Enhancing Students’ Writing Performance in Higher Learning through Think-Write-Pair-Share: An Experimental Study

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Abstract: Think-Write-Pair-Share (TWPS) is a cooperative learning technique which introduced the idea of ‘wait or think’ time, a powerful factor in improving students’ responses to questions. Although the effectiveness of cooperative learning is widely known, few studies have been conducted using TWPS especially at tertiary level ESL writing classrooms. This study investigated the effects of using TWPS on Malaysian tertiary students’ writing performance and investigated their perceptions on the implementation of the technique in their writing lessons. A mixed method design was employed using both quantitative and qualitative data collection approaches. Data was collected from an experimental study (n=80) and semi-structured interviews (n=10). After receiving TWPS training, students from the experimental group displayed statistically significant improvement in test scores, and higher than those of the control group. Students’ responses illustrated that cooperative learning enhanced students’ learning experience, individual accountability, motivation as well as improved writing skills. Research findings suggest that TWPS should be considered as a promising technique in improving ESL tertiary students’ performance in writing.

Keywords: Think-Write-Pair-Share, Cooperative Learning, Writing, ESL

1. Introduction

The 4th Industrial Revolution demands competent professionals who can collaborate and communicate ideas across a broad spectrum of businesses. Technological competencies aside, Malaysian graduates need to be holistically equipped with commendable English proficiency and generic skills that can help them to function and compete or join the existing yearly trend of 30,765 graduates (59.9%) who fail to secure a job a year after graduation (Maszlee, 2019).

The ability to function competently in both written and verbal communication has undoubtedly become a basic requirement for students and job seekers, especially in today’s global economy which requires a workforce that is adept in Science, Technology, Engineering and Math (STEM). As writing in English is extensively done for global mediation of knowledge (Muhammad Fareed, 2016), it is a must-have asset for graduates as they engage in creative collaborations and be prepared for complex and critical problems at the workplace.
In Malaysian schools, students learn different genres of writing such as descriptive, expository, persuasive, and narrative in their 11 years of schooling. At tertiary level, writing lessons are expanded and tailored to more dynamic and professional settings; normally research, business and career. However, Malaysian ESL students’ quality of writing is still under scrutiny. There is a real need to find a means to develop learners’ confidence while enhancing their writing skills in fun and motivating ways (Toledo & Hoit, 2016). Cooperative Learning techniques such as Think-Write-Pair Share, hereafter mentioned as TWPS embodies the critical elements needed to alleviate the problem.

1.2 Problem Statement

At tertiary level, students are required to write substantially in English. They have to be critical and analytical and illustrate this in writing. Numerous reports and assignments, notes, handouts, proposals and academic materials must be prepared in English. The quality of their work is reflected through how effectively it is written to meet specified standards. Post-graduation, the hunt for jobs begins with preparing error-free, high-quality and impressive resumes that will lure potential employers.

At present, not all students who enter the university are equipped with adequate English proficiency to cope with the demands of their studies. Based on Malaysia Education Blueprint 2013 – 2025, only 28% of students achieved a minimum credit in the 2011 SPM English paper against Cambridge 1119 standards. This, topped with ineffective learning approaches, does not promise significant improvements in students’ writing ability when they graduate. In the Malaysian Employers Federation Salary Surveys 2016, more than 90% of the employer-respondents indicated the need for graduates to improve on English proficiency in order to become more employable.

Despite its well-known importance, writing remains a complicated skill for many students. Generally, the problems hampering a student’s progress in writing can be classified as linguistic, cognitive, psychological, and pedagogical (Flower & Hayes, 1981; Byrne,1988; Haider,2012; Hyland,2003). Students struggle with structural accuracy (Dar & Khan, 2015), vocabulary, grammar and mechanics of language as they perform their different written tasks in English. Cognitively, they also struggle with the development of quality content, while carefully ensuring clarity and comprehension are not compromised by inaccurate structures or banal word choice. They also risk losing confidence and passion due to a teaching strategy which does not conform to their learning styles and cultural backgrounds (Ahmad et al., 2013) or failure to communicate ideas even if they have good syntactic, lexical and grammatical mastery (Rico, 2014). Clearly, the inclusion of a learning strategy which encapsulates the essential elements to tackle the said problems in tertiary ESL classrooms is indeed imperative and timely.

In this experimental study, the effects of using TWPS in improving writing performance among first semester students at a selected private tertiary institution were investigated and analyzed.

1.3 Objectives of Study

The objectives of the study are:
1. To investigate the difference in writing performance between the TWPS group and the non-cooperative learning group
2. To determine students’ perceptions on the effectiveness and benefits of using TWPS in learning writing.

1.4 RESEARCH QUESTIONS

This study seeks to answer these questions:
1. Is there any difference in writing performance between the TWPS group and the non-cooperative learning group?
2. What are the students’ perceptions on the effectiveness and benefits of using TWPS in learning writing?
2. Literature Review

The students always need sincere and kind guidance. Hence, a true customer orientation is instrumental in teaching English as it is always good to understand the students’ needs to improve their performance (Boo, Ai, & Voon, 2019). Writing is believed to be the hardest skill to acquire by language learners, albeit crucial, as it involves the creative process of reaching out for one’s thought, discovering them, and demands standard forms of grammar, syntax and word choice (Qismullah, Zalina & Yunisrin, 2019). Learning writing in part of second language acquisition has long posed problems to both teachers and students (Kustati & Yuhardi, 2014). In tertiary ESL classrooms, focus is set on helping students progress in terms of proficiency, enhancing their social and communication skills as well as in developing essential employability skills, all of which include writing as a core component.

Integrating cooperative learning in teaching writing promises positive results in helping students master the skill better (Kagan & High, 2002). In addition, it prepares students for the demands of workplace communication as Kagan (1992) expounded, “because cooperative teamwork, interaction and communication will characterize the workplace of the future, it is imperative that our classrooms include not only individualistic and competitive interaction, but also cooperative interaction”.

In a study conducted by Siddique & Sarjit (2016), the use of cooperative learning approach for the instruction of essay writing proved instrumental compared to the conventional method. Evidently, implementing cooperative learning in writing brought progress, such as in giving and receiving immediate feedback, enhancing and stimulating students’ motivation in improving skills as well as bringing benefits for the betterment of developing writing skills among students (Novia Nur Ikhlasia, 2013).

TWPS is an extension of Think-Pair-Share, or TPS, a cooperative learning model first developed by Frank Lyman in 1985 with the emphasis on students exchanging ideas in acquiring new knowledge. TPS gives students more opportunities to think, discuss, help and share ideas with each other in groups (Umam, Suswandari, Asiah, Trisno Wibow and Rahim, 2017).

Lyman (2005) states that there are six benefits of applying TPS approach in teaching writing, which are:

1. Building positive interdependence;
2. Building individual accountability;
3. Giving opportunity to the students to think together;
4. Increasing their sense of involvement;
5. Benefiting students in the areas of peer acceptance, peer support, academic achievement and self-esteem;
6. Promoting the effectiveness of teamwork.

Annisa Oktaviani (2017) suggests that TPS also helps students to learn and get information from their pair and friends, and indirectly helping them to develop their conceptual understanding of a topic, develop the ability to filter information and draw conclusion, and the ability the consider other points of view. This is supported by Merchelina Astheri, Dahlan Rais & Teguh Sarosa (2013), as they stated that TPS is an effective technique in teaching writing since it gives students a chance to find their own ideas, what to write, share ideas with peer students, develop ideas, learn to criticize and accept criticisms and promote effective team work. In a research conducted by Rosnani, Salwa and Sofyan (2017), TPS approach was effective for improving the students’ mastery of organization, vocabulary and content. The TPS approach could significantly improve students’ personal communication that are vital in processing, organizing and retaining ideas. It helps them to increase their competence because it gives students time to think, to ask and answer questions, to share ideas and to help each other in doing academic tasks (Abdurrahman Usman, 2015).
3. Methodology

3.1 Research Design

This experimental study comprised both quantitative and qualitative research methods in collecting and analyzing data. Quantitative data will inform whether there is a significant development in students' performance after receiving TWPS treatment while qualitative data collected via semi-structured interviews explains students’ perception on the application of TWPS in their ESL writing lessons.

3.2 Population and Sampling

Second semester business students from a tertiary institution in Malaysia, age ranging from 19 to 21 were sampled for this study. 80 non-randomized students were selected and assigned into two equal-sized TWPS (experimental) groups and non-cooperative learning (control) groups, respectively. The students were registered under a compulsory English proficiency course and received their lessons for 14 weeks. The main objective of the course is to equip students with academic writing skills and prepare them for academic writing tasks in their studies.

All students from both the experimental and control groups sat for a writing pre-test and had their marks recorded. For 14 weeks, students in the experimental group received lessons using the TWPS technique while those in the control group underwent non-cooperative learning lessons. After completing the course, both groups sat for another writing test (post-test) using the same set of questions. The pre-test and post-test scores for both groups were then compared to determine if there were any differences in their performance. Finally, 10 students from the experimental group were selected for a semi-structured individual interview for in-depth input.

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**TWPS PROCEDURES**

**Pre-test**

*(Week 1)*

**Phase 1**

Students get a topic by lecturer. Initially work alone on the topic given

**Phase 2**

Students turn to their assigned partners, form pairs and share what they have with each other.

**Phase 3**

Two pairs merge to become one group. Each pair shares what they have to the other pair.

The other pair comments, ask questions, discusses how to improve the piece. Lecturer asks for volunteers to share their work with the class.

**Post-test**

*(Week 14)*

*Phases 1, 2 and 3 done in individual sessions in class. Repeated for 14 weeks*
Instruments in this study include a writing test used in the pre- and post-tests stages and semi-structured interviews.

i. Writing Test
   A writing test was administered on both the experimental and control groups in the early semester as pre-test to illustrate the initial performance of students from both groups before treatment was given. The test requires students to write a 250-word Cause-and-Effect essay as prescribed in the course syllabus. The test and marking rubrics were checked for face and content validity by two experienced English lecturers with more than twenty years of teaching experience.

ii. Semi-structured interview
   The interview elicited students’ perceptions on the effects of using cooperative learning to learn writing. 10 students from the experimental group were interviewed for this purpose.

3.3 Data Analysis

   Descriptive and inferential statistics were used to analyze the data. Pre-test writing scores serve as the base for the students’ writing ability prior to treatment while post-test scores suggest whether any improvements surfaced after. Independent t-test was conducted to see whether the difference in both groups’ post-test scores was statistically different.

   Semi-structured interviews were conducted with volunteering participants and permission was obtained to record the sessions. To gain interviewees’ confidence, the objective of the study was explained, and confidentiality and anonymity of the interviewees were guaranteed. The transcripts were then analyzed to uncover surfacing common and recurring themes within each narrative.

4. Findings

   Based on the study, observations on the experimental group indicate that the students were enjoying their writing lessons more and genuine interactions could be seen. This change in learning approach has contributed to a significant boost in performance as indicated from their writing post-test scores. The post-test scores of the experimental group were significantly higher than their pre-test scores, and also post-test scores of the control group.

4.1 Quantitative Data

   The means and standard deviations of grades of samples were calculated in both the experimental and control groups according to the writing test scores in the pre-test. Comparison of pre-test scores between the experimental and control group was done to ensure that both groups started-off with equal level of proficiency therefore ensuring data validity.

   **Table 1. Independent T-test on Means (M) of Pre-test Scores : Control VS Experimental**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>40</td>
<td>59.70</td>
<td>18.49</td>
<td>2.08</td>
</tr>
<tr>
<td>Experimental</td>
<td>40</td>
<td>57.37</td>
<td>18.40</td>
<td>2.11</td>
</tr>
</tbody>
</table>
Levene’s Test and T-test for Equality of Means

<table>
<thead>
<tr>
<th>Variance</th>
<th>F</th>
<th>Sig.</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal</td>
<td>0.00</td>
<td>0.996</td>
<td>0.961</td>
<td>57</td>
<td>0.47</td>
<td>2.331</td>
<td>1.543</td>
<td>-1.612</td>
<td>4.593</td>
</tr>
<tr>
<td>Unequal</td>
<td></td>
<td></td>
<td>0.963</td>
<td>54.57</td>
<td>0.48</td>
<td>2.331</td>
<td>1.542</td>
<td>-1.610</td>
<td>4.591</td>
</tr>
</tbody>
</table>

According to Pallant (2011), for the variances of the variables to be assumed as equal, the significance value between the variables must be greater than 0.05. T-test results showed that a non-significant difference was found, t (57) = 0.961, p = 0.47, where the 2-tailed p-value was more than 0.05. The result suggested no significant difference between the experimental group, M = 57.37 and the control group, M = 59.70 illustrating that the subjects were equal in ability and performance before treatment was started.

To investigate the difference in performance between the control and experimental groups after 14 weeks of treatment, an independent-sample t-test was conducted to compare the post-test scores of both groups. Table 2 shows the results of the test.

**Table 2. Independent-Sample T-Test on Means (M) of Post-Test Scores: Experimental VS Control**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>61.83</td>
<td>14.35</td>
<td>.36</td>
</tr>
<tr>
<td>Experimental</td>
<td>40</td>
<td>67.10</td>
<td>20.58</td>
<td>.36</td>
</tr>
</tbody>
</table>

**Group Statistics**

**Independent Samples Test**

<table>
<thead>
<tr>
<th>SCORE</th>
<th>Levene’s Test</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>SCORE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equal variances assumed</td>
<td>2.619</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>1.910</td>
</tr>
</tbody>
</table>

From Table 2, it can be seen that students from the experimental group scored a higher mean (M) value of 67.10 compared to the control group at 61.83. For the experimental group, this is an increase of 9.73 points compared to the pre-test mean (M) value while the control group recorded only 4.36 points increase. Although both groups increased in performance, the mean (M) value difference is bigger in the experimental group. To determine whether the performance difference between the two groups after treatment is statistically significant, the Sig.(2-tailed) value is referred. The Sig. (2-tailed) value is 0.047,
which was smaller than 0.05. The findings indicated that there was indeed a significant difference in the performance between the control group (M = 61.83, SD = 14.35) and experimental group (M = 67.10, SD = 20.58; t (57) = 1.943, p = 0.047, two-tailed). The findings also suggest that the experimental group had performed significantly better than the control group in the post-test. TWPS training had left an impact on the subjects’ writing performance, higher than the control group.

4.2 Qualitative Data

Semi-structured interviews conducted on 10 interviewees revealed four recurring themes; improved learning experience, individual accountability, motivation as well as heightened writing skills. Some students pointed to the conducive and supportive environment which TWPS created had helped them to improve their writing skills. The excerpts below highlight this.

“…always make spelling mistakes before…sekarang ada kawan periksa (now my partner checks)… tell me if I spell it wrong…” (Student 1/ line 9)

“…learn friend’s strength, weakness. Ada yang tak pernah sama kumpulan (Some of us never worked together with each other) …… Rupanya Student C pandai grammar (now I know Student C is good in grammar). I learn from him…” (Student 2/ lines 2-5)

In TWPS, students first work individually before pairing with a partner and merging into groups. This structured step-by-step process enabled the students to feel their knowledge increased as they discuss and comment on each other’s works.

“….Sometimes, their apa tu pendapat (what’s that opinion) is new….. discuss, learn more …. understand better…” (Student 7/ line 20)

“from my team….dapat idea kelakar, menarik (get funny, interesting ideas)…. Brainstorm together ….” (Student 6/ line 19)

Students' responses also support Kagan’s (1992) motion that cooperative learning provides the avenue for the practice of socio-affective learning strategies, especially in ESL context. The opportunity allowed students to practice these strategies and prepare them to be better communicators.

“less nervous…happy to say something……feel more open.. improve keyakinan saya (my confidence)” (S3/ line 26)

“everyone happy to share opinion…tak ada salah-betul (no right or wrong answer)” (S4/ line 25)

Besides that, students’ responses illuminated the positive motivation they discovered while undergoing writing lessons using TWPS. The presence of reliable and dependable team-mates around them provided the comfortable urge to put more effort on writing in English.

“…friends can check…more ideas…rasa (feel) confident nak hantar (to submit work)” (S10/line 16)

“…friends support… komen jujur (sincere comments)…tak ketawakan (never laugh)…excited to share” (S8/ line 15-16)

5. Discussion

Research Question 1: Is there any difference in writing performance between the TWPS group and the traditional learning group?
Findings indicate that the inclusion of TWPS into tertiary students’ writing lessons can help them achieve higher performance and improve their writing quality, compared to the traditional method of learning. These results correlate with previous findings of Shimazoe & Aldrich (2010); Thurston et al., (2010), Şimşek, (2011) as well as Melihan and Sirri (2011) whose works affirmed that cooperative learning delivers more positive outcomes in students’ academic achievement compared to traditional methods.

Infusing elements of cooperative learning is critical to transform traditional and monotonous writing lessons into one that encourages positive interdependence, individual and group accountability, as well as providing opportunities for exciting face-to-face promotive interaction among students as they work in small groups together. The enhancement of the students’ writing performance is due to the fact that cooperative learning encourages student involvement and engagement in their own learning, provides all students with opportunities to make their thoughts visible to others, allows them to talk about their own ideas, and permits them to consider the ideas of others, which enhances their higher order thinking skills (Johnson et al., 2014). Besides, cooperative learning might help them in terms of generating ideas and realizing their own errors when writing (Mariam & Napisah, 2005).

**Research Question 2 -** What are the students’ perceptions on the effectiveness and benefits of using TWPS in learning writing?

Findings strongly suggest that the students’ perceived TWPS as a positive and effective learning technique. Responses from the students supported findings of earlier research such as by Puji Astuti & Lammers (2017) that the use of the cooperative learning improved students’ individual accountability when working in groups. The students agreed that cooperative learning helps in improving their sense of accountability whereby they became more responsible in fulfilling their individual task in order for the group to succeed. With a higher sense of individual accountability, the team working experience was improved and in turn enhanced their learning satisfaction. In terms of social skills, findings suggest that the students were able to overcome shyness when working in groups and learned to interact with others better. The supportive and comfortable learning environment they experienced provided opportunities for students to get to know their teammates better and become more motivated to voice out and act for their group. They also learned the skills to tolerate differences, respect others opinions and motivated to help friends who are in need.

The students’ also agreed that cooperative learning has brought positive effects to their learning experience. Most of them reflected positive perceptions on how the Think-Write-Pair-Share technique made their learning process more interesting and that they are now looking forward to their English classes. In addition, responses from the students also suggest that the use of cooperative learning helped to build positive interdependence among them. As they were trained to work and be responsible for each other’s success and achievement, they learned to understand their roles in the group and that each of them is important.

Students also highlighted on experiencing a heightened level of writing skills after receiving cooperative learning training, which is in line with the works of Sahardin, Hanum & Gani (2017) and Yusuf et.al. (2019). Most of them attributed it to the ease and close proximity of assistance whenever they needed it. Instead of raising their hand for the whole class to see, the anxiety of asking questions was eliminated with the presence of a helper close by. Besides, the nature of a cooperative learning group which emphasizes positive interdependence ensured that no student was left behind in a group and that everyone must help each other to solve their task.

TWPS also suggests students’ enhanced motivation to write in English which is in line with previous works of Mendo-Lazarro (2018), and Buchs (2015). The students mentioned about an increase in confidence when sharing opinions without any worries. The fear of making mistakes or being laughed at for committing mistakes was eliminated or at least reduced under the supportive cooperative learning environment.
6. Conclusions

The present study demonstrates how TWPS brings about promising effects on enhancing undergraduate students’ writing performance as well as their positive perceptions towards the technique via genuine and lively collaborative experiences in a tertiary ESL classroom. Students can benefit by applying the technique not only in class but also in their group work and other team efforts outside the classroom. For lecturers and language teachers, TWPS can be included in their existing repertoire of effective teaching techniques and used to enrich students’ learning experience while optimizing effectiveness. This cooperative learning approach is based on strong theories and embraces the need for authentic communication and collaboration in achieving a shared goal, an important virtue of the 21st Century Education. Future research can investigate and validate the theory with different sample groups from different disciplines of study for verification and validation. This will provide a more in-depth comprehension of the actual potential TWPS has to offer in improving undergraduates’ writing competency.

7. References


