008). Along with the mainstream educational techniques and policy frameworks, strategies of peer scaffolding has an important role to play.

Scaffolding is based on the theory of the Zone of Proximal Development (ZPD). ZPD, according to Vygotsky, is when a child or learner follows the adult's example and eventually develop his problem solving skills without any assistance. This leads to the development of cognitive skills, self-reliance, initiative, and confidence. The notion of scaffolding is that significant others including teachers, parents, peers, and caregivers can play a role in learners and tasks and thus promoting the learning process. Feuerstein (1980) & Vygotsky (1978, 1986) emphasis on the constructive activity of students and the importance of socio-cultural force in shaping the situation of children's learning.

The focused interventions are highly indicative of improving the student's capabilities and dealing with the problems they encounter in the day to day life (Azeez, 2014). In the field of academics, especially at higher institutions, students face the higher magnitude of issues so as to understand a complex and wide range of subject matters and lessons. The context is very complex for the students who learn a foreign language. Reading and comprehension skills in English are considered very essential in almost all curriculum frameworks, especially in Ethiopia where English curriculum is fully employed starting from secondary school level. Earlier, it was commonly understood that reading was considered word phrase or sentence level processing. One student decoding comprehension was assumed to occur automatically (Dole, 2000). Research, however, has shown that more than just decoding skills, good readers are characterized by the use of a flexible repertoire of comprehension-fostering and monitoring activities (Dole, Duffy, Baker and Brown, 1984). The ultimate goal of reading is comprehension, or to get meaning from written text. Therefore, reading comprehension can be defined as a process of constructing a mental representation of textual information and its interpretation (Van Den Broek and Kremer, 2000) or in other words it is extracting meaning from written words, sentences and texts (Aarnouts and Leevwe, 2000), without comprehension reading, is worthless exercise.

Reading comprehension is essential for academic success since it provides the basis for a substantial amount of learning (Alvernmann and Earle, 2003; Kirsch, Jungeblut, Jenkins and Kolstad, 1993; Sweet and Snow, 2003). It has also been reported that individuals who read a lot tend to be smarter than their peers who do not read much (Cunningham and Stanouich, 1998). If students cannot read at their appropriate level, they are unable to keep pace with the

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curriculum and usually leave with poor school qualifications. There are many factors, directly and indirectly, effects the learning comprehension skills of the students. It is not very easy to become a proficient comprehender for everyone due to persistent problems. Alarmingly high number of students go through school without learning to comprehend what they read beyond a very elementary level (Snow, Burns, & Griffin, 1998), previous local reading studies of various types such as Dubale (1990) and Mesfin (2008) verified that students reading ability seems to be at lower level. One factor that might be attributed to students' low comprehension achievement more than others is the efficacy of the instruction. As to Catherine (2002), (as cited Tesfamicael, 2011) effective instruction is one of the powerful means of developing proficient comprehenders and averting reading comprehension problems. More broadly, comprehension instruction gives students access to culturally important domains of knowledge and provides a means of pursuing effective and intellectual goals. Narrowly defined, comprehension instruction promotes the ability to learn from text.

The student community in Ethiopia is also facing issues about English langue reading and comprehension. The educational outcomes at the present time indices that the mere traditional approaches to teaching will not make many vibrant changes to the scenario. It is a prime hour to implement and experiment with innovative practices to improve the reading comprehension and overall learning levels. Therefore, the present study aimed to implement an intervention module and test its efficacy on reading comprehension levels of fresh university students. Further, the social validity of the intervention was also assessed. Based on the current empirical evidence and knowledge base on the area of investigation, the present study put forward the following hypothesis.

**Hypothesis-1** (H1): There will be a significant difference in the reading comprehension skills of students' undergone and not undergone training in scaffolding strategies at the post-intervention level.

**Hypothesis-2** (**H2**): There will be a significant difference in the reading comprehension skills of the scaffolders and groups leaders.

**Hypothesis-3** (H3): The participants in the experimental group will rate the social validity of the intervention as high.

## **METHODS AND MATERIALS**

In line with the research questions and objectives posed, the present study employed quasiexperimental research design. In particular, a non- equivalent pretest-post-test design was

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employed in the study. This design is chosen because of two reasons. One is the possibility that the temporal precedence of the independent variable to the dependent variable can be established because of pre and post-tests. This enables the researcher to infer that the independent variable mainly causes the change in the dependent variable. Second, the use of a pre-test allows the researcher to measure between groups different before exposure to the treatment, which could considerably reduce the threat of selection bias. The intervention and study was carried out among first year medicine students in University of Gondar, which is one of prominent universities of Ethiopia.

# **Participants and Sampling Procedures**

The samples for the present study were chosen from fresh medicine students at University of Gondar, Ethiopia. The selection of the school was purposive due to the fact that the researcher has been assigned to teach them and students of this department are required to read a lot than students of other departments. The study had both experimental and control group. The total number of medicine first year students was 198 in two sections. 87 students from both sections, which was more than 43.9 percent of the total population, were chosen for the study. The students were assigned randomly to control and experimental group. The experimental group consisted of 44 students of which seven were chosen as scaffolders and thirty-seven was scaffoldees. The control group consisted of seven group leaders and 36 learners. Both the groups were assessed for reading comprehension at the pre and post levels. Seven students from each group who have scored higher than their fellows in the pre-tests were selected as scaffolders and group leaders in respective groups.

#### **Procedures and Instruments**

Stringent methods and procedures were adopted for the conduct of the present study. The study was revolved around three stages in which the initial stage was pre-test, then intervention followed by post-test. After the random assignment of participants into control and experiential group, the groups were again randomly divided into seven groups separate for both control and experimental group. Each seven subgroups in experimental groups have assigned with one scaffolder. The scaffolders are the students who have acquired higher score in the reading comprehension test at the pre-intervention level. In the same manner, the control groups also had seven subgroups. Each subgroup had a group leader who guides the group members. Two pre-tests were administered within a week interval for two consecutive weeks prior to the intervention. This interval was assumed adequate to avoid boredom. After the six weeks of intervention two post-tests, which were equivalent with the pre-tests in length, content and difficulty level, was administered in the two-week interval. Within these weeks interval, students were exposed to comprehend independently. This was to check students' progress compared with the baseline data.

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Two tools were employed to measure the core variables under study; one for reading comprehension and another for social validity. The researcher prepared four tests of which two were pre-tests and the other two were post-tests. The pre-tests were two in number for two reasons: (a) to get stable baseline that can be compared with the post-tests with confidence and (b) to successfully select the peer scaffolder and group leaders. Attempts were made to equalize the length and level of difficulty between and within the pre-tests and post-tests so that by comparing the two sets inferences can be drawn effectively. However, to minimize the testing affect the passages and the questions were varied. Each test consists of one passage and twenty comprehension questions. The questions were all objective type questions: 5 true-false, seven multiple choices, 4 four matching and 4 four completions. Subjective type questions were not used because they required the ability to organize and write. From experience, it was perceived that not all students were good at writing. This might affect the validity of the results. In view of that, text explicit questions- answers explicitly mentioned in text; text implicit questions-answer was inferred by integrating information presented in text; script implicit questions- answer was inferred by relating text to prior knowledge concerning the topic were developed. The contents of the tests include macro and micro skills of reading. The distinction between these two levels of sub-skills is not made explicit, but it appears that the term macro skills' refers to understanding the general ideas in the text (e.g., information, gist, argument) while micro skills' refers to recognizing and interpreting the linguistic features of the text (e.g., referents, word meanings, discourse indicators). Hence, each test consists of questions asking gist, details, word meanings and referents. The texts used in the tests were adapted from Reading with Understanding: a Comprehension Course 2 and 3, which were written by Seely J. (1983a; 1983b), and Multiple Choice Tests in English Language written by Black &Finn (1996) since they were found to be appropriate to measure the comprehension level of the subjects. A pilot was conducted on the non selected students and the reliability of the instrument was measured. The reliability score of the same was statistically sound.

Social validity is a subjective, yet necessary, assessment to evaluate the social importance of any intervention (Wolf, 1978). In this study, the opinions of the participants (both scaffolders and scaffoldee) of the experimental conditions were elicited using a five-point Likert scale. The purpose of the questionnaire was to assess the perceived appropriateness and effectiveness of the intervention, feasibility of the procedures of the intervention, satisfaction and willingness of the participants to engage in similar programmes in other contexts. An eighteen-item questionnaire was designed after synthesizing the social validity questionnaires used by Udaka (2009) and Josephs (2010). The reliability check was done for the questionnaire as well and found a statistically significant score of Cronbach's 0.89.

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#### The Intervention

Both experimental and control groups were involved in small group reading comprehension activities. However, the scaffolders undergone scaffolding strategies training for 15 hours. The six techniques of scaffolding include feeding back, hints, instructing, explaining, modeling, and questioning were employed in the training. The peer scaffolding model adopted in the study was based on Vygotsky's sociocultural theory. Totally six lessons were taught throughout the peer scaffolding programme practice phase. For the implementation of the treatment, peer scaffolded small groups were formed; peer scaffolders were selected and scaffoldee were assigned. Equivalent procedure was employed for comparison condition: small groups were formed; group leaders were selected; learners were assigned. In the experimental and comparison class, small groups were formed by joining the six students sitting in two desks and only two groups contain seven members. Of the six students, one was the peer scaffolder or group leader and the rest were the scaffoldee or learners. In this basis, seven groups were formed. In addition to their sitting arrangement, the number of students that should be assigned in one group was decided based on Light's (1990) and Tzuriel's (personal communication, July 10th 2011) recommendation: five to eight students in a group. Accordingly, in EG peer scaffolders (n=7) were randomly assigned to small groups (n=7) each consist of scaffoldees (n=5) but for two groups n=6). Similarly, group leaders (n=7) were randomly assigned to small groups (n=7) each consist of learners (n=5) but for one group n=6). The peer scaffoldees were students (n=37) who scored lower results than the seven top scorers did. Lot was casted to assign the students into the seven groups.

The pre and post data was entered into SPSS (Statistical Package for Social Sciences) and calculated. Both descriptive and inferential statistical methods were adopted. Appropriate statistical tests were applied to test the hypothesis and generate statistical inferences.

## **RESULTS**

The primary aim of the study was to develop a peer scaffolding model for improving the reading comprehension skills of first year medicine students. The reflections from the study are detailed in its different domains. It was found that majority of the respondents in both the control (69.7%) and experimental (68.1%) group belonged to the age group of 18-19. The experimental group has more than 22 percent of students in the age group of 20-21 and control group has more than 25 percent of students in this age group. The age group above 21 marked the lowest number of students' participants, 9 percent from experiment group and 6.8 from the control group.

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**Table: 01- Socio-demographic Characteristics** 

| Variables |                    | Experimental | Control group (n=43 | Total      |
|-----------|--------------------|--------------|---------------------|------------|
|           |                    | group (n=44) |                     |            |
|           | 1                  |              |                     | (n=87)     |
|           | 17 and younger     | -            | -                   | -          |
|           | 18-19              | 30 (68.1%)   | 30 (69.7%)          | 60 (65.3%) |
| Age       | 20-21              | 10 (22.7%)   | 11 (25.5%)          | 21 (24.1%) |
|           | Above 21           | 4 (9%)       | 2 (4.6%)            | 6 (6.8%)   |
| Sex       | Male               | 23(52.3%)    | 24 (55.8%)          | 47 (54.1%) |
|           | Female             | 21 (47.7%)   | 19 (44.2%)          | 40 (45.9%) |
| Absentees | One day            | 2            | 1                   | 3          |
|           | Two days           | 2            | 2                   | 4          |
|           | More than two days | -            | -                   | -          |

The male and female in both experimental and control group have an equal proportion. In the experimental group there are more than 52 percent of male participants and around 47 percent of female participants. The control group had more than 55 and 44 percent of males and females respectively. The table-1 further indicates that 2 participants from experimental group were absent for one day during the intervention and two were absent for two days. In the control group, one participant was absent for one day and two participants was absent for two days.

Table: 02- Reading Comprehension at the Pre-intervention stage

|                        |    |         |         | the t test for equality of means |     |                               |          |
|------------------------|----|---------|---------|----------------------------------|-----|-------------------------------|----------|
| Group                  | N  | M       | SD      | Т                                | Df  | sig. (2-tailed)<br>difference | mean the |
| One peer<br>scaffolder | 7  | 58.9286 | 5.56349 | .105                             | 12  | .918                          | .35714   |
| 2 group leader         | 7  | 58.5714 | 7.6499  | .105                             |     | .510                          |          |
| Three scaffoldee       | 37 | 37.5000 | 6.66667 | 1.50                             | 5.1 | 001                           | 22511    |
| Four learners          | 36 | 37.7361 | 6.76069 | 150                              | 71  | .881                          | 23611    |

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The pre-intervention scores of the experimental and control group were calculated to explore the state of reading comprehension skills among the participants of different categories. Before exposing to the intervention, the reading comprehension result of experimental scaffolders' (M=58.9286, SD=5.56349) was a little bit higher than group leaders' (M=58.5714, SD=7.6499). On the contrary, scaffoldees' scored (M= 37.5000, SD= 6.66667) a bit less than learners' score (M=37.7361, SD= 6.76069). However, the Independent sample t-test showed no statistically significant difference between the scores of scaffolders and group leaders' t (12) =.105, p>.05 and scaffoldee and learners, t (71)=.150, p>.05.

**Table: 03- Reading Comprehension at the Post-intervention stage** 

|                     |    | the         |         |       |      |            |           |
|---------------------|----|-------------|---------|-------|------|------------|-----------|
| Group               | N  | N M SD T Df |         | Df    | sig. | mean       |           |
|                     |    |             |         |       |      | (2-tailed) | differenc |
| One peer scaffolder | 7  | 69.2857     | 4.00892 |       |      |            |           |
|                     |    |             |         |       |      |            |           |
| 2 group leader      | 7  | 60.7143     | 6.07493 | 3.116 | 12   | .001       | 8.57143   |
| Three scaffoldee    | 37 | 47.9054     | 7.48873 |       |      |            |           |
|                     |    |             |         |       |      |            |           |
| Four learners       | 36 | 41.3889     | 7.96072 | 3.603 | 71   | .001       | 6.51652   |

Inferential statistics were applied to conclude the efficacy of the intervention. In the post-test phase, scaffolders and scaffoldees scored higher than their counterparts did. Group leaders' score (M=60.714, SD=6.0749) was quite less than the scaffolders' (M= 69.2857, SD=4.00892). In the same way, scaffoldees score (M=47.9054, SD=7.48873) was greater than the learners (M= 41.3889, SD=7.96072). By looking at the mean scores presented in the above table, one can conclude that the means of scaffolders and scaffoldees became greater than that of group leaders and learners after the intervention programme was carried out. As it is shown in table six above, the independent sample t-test displayed that the scaffolders' post-test result score significantly differ from group leaders', t(12)= 3.116, p<.005. Similarly, significant differences were found between the scores of scaffoldees and learners t (71) =3.603, P<.005. Hence, the H1 was accepted.

The post-test result of students showed significant differences in reading comprehension score. Even though the data clearly showed us the difference in students' reading comprehension pre to posttest, it seems ambiguous which group (the scaffolders or the group leaders and the scaffolders or the learners) brought the differences. Consequently; to avoid this confusion and arrive at a sound judgment, intra-group t-tests were conducted for the pre and post scaffolding reading comprehension results. The results are presented in table-03.

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**Table: 03- Comparison of Pre and Post Test Reading Comprehension** 

| Group         |    | Pre-test |      | Post-test |      | Paired difference |      |       |         |         |
|---------------|----|----------|------|-----------|------|-------------------|------|-------|---------|---------|
|               |    | M SD M S |      | SD        | Mean | std.dev           | t    | df    | Sign.(2 |         |
|               | N  |          |      |           |      |                   |      |       |         | 70-11-J |
| Scaffolders   | 7  | 58.92    | 5.56 | 69.28     | 4.00 | -10.35            | 4.19 | -6.53 | 6       | .000    |
| Group leaders | 7  | 58.57    | 7.04 | 60.74     | 6.07 | -1.428            | 4.04 | 93    | 6       | .386    |
| Scaffoldees   | 37 | 37.56    | 6.74 | 47.98     | 7.57 | -10.40            | 7.89 | -8.01 | 36      | .000    |
| Learners      | 36 | 37.73    | 6.76 | 41.38     | 7.96 | -3.65             | 5.44 | -4.02 | 35      | .121    |

Table three is pre to post-increment of mean scores of the experimental group (scaffolder and scaffoldee). The scaffolders' post-test score was increased by 10.35. Similarly, the scaffoldee's post-test score showed 10.405 mean differences as compared to their pre-test score. To assure the significant difference of these changes, the paired sample t-tests computed for the scaffolders scores asserts significant improvement, t (6) =6.539, p<.001. The scaffoldees' mean score increase was also significant, t (36) =8.017, p<.001. Hence, the H2 was accepted.

On the contrary, both controlled learners and group leaders did not show statistically significant improvement. The paired samples t-tests assert that the difference between the pre and post-test was not significant for both the group leaders, t (6) =.934, p>.05 and the learners t (35) =4.028, p>.05. These results y imply the significant change seen in independent samples t-test computed for the post-test result was because of the improvement of the mean scores of scaffolders and scaffoldees.

After peer scaffolding programme was carried out, those who participated in the programme were asked to evaluate the intervention through social validity questionnaire. The results were categorized into five themes: appropriateness, effectiveness, the feasibility of procedures, satisfaction and willingness. Appropriate statistical procedures were applied to see the significant differences between students' rating as compared to the expected mean of each category.

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Table: 4-Appropriateness and Effectiveness of the Programme

|              |               | 1.1   | -    |              |               |           |     |                 |  |  |
|--------------|---------------|-------|------|--------------|---------------|-----------|-----|-----------------|--|--|
| Appropriate  | ness          |       |      | Test value=6 |               |           |     |                 |  |  |
| Group        | N             | Mean  | SD   | t            | Df            | sign. (2- |     | mean difference |  |  |
|              |               |       |      |              |               | tailed)   |     |                 |  |  |
| Scaffolder   | 7             | 8.28  | 1.49 | 14.65        | 6             | .000      |     | 2.28            |  |  |
|              |               |       |      |              |               |           |     |                 |  |  |
|              |               |       |      |              |               |           |     |                 |  |  |
| Scaffoldees  | 37            | 7.86  | 1.51 | 31.63        | 36            | .000      |     | 1.86            |  |  |
| Effectivenes | Effectiveness |       |      |              | Test value=15 |           |     |                 |  |  |
| Group        | N             | Mean  | SD   | T            | Df            | sign.     | (2- | mean difference |  |  |
|              |               |       |      |              |               |           |     |                 |  |  |
|              |               |       |      |              |               | tailed)   |     |                 |  |  |
| Scaffolder   | 7             | 21.28 | 3.03 | 18.5         | 6             | .000      |     | 6.28            |  |  |
|              |               |       |      |              |               |           |     |                 |  |  |
|              |               |       |      |              |               |           |     |                 |  |  |
| Scaffolds    | 37            | 19.78 | 2.51 | 47.79        | 36            | .000      |     | 4.98            |  |  |

Table-4 indicates the perception of participants on the appropriateness and effectiveness of the intervention program. The mean scores of the scaffolder's (8.28) and scaffoldes (7.86) in response to the appropriateness of the program were higher than the expected mean (6). Thus, the scaffoldees and the scaffolder rate the intervention as it is acceptable, t (36) = 31.63, p<.001 and t (6) =14.65, p<.001 respectively. It can be concluded that peer scaffolding intervention was appropriate for the participants. In the same manner, the observed mean scores in responses to the effectiveness of the program implied that scaffoldees (19.78) and scaffolders (21.28) were significantly greater than the expected value (15), t (36) = 47.79, p<.001 and t (6) = 18.5, p<.001 respectively. Consequently, the intervention programme which was carried out in this research was asserted by the participants as effective.

Table: 5-Feasibility, Satisfaction and Willingness of the Programme

| Feasibility of the Procedures of intervention |    |       |      |       |    | Test value=15    |                 |  |
|---|----|-------|------|-------|----|------------------|-----------------|--|
| Group   | N  | Mean  | SD   | T     | Df | sign. (2-tailed) | mean difference |  |
| Scaffolders                                   | 7  | 20.57 | 2.29 | 23.67 | 6  | .000             | 5.57            |  |
| Scaffolds                                     | 37 | 19.78 | 2.22 | 54.07 | 36 | .000             | 4.78            |  |
| Satisfaction                                  |    |       |      |       |    | Test value=9     |                 |  |
| Group   | N  | Mean  | SD   | T     | Df | sign. (2-tailed) | mean difference |  |
|   |    |       |      |       |    |                  |                 |  |
|   |    |       |      |       |    |                  |                 |  |

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| Scaffolder    | 7     | 12.85   | 1.57       | 21.61        | 6  | .000             | 3.85            |
|---------------|-------|---------|------------|--------------|----|------------------|-----------------|
| Scaffolds     | 37    | 10.89   | 2.20       | 30.001       | 36 | .000             | 1.89            |
| Willingness f | or fu | rther P | articipati | Test value=9 |    |                  |                 |
| Group         | N     | Mean    | SD         | T            | Df | sign. (2-tailed) | mean difference |
| Scaffolder    | 7     | 11.85   | 1.34       | 23.20        | 6  | .000             | 2.85            |
|               |       |         |            |              |    |                  |                 |
| Scaffolds     | 37    | 10.94   | 1.74       | 38.10        | 3  | .000             | 1.94            |

The feasibility of the intervention was tested statistically to get the response of participates regarding peer scaffolding programme and its procedures. The scaffolders response mean (20.57) and scaffoldees' mean (19.78) significantly excels the expected mean (15), t (6) = 23.67, p<.001 and t (36) =54.07, p<.001 respectively. Therefore; it is indicated that peer scaffolding procedure was feasible. Regarding participants' satisfaction, the expected response mean was 9. As compared to this value the one sample t-test showed scaffolders' response was higher, t (6) = 12.85, p<.001. Similarly, a significant difference was seen for the scaffoldees response, t (36) =10.89, p<.001.

The willingness for the participation in further programs shows that participants' response score is significantly greater than the expected mean (9). The one sample t-test prove a significant change of scaffolders' response, t (6) = 11.85, p<.001, and scaffolders' response, t (36) = 10.94, p<.001. Hence, it is interpreted that participants show a willingness to participate similar and related programs.

## **DISCUSSION**

The effectiveness of peer scaffolding programme on improving students reading comprehension was analyzed. It was hypothesized that there would be a significant pre-to post-test improvement difference in reading comprehension performance between scaffolders and group leaders and scaffolders and scaffolders and scaffolders were those who got scaffolding treatment and group leaders and learners were those who were not provided with such intervention. The pre-test showed no significant difference between experimental and control group in the grounds of reading comprehension. The same means student's reading comprehension test result was almost similar. However; the same test which was administered in the post-test phase showed a significant difference between comprehension score of scaffolders and group leaders, scaffoldees and learners. To distinguish which group (scaffolder or group leaders and scaffoldees or learners) brought the change, paired sample t-test was computed and significant change has been vividly recorded among scaffolders and scaffoldees. The findings of the study underline the efficacy of scaffolding intervention in

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improving the reading comprehension. This finding is consistent with Judith Rollins' study (2007) assertation that the use of scaffolding has proven to be a most effective means of moving students from "at risk" of failure to independent, self-regulated learners.

The improvement of reading comprehension skills of the trained participant is consistent with the results of Vygotsky's (1978) assertion that learning and cognitive change are more effective when the learner interacts with a more experienced adult or peer. The improvement in skills due to the training would have further implication for the future as indicated by Rogoff (1990) that children internalize the shared cognitive processes and later use them, independently, in other problem-solving contexts. The efficacy of peer scaffolding was supported by many studies in the literature (Ankum., Genest & Belcastro, 2014; Applebee & Langer, 1983; Beed., Hawkins., Roller, 1991; Clark & Graves, 2005). The evidence implies the higher indications of peer scaffolding model in the school settings.

The appropriateness and effectiveness of the intervention is a vital issue because there may be challenges to implement if certain intervention is not accepted or time-consuming to be used effectively (Eckert & Hintze, 2000; Finn & Sladeczek, 2001; Wolf, 1978). In addition, treatment integrity may become affected, without the teacher and student motivation, and acceptability of the intervention (Gresham, 1989). In particular, the complexity of the treatment, the time required for the implementation, the necessary materials, and the motivation of those involve impacting the integrity of the intervention being maintained. The results of the social validity questionnaire were classified in to five categories. For each category, the expected mean was calculated. As a result, the observed mean scores of the categories were compared to expected mean scores. Over all, one-sample *t*-test results of those categories showed that the students (scaffolder and scaffoldees) felt positive about the intervention.

The students have perceived that intervention as appropriate and reasonable for them. The observed mean is greater than the expected mean as the one sample *t*-test explicitly shows; this indicates that they found the intervention appropriate and reasonable. This means it was acceptable and appropriate. Eliciting participants 'opinion validate an intervention on three critical levels: the goals of the intervention, the appropriateness of the procedures being used, and the social importance of the effects of the intervention (Wolf, 1978). Therefore, the finding in general shows that the intervention was acceptable at these three levels. The goals of peer scaffolding intervention, the procedures employed and the effects of the intervention were valid.

# **CONCLUSION**

The present study underlines the implications for adopting the innovative and sustainable strategies for the better educational outcomes. The peer scaffolding intervention program has resulted positively in the reading comprehension skills of the experimental group. The learning

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in the group and along with the peers create wider positive results as it not only create an environment of collaborative learning but also to make the learning an interesting process. The peer scaffolding model is most suitable for the low and middle-income countries and poor resource settings. The intervention package adopted for the study validated by the participants as highly appropriate, effective and feasible. The feasibility of the intervention programs indices the applicability of similar interventions programs in different level of education and other field of studies in Ethiopia. The teachers and educators must be trained for the scaffolding program implementation in the teaching of English and Foreign Languages (EFL). Policy level changes for the implantation of such program can bring much brighter changes in the field of education.

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