

Peer Tutoring: An Effective Technique To Enhance Students' English Writing Skills

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Abstract

This study aimed to determine the effect of peer tutoring (PT) in enhancing students' writing skills during English textbook taught to the students of Grade XI. The true experimental research pre/post-test design was used. The sample of the study comprised of 70 male and 58 female students containing each 35 male peer tutoring group (PTG) and non-peer tutoring group NPTG as well as each 29 female PTG and NPTG after matched before intervention. MCQs related to writing skills developed as a tool for data collection process. The tool is used in both pre and post-test for PTG and NPTG. The difference in both groups was calculated using statistical analysis. Linear regression predicted the effect size of male PTG 16.376 points higher ($r = 0.860$) than NPTG as well as female PTG 12.183 points higher ($r = 0.813$) than NPTG. These results indicated that PT technique enhanced students' academic achievement.

Key Words

Peer Feedback, writing skills, English language, cooperative teaching.

Introduction

In Pakistan, it has become very big challenge for educationist to improve educational outcomes. Orion and Fortner (2003) argue that the education system currently relies on students' achievement in terms of their grades but ignored most holistic aspects of developments. There is a dire need to introduce such approaches which focused on students' development like cooperative learning. According to Stevens and Slavin (1995), peer-tutoring (PT) is the component of cooperative learning.

C. Mercer and A. Mercer (2005) stated that PT is a teaching technique in which teacher makes pairs of the students as tutor and tutee to promote learning. PT promotes learning, development of new skills, creates comfortable environment and enhances academic skills when students engaged in learning activity (C. Mercer & A. Mercer, 2005; Eze, 2015; Ward & Lee, 2005; Topping, 2005; Lord (2001).

Moreover, it has been believed that PT is a technique which is used in classroom and showed in enhancing academic achievement of the students (Greenwood, 1997; Kamps, Barbetta, Leonard & Delquadri, 1994; Pigott, Fantuzzo & Clement 1986; Simmons, D. Fuchs, L. Fuchs & Hoges 1994; Topping, 2005).

Zhao (2010) claimed that PT has been extensively used in English writing. Ghani and Din (2017) defined that language is crucial component for communication. Many researchers like Cho and Schunn (2007) claimed that success in any discipline depend upon the effective writing skills of students. It means that writing needs practice to develop skill gradually. Kapka and Oberman (2001) stated that practice means repetition; appropriate teaching technique would make students writing skills better.

Mynard and Almarzouqi (2006) argued that PT is investigated in extensive range of subjects' areas which also include languages. Topping, Smith, Swanson and Elliot (2000); Plutsky and Wilson (2004) stated that PT has crucial role in improvement of English writing skills as well as academic achievement of students. Wakabayashi (2013) reported that PT involves the students in revision process through assistance. Moreover, Maarof, Yamat and Lili (2011) defined the process of acquiring writing skills by revising and analyzing the drafts, point out the mistakes by peers. This makes the learners self-directed. Plutsky and Wilson (2004) argued that PT helped the students to develop writing skills.

Maheady, Harper and Mallette (2001) claimed that various models used in PT but Classwide peer-tutoring (CWPT) is the most famous model that involved making the groups of entire class of four to

five students having two above and two below the median. In CWPT, students act as tutor and tutees at the same time that is structured and having capabilities at both ends.

Arreaga-Mayer (1998) argued that CWPT is structured practice that give equal opportunity to students' and involve them to provide immediate positive feedback. It implemented in various settings but very limited in writing activities. The CWPT procedure used in the present study that focused to involve four students in each group based on their pre-test performance i.e. two above and two below median. The procedure continued for 30 minutes as followed by Delquadri, Greenwood, Whorton, Carta and Hall (1986), first 10 minutes planned for tutors to teach tutees. The next 10 minutes for tutors to be tutored in which tutors act as tutees and vice versa. The last 10 minutes, tutors and tutees evaluated each other's writing skills. The activity of CWPT followed in whole experimentation.

The following research hypotheses were developed

H₀1: There is no significant difference between male PTG and NPTG in English writing skills after treatment.

H₀2: There is no significant difference between female PTG and NPTG in English writing skills after treatment.

Methodology

Research Design

The true experimental pre and post-test control group research design was used. PTG and NPTG were given pre-test at beginning and post-test at the end. PTG and NPTG were taught by different English subject specialist teachers. Their selection was match before intervention. The teachers who implemented intervention were given first week orientation for of whole procedure. On the other hand, NPTG were taught by conventional approach using the same content. The experiment continued for 10 weeks (40 class hours) according to the need of content.

Population

The population comprised of 1434 (870 male and 564 female) students studying at higher secondary school level in district Haripur (EMIS, 2018). The students of age range from 16 to 18 were selected.

Sample

In first stage, selection of schools was based on purposive sampling technique in terms of their strength and ease of access. Second stage included random selection of students in groups. Male PTG (n = 35) and NPTG (n = 35), female PTG (n = 29) and NPTG (n = 29). At third stage, the names of groups allocated randomly i.e. PTG and NPTG. Whole population contained as sample of study. PTG were further divided into male nine (09) female seven (07) heterogeneous groups having four (04) students in each. Each group was further divided as two high achievers (above median) and two low (below median) on the basis of their pre-test mean scores. Their own teachers taught them in 2018-19 academic year.

Research Instrument

The Pre/Post-Test Writing Skills (PTWS) MCQs as an instrument used to collect the data from the students. The MCQs were developed from English course book and grammar of grade 11th. The MCQs included sub sections which were; vocabulary development, tenses, parts of speech, direct-indirect speech, transitional devices, sentence structure, unity and coherence, and punctuation. Each MCQs consist of four possible distractors. The instrument was used in pre and post-test for PTG and NPTG.

The two units (Acquiring values and The Lighter Side) containing six chapters of grade 11th English textbook of Khyber Pakhtunkhwa were selected for the study. These units were focused throughout the experimental period by English language teachers. The details of chapter are given below:

Category and distribution of units of English text

S.No.	Title	Theme	Focus	Outcomes
1	The Scholarship Jacket	Honesty	The values of earning honour	Reading and Thinking Skills,
2	A Long walk home	Father/Son relation	Lying and veracity	Writing Skills
3	Be the Best	Struggle in Life	Always put in your best	
4	Fly Away	Humour	Confidence in one's abilities	

5	The Man who was a Hospital	Humour	Minding one's own business	Writing Skills, Grammar and Lexical aspects
6	When I'm old Lady	Humour	Musings about Second childhood	

Test Construction

The test consisted of 120 MCQs from their English and grammar book of textbook board. Those were further divided into eight sub sections which were; vocabulary development, parts of speech, direct-indirect speech, tenses, transitional devices, sentence structure, punctuation and unity and coherence. All the items were pilot tested at Grade 11th in Govt. Higher Secondary School No. 1 Haripur, other than the sample of the study. The 40 items were rejected by analyzing the difficulty and discrimination indices of each item from 0.25 to 0.7. The 80 MCQs remained for actual implementation of the instrument.

Data Collection

The data was collected through self-made test at two different points. The pre-test was used to make PTG and NPTG. After the experimentation, the pre-test was also given as a post-test to the PTG and NPTG. The change in students' achievement after experiment, which determined the effects of PT, compared to traditional teaching.

Data Analysis

The collected data was tabulated in Excel and then analyzed in SPSS. Descriptive statistics Multiple linear regression was used to determine the effect of PT on students achievement through predicting their post-test scores from pre-test with the effect sizes which are tabulated in following tables.

Findings

Table 1. Descriptive statistics of male and female pre/post-test NPTG and PTG.

Writing Scores	N	Min	Max	Mean	SE Mean	SD
Pre-Test NPTG Male	35	19.00	46.00	31.3714	0.96848	5.72962
Post-Test NPTG Male	35	21.00	52.00	33.2000	0.97343	5.75888
Pre-Test NPTG Female	29	19.00	46.00	32.2759	0.90278	4.86163
Post-Test NPTG Female	29	22.00	53.00	38.9655	0.90222	4.85859
Pre-Test PTG Male	35	18.00	40.00	31.0857	0.80479	4.76119
Post-Test PTG Male	35	39.00	56.00	49.3714	0.73231	4.33241
Pre-Test PTG Female	29	17.00	48.00	31.9655	1.13659	6.12071
Post-Test PTG Female	29	42.00	62.00	50.9310	0.80014	4.30889

The mean values of male NPTG and PTG were same in pre-test scores (31.37 and 31.08 respectively). Moreover, post-test scores of PTG suggest that students who received intervention has had positive effect on their academic achievement (Mean = 49.37, SE Mean = 0.73, SD = 4.33) above and beyond achieved by NPTG (Mean = 33.20, SE Mean = 0.97, SD = 5.75).

Furthermore, female NPTG and PTG mean values were similar in pre-test scores (32.27 and 31.96 respectively). In addition, PTG post-test proposed that students who taught by peer-tutoring technique demonstrated higher level of academic achievement (Mean = 50.93, SE Mean = 0.80, SD = 4.30) as compared to NPTG (Mean = 38.96, SE Mean = 0.90, SD = 4.85).

However, multiple linear regression analysis was conducted to test the pre and post-test values whether they are statistically significant. The purpose of linear regression to create a statistical model that can be used to predict post-test scores. The analysis followed below:

Table 2. Regression Analysis for Relationship Between Model and Dependent Academic Achievement in Post-Test of Male

Model:	R	R ²	Adjusted R ²	Estimate SE
1	0.935 ^a	0.874	0.871	3.44820

a. Predicting Variables: (Constant), Pre-Test, Groups

In the model summary, the factor which influenced the dependent variable indicated as predictors which were pre-test scores and groups. The above tables showed how the relationship occurs between regress and regressed. The table 2 showed the value of R was 0.935 which depicted a strong relationship between dependent and independent variable. The value of R² showed (87.4%) variation explained by the independent variable to the dependent variable. Moreover, adjusted R² predicted the student achievement scores in post-test after pre-test so the scores in post-test were with high degree of accuracy (i.e. 87.1%).

Table 3. Results ANOVA for Academic Achievement in Post-Test of male Students

Model		SS	df	MS	F	p
1	Regression	5545.650	02	2772.825	233.205	0.000 ^a
	Residual	796.635	67	11.890		
	Total	6342.286	69			

a. Predicting Variables: (Constant), Achievement in pretest, Groups

b. Dependent Variable: Achievement in posttest

The ANOVA table portrayed overall effect of independent variables to the dependent variable. The df (2, 67) Mean Squares (2772.82, 11.890) F value (233.20) with p-value (0.000) showed significant effect of independent variables as $p < 0.05$. The ANOVA table successfully explained significant effect of pre-test scores to post-test scores.

Table 4. Coefficient Multiple Regression Results in pre-test of male students.

Model		Unstandardized Coefficients		Standardized Coefficients	T	p
		B	SE	β		
1	(Constant)	-5.659	2.831		-1.999	.050
	Groups	16.376	.825	0.860	19.860	.000
	Pre-Test	0.717	.079	0.391	9.028	.000

a. Dependent Variable: Post-Test

Table 4 demonstrated that PTG achieved post-test writing mean scores of 49.37 (SD = 4.33) compared to NPTG mean score 33.20 (SD = 5.75). Moreover, once the students' pre-test scores were controlled for, it was found that students who attended PT sessions demonstrated 16.376 points higher than of those who attended traditional teaching. This effect was moderately found strong ($r = 0.860$). Therefore, the null hypothesis is not accepted.

The model is useful for further understanding of pre and post-test scores using linear regression analysis. For this purpose, actual model was constructed using the values listed in coefficient table. As it can be seen that using the formula which allowed the prediction of students' achievement in posttest by inputting the details of pre-test scores and what group they belonged to. Using formula, the model becomes;

Male Post-Test scores = $-5.6559 + 16.376 \times (\text{Group}) + 0.717 \times (\text{Pre-test mean scores})$

Male Post-Test scores = $-5.6559 + 16.376 \times (1) + 0.717 \times (31.37)$

= 33.21 (i.e. 33.20)

Post-Test scores = $-5.6559 + 16.376 \times (\text{Group}) + 0.717 \times (\text{Post-test mean scores})$

Post-Test scores = $-5.6559 + 16.376 \times (2) + 0.717 \times (31.08)$

= 49.58 (i.e. 49.37)

It can be seen that the formula used for the model successfully predict pre and post-test scores using the given values from coefficient table. This means that linear regression is appropriate to analyze experimental analysis.

Table 5. Summary of Regression Analysis of Strength of Relationship Between Model and the Dependent Variable of Female Students

Model:	R	R ²	Adjusted R ²	Estimate SE	p
1	0.946 ^a	0.894	0.890	2.50239	

a. Predicting Variables: (Constant), Pre-Test, Groups

The table 6 exhibited the relationship between regresser and regressed. Moreover, the value of coefficient multiple determination was (0.946) that depicted strong relationship between dependent and independent variables. The R² value (89%) displayed variation explained by independent variable. Moreover, adjusted R² predicted post-test scores with high degree of accuracy (i.e. 89%).

Table 6. Results of ANOVA of Female Students

Model	SS	df	MS	F	p
1 Regression	2912.436	2	1456.218	232.549	.000 ^a
Residual	344.409	55	6.262		
Total	3256.845	57			

a. Predicting Variables: (Constant), Achievement in pretest, Groups

b. Dependent Variable: Achievement in posttest

ANOVA table presented overall statistical effect between independent and dependent variables. The df (2, 55), Mean Squares (1456.218, 6.262), F-value (232.549) and p-value (0.000 < 0.05). This table successfully explained the effect of pre-test scores to post-test scores.

Table 7. Coefficient Multiple Regression Results of female pre-test

Model:	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	SE	β		
1 (Constant)	4.215	2.229		1.891	.064
Groups	12.183	.657	.813	18.531	.000
Pre-Test	.699	.061	.507	11.557	.000

a. Dependent Variable: Post-Test

The coefficient table exposed that female PTG achieved post-test writing mean scores of 50.93 (SD = 4.30) compared to NPTG mean score 38.96 (SD = 4.85). Furthermore, when the students' scores controlled for, it revealed that PT enhanced achievement of PTG with 12.183 points higher than NPTG. The effect found strong (r = 0.813). Therefore, the null hypothesis is not accepted.

As explained above, here again the researcher find out the prediction of post-test scores using the below mentioned formula.

Post-test female post test scores (50.93) SD (4.30) compared to control group mean value (38.96) SD (4.85)

Those who have attended peer-tutoring sessions demonstrated achievement scores 12.183 points higher than of those who attended traditional method for the same period. This effect was moderately found strong (r = 0.813).

Female Post-Test scores = 4.215 + 12.183 x (Group) + 0.699 x (Pre-test scores)

Female Post-Test scores = 4.215 + 12.183 x (1) + 0.699 x (32.27)
= 38.94 (i.e. 38.96)

Post-Test scores = 4.215 + 12.183 x (Group) + 0.699 x (Post-test scores)

Post-Test scores = 4.215 + 12.183 x (2) + 0.699 x (31.96)
= 50.91 (i.e. 50.93)

Here it also successfully explained post-test scores of both PTG and NPTG using the given values of coefficient table.

Discussion

The above results showed that PT enhances students' writing skills after treatment. The results found consistent with Richer (1993); who experimented PT on college students, which were found significant and improved their

writing skills. Furthermore, Plutsky and Wilson (2004) found that PT successfully enhanced students writing skills. Maarof, Yamat and Lili (2011); Plutsky and Wilson (2004) and Pajares (2003) found in their study that PT and effective approach involve the students in critical activity of reviewing the writing drafts again and again which in result make significant effect on their writing skills. Moreover, the present study found that CWPT model involved the students to review and correct the mistakes in the form of group, which resulted in their academic achievement. This result is found consistent with Dufrene, Noell, Gilbertson and Duhon (2005) who investigated the CWPT and found significant results in increasing the participation level of students as well as academic achievement.

Conclusion

The study found that PT involved the students in the process of writing activity using CWPT model. It was concluded that PT technique has developed students' interest in the process of writing when they engaged in performing writing activity with their peers. In addition, PT was successful in increasing the academic achievement of both male as well as female students, which is due to the direct interaction and promoted active learning process.

Recommendation

Based on the Conclusion, the Following Recommendations be Made:

- i. It is recommended that potential of peer-tutoring technique may be used to increase the excellence of education as a whole and English writing skills in particular.
- ii. It is also recommended that educational establishments may inspire the higher secondary school teachers to device peer-tutoring technique. Government on the other hand, offers encouragements for teacher who increases their mastery to use peer-tutoring technique.
- iii. In-service teachers may be offered refresher courses to prepare them in the utilization of peer-tutoring approach for better implementation to develop writing skills of the students.
- iv. The benefit of PT is not limited to English and writing in particular at higher secondary level. Numerous initiatives are stated in other curriculum modules at distinctive grades. Moreover, researchers may wish to set up whether the PT advances the performance in other curriculum areas.

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