Effectiveness of Project-Based Learning in Improving Listening Competency among ESL Learners at a Malaysian TVET College

Noor Idayu Abu Bakar
Department of General Studies
MARA Professional College Bandar Penawar, Johor, Malaysia

Nooreen Noordin
Faculty of Educational Studies
Universiti Putra Malaysia, Serdang, Selangor, Malaysia

Abu Bakar Razali
Faculty of Educational Studies
Universiti Putra Malaysia, Serdang, Selangor, Malaysia

ABSTRACT

Listening plays a fundamental role as the first basic skill in English language communication but the skill seems to be neglected in ESL research and classrooms. The limited published studies in the literature reporting on the teaching of listening and the lack of details in the existing studies warrant more attention in finding more effective strategies to teach listening. Thus, the quasi-experimental study sought to ascertain the effectiveness of using project-based learning (PjBL) activities as a teaching strategy in improving the listening competency of ESL learners in a Communicative English course. Data were gathered from 44 students after a 16-week study conducted at a Malaysian TVET college. A PjBL teaching module comprising a number of listening activities was used in the experimental group as a treatment while the control group was taught using the conventional teaching strategy. A listening competency test was administered as pre-test and post-test on both groups. Data were analysed using t-tests, ANOVA and Tukey post hoc test. The study found that the learners in the PjBL group significantly outperformed those in the control group in their listening competency and dialogue listening comprehension with a large effect size. The study is important to increase the understanding of teachers and practitioners in the area of teaching of listening in ESL classrooms.

KEYWORDS: project-based learning, listening competency, ESL learners, teaching of listening, tertiary education

Introduction

Listening competency can be interpreted as a person's ability to understand what he or she is listening to in order to respond appropriately and it contributes to the development of communicative competence (Yildiz & Albay, 2015). Listening competency applies beyond the classroom and is essential for workplace communication (Nair, Yew & Kesuma Abu Bakar, 2014). In Malaysia, because English is regarded as the second official language, the emphasis on listening skills is also pertinent especially in government education policies from primary until the tertiary level of English education such as the Malaysia Education Blueprint 2013-2025, Eleventh

Malaysia Plan (11MP) Education and the language policy of MBMMBI (Upholding Bahasa Melayu, Strengthening the English Language) (Ministry of Education Malaysia, 2018). Correspondingly, possessing strong communication skills, which include the listening skills, is outlined in the Malaysia Education Blueprint 2015-2025 (Higher Education) as one of the crucial attributes of a Malaysian graduate (Danial, 2016).

Nevertheless, there is a consensus among researchers that listening is mostly neglected in ESL research and classrooms worldwide as not much attention has been given to the skill (Nair, Yew & Kesuma Abu Bakar, 2014; Walker, 2014; Lin, Abdul Rashid & Muhammad Javed, 2013). Up to now, previous studies investigating listening skills reported in the literature are also far more lacking compared to the other language skills, causing ambiguity of the listening process (Walker, 2014). Besides that, the misunderstanding about the acquisition of listening skills may have also contributed to the lack of attention given to the teaching of listening in many ESL classrooms (Rexhaj, 2016). It is said that listening is often falsely treated as an innate skill that is passively acquired by nature of exposure to the language, despite the fact that people vary in listening abilities because listening is a skill that needs to be acquired by learning (Nair, Yew & Kesuma Abu Bakar, 2014). A similar situation is also experienced in Malaysia. It is claimed that the country's exam-oriented system which emphasizes more on reading and writing than listening and speaking has resulted in the teaching of listening being neglected in Malaysian classrooms and research (Choo & Melur Md. Yunus, 2017). As a result of the paucity of research in the area of teaching of listening, as well as the misconception about the skill of listening, listening remains to be the most unexplored skill and probably the most undeveloped language skill in ESL classrooms in Malaysia (Choo & Melur Md. Yunus, 2017; Nair, Yew & Kesuma Abu Bakar, 2014; Normah, 2012). The impact could also be the core reason for the poor English communicative competence among Malaysian graduates reported in recent years (Tan, 2017; Syed Jaymal, 2015; Cheah, 2015). The severity of the problem indicates a need to initiate another study in the listening area to add knowledge and increase understanding in the area of English language teaching of listening.

To alleviate the issue of lack of listening skills among tertiary level students, some scholars have suggested the use of PjBL (hereafter, project-based learning) to improve the English language skills of learners. PjBL is claimed to be a powerful classroom approach suitable for English language learners (Miller, 2016; Zhang, 2015; Azura Omar, Nor Farizah Taib, & Ida Suriana Basri, 2010;. Larmer & Mergendoller, 2011; Moss & Van Duzer, 1998). PjBL is a student-centred pedagogy that is grounded on the constructivist theory of learning. The strengths of PjBL are believed to rest on its collaborative, autonomous and flexible nature of learning (Woro Sumarni, 2015; Kean & Kwe, 2014; Aiedah Abdul Khalek & Lee, 2012). PjBL may also be an effective strategy for teaching listening because it encourages learners to improve listening comprehension using social-affective strategies such as by negotiating and collaborating (Ma, 2010). Driven by the need to fill the research gap, the present study attempted to ascertain the effectiveness of using PjBL as a teaching strategy in improving the listening competency of the English as a second language learners (ESL learners) in the Communicative English course, in comparison to the conventional teaching strategy. The study sought to find the answers to the following research questions by testing the corresponding hypotheses: -

1. Is there any significant difference between the PjBL and conventional groups in terms of listening competency?

a. Ho1: There is no significant difference between the overall pre-test and post-test means for the listening scores of the conventional group.
b. Ho2: There is no significant difference between the overall pre-test and post-test means for the listening scores of the PjBL group.
c. Ho3: There is no significant difference between the PjBL and conventional groups on ESL listening competency.
2. Is there any significant difference between the PjBL and conventional groups in terms of dialogue and monologue listening comprehension?
a. Ho4: There is no significant difference between the PjBL and conventional groups on dialogue listening comprehension.
b. Ho5: There is no significant difference between the PjBL and conventional groups on monologue listening comprehension.
3. Is there any significant improvement in listening competency of the ESL learners from different achievement levels in the PjBL group?
a. Ho6: There is no significant difference in listening competency between high, medium and low PjBL subgroups.
b. Ho7: There is no significant difference in listening competency before and after the PjBL treatment in high, medium and low PjBL subgroups.

Literature review

The Teaching of English Language Listening Skills
According to Nunan (1995), listening texts are mainly classified into monologues and dialogues. Mixing them is a strategy to teach listening because in the real life, learners are exposed to listening to monologues such as listening to speeches, news and lectures as much as they are exposed to listening to dialogues mostly through daily conversations. Alam and Sinha (2009) claimed that listening to comprehend both types of texts is difficult in their own ways. According to them, dialogues are difficult to comprehend because of hesitations, pauses, fillers and false starts people usually make. Then again, monologues are said to cause texts more difficult to follow and comprehend due to the unnatural speech and little repetition in them. The difficulties in listening comprehension faced by the learners have probably led to studies being conducted to discover effective strategies to teach the skill of listening over the years.

The existing literature on teaching listening in ESL/EFL contexts has reported various strategies and techniques employed to teach listening in English language classrooms. Several lines of evidence suggest that the use of authentic listening materials exposes learners to the use of the English language in the real-life (Saricoban & Karakurt, 2016; Zhang, 2015; Xue, 2013). Zhang (2015) investigated a project-based learning implementation in a Chinese college listening and speaking class. It was found that listening comprehension of the learners improved tremendously at the end of the study when project-based learning was implemented in the class. Ample opportunities provided to participate in real authentic communication activities during the class were identified as a significant cause that contributed to the learners' improvement in listening. In the same vein, Saricoban and Karakurt (2016) who investigated the use of task-based activities for improving listening and speaking skills at tertiary level revealed that the authentic use of language in the activities that reflected real-life situations, provided learners with the motivation and

opportunities to practise listening and speaking, resulting in improved listening and speaking abilities of the EFL students in the study. Meanwhile, findings of a qualitative study conducted by Xue (2013) at tertiary level among Chinese international graduates in the USA may have established a strong reason for teachers to expose their learners to authentic materials. The findings revealed that the Chinese students had problems in communicating when working in groups due to difficulties in understanding different accents and intonations even though they were used to learning and practising English using Standard English materials in their previous education. The difficulties faced by these Chinese students in applying their English language knowledge during group communication somehow reflect the actual situation that could possibly happen in the real world of employment as learners meet and communicate with people from different backgrounds. It was suggested that more communicative opportunities be provided to these students by involving them in authentic communication situations.

However, there are mixed views regarding the suitable types of listening materials for use in English language classrooms. Choo and Melur Md. Yunus (2017) asserted that the use of authentic listening materials which are not specifically produced for language teaching and listening may not be suitable for non-native learners and low proficiency level learners. In these situations, non-authentic materials specifically designed for the pedagogical purpose are more suitable to avoid learners from getting discouraged by the difficulty to cope with the vocabulary used in the particular materials. It was decided in their study that non-authentic listening materials were more appropriate to be used in order to develop the initial listening skills of the participants. The decision was justified by the background of the participants involved in the study. Unlike the aforementioned studies which involved tertiary level students, the participants in this particular study were primary level students from a Chinese school in a rural town in Malaysia.

In light of the studies discussed in this section, it can be gathered that to teach listening, English language teachers, in general, should be able to identify suitable materials to use in order to match the needs of their students. Elements such as types of listening texts and types of listening materials need to be considered when teaching listening. Nevertheless, to benefit from the strengths of a variety of types of listening materials, a combination of dialogue and monologues listening texts, as well as authentic and non-authentic listening materials, is perhaps useful especially when teaching involves non-native speakers with relatively low proficiency in English.

PjBL in Teaching Listening Skills at Tertiary Level
Consistent with the aim of the 21st century language learning in acquiring communicative competence (Eaton, 2010), a growing body of literature suggests that teaching listening skills in integration with other skills such as speaking, reading or writing is ideal for improving listening competency. Integration of language skills in English language teaching is popular in group-based pedagogies such as cooperative learning, communicative language teaching and project-based learning. Tavil (2010) conducted a study to prove that teaching listening and speaking in integration improves learners' communicative competence. The improvement in communicative competence of two groups of learners at a university in Turkey was compared and it was found that learners who were taught listening in integration with speaking through communicative activities were more successful in terms of communicative competence than those who were taught the skills separately. The intervention utilised authentic materials and real-life situations through

information gap tasks. It was also found that the use of real-life situations managed to attract the learners to participate in the tasks.

Integration of language skills is a common practice in PjBL. PjBL is a group-based pedagogical strategy that provides a lot of opportunities for interactions during the process of learning (Larmer & Mergendoller, 2011). The nature of PjBL which is collaborative, autonomous, and flexible, matches the fundamentals of learning in Vygotsky's Social Interaction Theory that acknowledges interactions among learners, opportunities and individual differences in learning (Shabani, 2016). Despite reservations held about the effectiveness of PjBL for all types of learners (Kalabzov, 2015; Kirschner, Sweller, & Clark, 2006), evidence in the literature has shown that PjBL works for ESL learners in various contexts (Zhang, 2015; Newprasit & Seepho, 2015; Shanthi, Anniepothen, & Rao, 2015; Azura Omar, Nor Farizah Taib, & Ida Suriana Basri, 2012). With regard to the teaching of listening, previous studies have also reported a positive impact of using PjBL on the listening competency of English language learners. In the study by Zhang (2015), PjBL was implemented to achieve the aim of cultivating students' integrated use of English language skills particularly listening and speaking. The integration of language skills was likely to contribute to the improvement of listening skills among the learners in her study, along with the use of authentic materials. Newprasit and Seepho (2015) investigated the effects of PjBL on the overall English language skills and learning process of learners in an English course in Thailand. It was found that the overall English language skills of the learners improved significantly. Follow-up interviews with the participants revealed that the improvement in listening was most likely attributed to the opportunities the learners had to discuss with the teacher and also from listening to videos on the internet during information search stage in PjBL. A similar result was also reported in a study conducted in India. Shanthi, Anniepothen and Rao (2015) investigated the implementation of a community project activity in an English language classroom. One of the learning objectives was to develop learners' listening and speaking skills. It was concluded that PjBL helped develop the language skills of the ESL learners. However, further discussion on the development process of listening skills through the PjBL activity was not included.

Taken together, the above studies provide evidence that PjBL improves learners' English language skills including listening. Still, the body of literature that is concerned with the teaching of listening, particularly in a PjBL environment is relatively small. The ambiguity of information related to how listening skills are taught and developed in a PjBL environment is also noticed in published studies of PjBL in the current literature, creating another gap in the literature, mainly in the area of teaching of listening strategies. In addition, the need to initiate a new study of PjBL also arises as Larmer (2015) asserted that the doubts about the effectiveness of PjBL with non-fluent English language speakers (Kalabzov, 2015; Kirschner, Sweller, & Clark, 2006) were a just misconception that needed to be elucidated. Then again, the misconception could be caused by a lack of evidence in the literature. For instance, although PjBL is claimed to benefit the weaker students (Intykbekov, 2017), research on its effectiveness among the weak learners of ESL is still uncommon. Hence, to clear up the doubts, more evidence needs to be added up in the literature by initiating a new study of PjBL that emphasises on the effects of PjBL on the low achievers of ESL learners.

Methodology

Research Design
The present study employed a quasi-experimental design with a non-equivalent control group, pre-test and post-test design (Creswell, 2014). Data were collected via an instrument known as Listening Competency Test and analysed using t-tests, ANOVA and Tukey post hoc test.

Participants and Context
This study was conducted at two centres of MARA Skills College, which is a Technical and Vocational and Education Training (TVET) higher education institution, located in the Central Region and Southern Region of Peninsular Malaysia. The study involved 44 Malay male students between 21 and 26 years old from Diploma of Competency in Electrical programme, who registered for Communicative English course during the commencement of the study. Since a random assignment of participants was not possible in the study setting, two intact groups were employed in which the experimental group consisted of 25 students while the control group consisted of 19 students. The students from the particular programme were selected for their availability to participate in the study. Owing to a small number of student enrolment in the new diploma programme, these students were, in fact, the only group of students with comparable traits, available at both centres in that particular semester. Besides belonging to the same age group and taking the same English course, all the participants also shared the same highest academic qualification. They were certificate holders in the electrical field from various centres of MARA Skills College in their previous education; meaning that all of them had been exposed to the same learning system at tertiary level. In terms of English proficiency, the participants' English language SPM grades, ranging from B to G, implied that they were relatively low proficient English language learners.

Research Instruments
The research instruments consisted of a set of Listening Competency Test questions and a PjBL module for communicative competence. The Listening Competency Test comprised four sections which were subdivided into two main areas, namely, dialogue listening and monologue listening. There were altogether 40 items ranging from true or false, multiple choice, and short answers questions. The listening test comprised four recordings in a variety of English accents and a combination of authentic and non-authentic listening texts. Three recordings from the original sources were used after minor editing while one audio was recorded again entirely by the researcher to increase its audibility. The sources of the listening audios or videos were from You Tube, the British Council website and an ESL book, Getting Ahead With English: Listening & Speaking (Ng, Lim & Tan, 2009). The Listening Competency Test questions were developed by the researcher and had a format and content similar to the IELTS listening test (British Council, 2018). The instrument was first validated by a panel of experts in the ESL field, then tried out in a small-scale pilot study, together with the listening audio/video. An alpha value of 0.71 was obtained suggesting an acceptable value to commence the main study.

The PjBL module for communicative competence was used as a teaching module for the experimental group during the study. The self-developed teaching module was structured according to the eight PjBL essential project elements as proposed by Larmer, Mergendoller and Boss (2015). The module was validated by a content expert from the TVET field and a language

expert from a public university before its use. Each PjBL lesson in the module involved a warm-up activity, a main PjBL activity and at least one scaffolding activity. Main PjBL activities included group discussion, group presentation, information searching, reflection and project revision. According to the Buck Institute for Education (2017), in PjBL lessons where English is the medium, scaffolding activities are essential when learning involves learners who are not the native speakers of English. As put forward by Vygotsky in his concept of Zone of Proximal Development (ZPD), scaffolding is crucial in maximising student learning (Fani & Ghaemi, 2011). The purpose of scaffolding activities in PjBL is to support learners' language learning, content learning and project progress. Thus, the module also included various scaffolding activities for teaching the course. These scaffolding activities were incorporated either during class as closing activities or after class via the online platform as follow-up activities. Examples of activities were such as video response, reading comprehension, grammar quiz, reflection, pair discussion and role play, which were conducted individually, in pairs and in groups.

Research Procedure
Permission to conduct a study at the settings was first sought from the Director of Research and Innovation Division of the academic institution via a letter. Follow up meetings were then conducted with the gatekeeper of both centres to explain the purpose and procedures of the research. Besides that, written consent to participate in the study was also obtained from all the participants before the commencement of the study. Prior to the study too, an English Proficiency Test (EPT) was administered to measure the participants' entry level in order to ensure that the groups were equivalent at the initial stage, thus, alleviating the threat of selection bias to the experimental study. The result of the independent t-test showed that there was no significant difference in the learners' EPT scores between the experimental group (M=45.4, SD=20.1) and the control group (M=41.3, SD=12.6) (Conditions; t (42) =0.78, p=0.441>0.05). The result indicated that the ESL learners from both groups were equivalent at baseline.

The study took 16 weeks and was divided into three phases: pre-intervention (2 weeks), while-intervention (12 weeks) and post-intervention (2 weeks). Pre-test and post-test were conducted in the pre-intervention and post-intervention phases using the same research instrument. The Listening Competency Test was administered in a regular classroom using audio-video equipment, namely a laptop, a projector and a speaker since language labs were unavailable at the study settings. The test took approximately 30 minutes and the recordings were played twice during the test. To improve the experimental validity, the particular test condition was ensured to be comparable during pre-test and post-test for both the experimental and the control groups.

During the while-intervention phase, lessons were conducted for two hours per week. The learners in the experimental group were taught the Communicative English course using project-based learning teaching strategy (PjBL teaching strategy) based on a PjBL module. Principally, PjBL teaching strategy requires learners to work in groups throughout the semester in order to complete a project. In the PjBL group too, the skill of listening was not taught in isolation but integrated with other skills, especially speaking, through the main PjBL activities and scaffolding activities throughout the 12-week lessons. On the other hand, the learners in the control group were taught the course using the conventional teaching strategy prescribed by the class teacher. Typically, the lessons were taught by a combination of a series of direct lectures, follow-up exercises and activities, and a final group project. Unlike the group project in the PjBL group, the final group

project in the control group was only assigned in the middle of the course, thus, requiring the learners to work in groups only to accomplish the particular project. Besides that, no standard teaching module was used by the conventional group but the teacher adhered to the syllabus, detailed syllabus and assessment instrument format provided by the Skills and Technical Division of MARA education sector. Although the experimental and control groups were taught using different teaching strategies by different teachers, both groups shared the same course learning outcomes and learned the same content of the Communicative English course. Several other measures were also taken in order to minimise threats to the internal validity of the quasi-experiment. To minimise diffusion of treatment, the PjBL module, which was specially designed for use as the treatment, was only made accessible to the English language teacher who taught the PjBL group. Prior to the study, a briefing was also conducted with the teacher of the control group to explain the purpose and procedures of the study, as well as the teacher's roles and responsibilities in the study. On top of that, visits to the location of the control group were made on a regular basis to ensure that the Communicative English course was taught according to the standardly prescribed syllabus. It was also to ensure that no undesirable events that could impact the results of the study occurred in the control group during the study.

Data Analysis
Exploratory data analysis (EDA) was run on the data before employing parametric statistics for further analysis. The EDA results obtained showed that data were normally distributed (p>.05) and the homogeneity assumption was met (p>.05). Further data analysis involved the procedures of t-tests, ANOVA and Tukey test. To answer Research Question 1, a dependent samples t-test procedure was run on the pre-test and post-test scores of the participants in both groups, followed by an independent samples t-test procedure between the PjBL and conventional groups. Next, to answer Research Question 2, the data from the listening competency test were broken into two parts; dialogue listening and monologue listening. Independent samples t-test procedures were performed on the learners' post-test scores in dialogue and monologue listening parts for both the PjBL and conventional groups. The mean scores between groups in dialogue and monologue were then compared. Finally, since the researcher was interested in finding evidence to substantiate the effectiveness of PjBL as a teaching strategy for ESL learners from the low proficiency level, the focus was given to the PjBL group in Research Question 3. In Research Question 3, the learners in the PjBL group were regrouped into high, medium and low achievement subgroups based on their pre-test scores. A one-way ANOVA procedure was performed to compare the effects of PjBL teaching strategy on listening competency in three different achievement subgroups, followed by the Tukey post hoc test to identify which particular differences between pairs of means were significant for further analysis. Additionally, for all significant results from the independent samples t-test, Cohen's *d* was computed to determine the effect size.

Results

The following are the results of the study which correspond to the three research questions: effects on listening competency, effects on dialogue and monologue listening comprehension and effects based on different achievement levels.

Effects on Listening Competency of ESL Learners

Table 1 shows the results of listening competency pre-test and post-test in both groups.

Table 1. Comparison between pre-test and post-test scores in PjBL and conventional groups

	N	Pre-test		Post-test		t	df	p
		M	SD	M	SD			
PjBL	25	26.2	14.7	47.8	15.2	-8.571	24	.000
Conventional	19	25.0	10.2	38.7	10.9	-8.023	18	.000

As seen in Table 1, there was a significant difference between listening pre-test (M=26.2, SD=14.7) and post-test scores (M=47.8, SD=15.2) in the PjBL group, conditions; t (24) = -8.571, p=0.00<0.05. Similarly, the conventional group also showed a significant difference between listening pre-test (M=25.0, SD=10.2) and post-test scores (M=38.7, SD=10.7) conditions; t (18) = -8.023, p=0.00<0.05. In each group too, the mean score was lower in pre-test than post-test, indicating an improvement in the learners' listening competency after the experiment. Interestingly, the PjBL group showed a much higher mean score than the conventional group at the end of the study.

Table 2 shows the results of the independent samples t-test between both groups.

Table 2. Comparison of listening competency scores between PjBL and conventional groups at post-test

	PjBL group (N=25)		Conventional group (N=19)		t	df	p
	M	SD	M	SD			
Listening competency	47.8	15.2	38.4	10.7	2.295	42	.027

Effect size calculation for listening competency:

$$\text{Cohen's } d = (M_2 - M_1) / SD_{pooled}$$
$$= (38.4 - 47.8) / 13.14401$$
$$= 0.72$$

From Table 2, we can see a significant difference in the learners' listening competency post-test scores between PjBL teaching strategy (M=47.8, SD=15.2) and conventional teaching strategy (M=39.4, SD=10.7) conditions; t (42) = 2.295, p=0.027<0.05), indicating that the learners' competency in listening was clearly not the same for both groups after the experiment. The mean score showed that the PjBL group did better than the conventional group. The calculated effect size, Cohen's *d* was 0.72, indicating a relatively large value (Cohen, 1988). Taken together, we can confidently conclude that the ESL learners in the PjBL teaching strategy group have significantly outperformed those in the conventional teaching strategy group in listening competency.

Effects on Dialogue and Monologue Listening Comprehension

Table 3 shows the results of independent samples t-test between both groups in terms of dialogue and monologue listening comprehension.

Table 3. Comparison of dialogue and monologue listening scores between PjBL group and conventional group at post-test

	PjBL group (N=25)		Conventional group (N=19)		t	df	p
	M	SD	M	SD			
Dialogue	47.4	14.7	37.9	9.2	3.781	42	.000
Monologue	48.6	19.3	44.2	15.7	.808	42	.424

Effect size calculation for dialogue listening: -

$$\text{Cohen's } d = (M_2 - M_1) / SD_{pooled}$$
$$= (37.9 - 47.4) / 12.262341$$
$$= 0.77$$

As shown in Table 3, there was a significant difference in the learners' dialogue comprehension scores between PjBL teaching strategy group (M=47.4, SD=14.7) and conventional teaching strategy group (M=37.9, SD=9.2) conditions; t (42) = 3.781, p=0.00<0.05). It indicated that the ESL learners' comprehension in the area of dialogue listening for both groups was not the same after the experiment. The calculated effect size, Cohen's *d* which was 0.77, indicated a large value (Cohen, 1988). With regard to the mean score, the mean score for the PjBL group (M=47.4, SD=14.7) was higher than the conventional group (M=37.9, SD=9.2). Contrariwise, in monologue listening comprehension, although the mean score for the PjBL group (M=48.6, SD=19.3) was slightly higher than the mean score for the conventional group (M=44.2, SD=15.7), the difference was not significant, conditions; t (42) = .808, p=0.424>0.05). In other words, the listening comprehension in monologues for both groups was equivalent at the end of the course. Overall, the results in this section indicate that the ESL learners who were taught using PjBL teaching strategy improved significantly only in dialogue listening comprehension.

Effects on Listening Competency Based on Different Achievement Levels in PjBL group

Table 4, 5 and 6 show the results pre-test and post-test based on three PjBL subgroups, one-way ANOVA between groups and Tukey post hoc test.

Table 4. Descriptive statistics of listening competency pre and post-tests of PjBL subgroups

		Pre-test		Post-test	
	N	Mean	SD	Mean	SD
High	9	41.1	12.2	59.4	14.1
Medium	8	23.8	4.4	43.8	13.2
Low	8	11.9	5.1	38.8	10.3

Table 5. Results of one-way ANOVA between PjBL subgroups

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2006.77	2	1003.38	6.20	.007
Within Groups	3559.72	22	161.80		
Total	5566.50	24			

Table 6. Results of Tukey post hoc comparisons

PjBL Subgroup		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High	Medium	15.69444	6.18095	.047	.1675	31.2214
	Low	20.69444	6.18095	.008	5.1675	36.2214
Medium	High	-15.69444	6.18095	.047	-31.2214	-.1675
	Low	5.00000	6.36014	.715	-10.9771	20.9771
Low	High	-20.69444	6.18095	.008	-36.2214	-5.1675
	Medium	-5.00000	6.36014	.715	-20.9771	10.9771

In Table 4, a comparison of the results of listening pre and post-tests showed improvements in mean scores in all PjBL subgroups in post-test compared to the pre-test. Meanwhile, the results of one-way ANOVA in Table 5 showed that the effect of PjBL teaching strategy on listening competency for three conditions was significant, (F (2,22) = 6.201, p = .007). In other words, listening competency differed significantly across three PjBL subgroups at post-test. It can be concluded that ESL learners in PjBL group from different levels of achievement improved differently after being taught using PjBL teaching strategy. Post hoc multiple comparisons using Tukey test in Table 6 revealed that the mean score for high achievement group (M=59.4, SD=14.1) was significantly different from the medium achievement group (M=43.8, SD=13.2) and low achievement group (M=38.8, SD=10.3). However, the medium achievement group did not significantly differ from the low achievement group. Hence, these results suggest that the ESL learners in the high achievement group gain significantly different from those in the medium and low achievement groups, who seem to gain in a similar way from the treatment. Overall, the results also suggest that PjBL teaching strategy is an effective teaching strategy since not only do all the groups show improvements, but the improvements also correspond positively according to the achievement levels, with the high achievement group improves the most, followed by the medium and low achievement groups (M=59.4, 43.8 & 38.8 respectively).

Discussion

In this section, the discussion pertaining to the findings of the study is presented according to the sequence of research questions and is in line with the aim of the study at ascertaining the

effectiveness of using PjBL as a teaching strategy in improving the listening competency of ESL learners.

Research Question 1: Is there any significant difference between the PjBL and conventional groups in terms of listening competency?

The results of t-tests conducted on the learners' scores in the Listening Competency Test indicated that the English language learners who were taught using PjBL teaching strategy significantly outperformed those who were taught using the conventional teaching strategy at the end of the study. The effect size of 0.72 obtained between groups indicated a rather high value, signifying a meaningful difference and that the result was unlikely due to chance. The learners in the PjBL group also recorded a significant improvement in their listening competency at the end of the study in comparison with their performance before undergoing the PjBL intervention. These results seem to be consistent with findings of the studies conducted by Shanthi, Anniepothen and Rao (2015), Newprasit and Seepho (2015) and Zhang (2015) which reported improvement of learners' English language skills, including listening, after the implementation of PjBL in the English language classrooms.

Vygotsky's Social Interaction Theory emphasises on social interaction as the basis for learning that makes a significant difference in a learner's learning development (Shabani, 2016). In line with the proposition, the results of the study are likely to be associated with the collaborative learning and social interaction opportunities provided in the PjBL activities conducted during the study. In much the same way, Shanthi, Anniepothen and Rao (2015) mentioned that in their study, the collaborative technique in PjBL provided the learners much opportunity to communicate and discuss. In the present study, group discussions and group presentations are the core activities in the PjBL class. During the PjBL lessons, much of the learners' time was devoted to working in groups; thus, exposing them to many opportunities to interact, discuss, debate and also question group members. In a similar way, Ma (2010) maintained that in group work, listening comprehension is reinforced using social-affective strategies such as cooperating and questioning. Besides that, a much longer time spent on a group project in the PjBL group than in the conventional group also gives the idea that the PjBL group has more communication opportunities within the group than those taught using the conventional strategy.

In this study, listening competency was not developed naturally, but through constant practice and scaffolding during group discussion and group presentation activities. Prior to every group discussion activity, the aim of the discussion was conveyed so that the learners could envisage the outcome of their discussion. During the discussion when the teacher noticed that the learners could be having difficulties to accomplish a given task, scaffolding was offered so that they could progress without digressing. The kinds of scaffolding ranged from the minimal assistance the teacher could offer such as suggesting websites to refer to and till holding a mini-lecture on the problematic topic. In addition, during group discussions, a two-way communication took place between the learners and the teacher as the learners constantly asked questions or sought for clarifications.

Listening competency of the learners was also believed to be developed during group presentations. The teacher made sure that group presentation sessions benefited the audience as

much as it should benefit the presenters. Rexhaj (2016) suggested that to improve listening skills, activities should be targeted at developing students' active listening skills. In much the same way, to maximise learning and develop listening skills, every group presentation session was also turned into an active listening practice session. Besides encouraging learners to take part in the Q&A session at the end of the presentation, during a group presentation, the learners were provided with a listening task sheet in which they needed to complete by the end of the presentation, requiring them to give full attention to the presentation. This kind of scaffolding was offered to train learners to listen with a purpose, either to identify information or to understand contexts, leading to more meaningful listening. According to Ma (2010), listening for different purposes is one of the key strategies that can be taught in a listening classroom. In addition, a group presentation session is perhaps one of the most authentic listening situations and ideal active learning practices which can be offered in a PjBL classroom. Eventually, the learners became accustomed to the activities in the PjBL classroom and also to listening and speaking.

Research Question 2: Is there any significant difference between the PjBL and conventional groups in terms of dialogue and monologue listening comprehension?

Comparisons were made between PjBL and conventional teaching strategies in dialogue and monologue listening comprehension to ascertain the effectiveness of PjBL teaching strategy in improving the learners' comprehension in different listening texts. It was discovered that the PjBL teaching strategy group significantly outperformed the conventional teaching strategy group in dialogue listening comprehension. A large effect size of 0.77 was also obtained, suggesting a meaningful difference between the groups. However, with regard to monologue listening, the performance of both groups was found to be equivalent at the end of the study.

The improvement of the PjBL group in dialogue listening competency is likely to be attributed to the use of authentic listening materials during the PjBL intervention. The advantage of authentic listening materials in providing real-life communication experience has been established by several scholars including Saricoban and Karakurt (2016), Zhang (2015) and Xue (2013). The extensive exposure to communication situations in real-life during the PjBL lessons through the main PjBL activities such as group discussions, group presentations and information searching were likely to result in the learners becoming familiar with the spoken language that they heard, and with the English language itself. This could have resulted in a decrease in their anxiety level to communicate in English which could have also led to improved listening competency of the learners.

Besides that, the scaffolding activities during the PjBL lessons such as role play and pair discussion were also strongly believed to contribute to the positive impact on these learners' listening competency. Similar to the main PjBL activities, these scaffolding activities which integrated listening and the other language skills might have affected the learners' listening competency too. Tavil (2010) found evidence of the effectiveness of teaching listening in integration with other language skills. Role play integrates two main language skills, namely listening and speaking, and using real-life situations, role play is deemed a suitable activity for learners to practice listening and speaking. In the present study, role plays were usually conducted in pairs or groups of three and done spontaneously. Authentic materials and spontaneous role plays were intended to get the

students used to practising strategies to solve communication problems as they arise in real situations. In much the same way, pair discussion integrates listening and speaking skills as the main skills too. Together, it is likely that these scaffolding activities that integrate listening and speaking skills have improved the learners' dialogue listening competency. As Tavil (2010:766) pointed out: 'the more the skills (English language skills) are taught individually, the less communication will take place in a classroom. To avoid this, the skills should be taught in integration to guide learners to develop their oral communicative competencies'.

Research Question 3: Is there any significant improvement in listening competency of the ESL learners from different achievement levels in the PjBL group?

It was found from the study that the PjBL teaching strategy significantly improved the listening competency of ESL learners from high, medium and low achievement groups (p=.007). The results seemed to be consistent with the idea of Larmer and Mergendoller (2011) that PjBL matches the needs of all learners especially the weak ones and helped to overcome the common misconception that PjBL is only suitable for fluent English speakers. These results were also similar to those of Intykbekov (2017) who found that PjBL benefited the weaker students in her study, but were contrary to that of Kirschner, Sweller and Clark (2006) who claimed that minimally guided learning approaches such as PjBL would not work for weak students with poor prior knowledge.

A possible explanation for the results might be that PjBL offers flexibility for learning and scaffolding. PjBL encourages independent learning as well as self-exploration and allows English language learners to progress at their own pace and space, but at the same time provides scaffolds when necessary (Miller, 2016). The flexibility of learning in PjBL is also comparable to the space between the lowest and the highest points in the Zone of Proximal Development (ZPD) in Vygotsky's theory (Fani & Ghaemi, 2011). In ZPD, learning takes place within the zone, which is marked by two points. Similarly, in this study, learning takes place between the first point, for instance, the launching of project until the last point which is reflection. During the learning process, learners are given the autonomy to regulate their own learning in terms of the final outcome, presentation method and even the pace of their own learning. According to Azura, Nor Farizah and Ida Suriana (2012), flexibility is much needed by low achievers who might extra time, assistance and practices to progress along with others. Furthermore, in the present study, scaffolding did not only come from the teacher, but also from the more knowledgeable ones like the high proficiency learners. In groups, more often than not the stronger students provided coaching as they took the responsibility to guide the weaker members. This is likely to explain how the high proficiency learners may have improved. In much the same way, Intykbekov (2017) concluded in her case study that the stronger students improved and benefited from PjBL by helping the weaker ones in their group. Besides that, the flexibility in learning offers all learners room for improvement and benefits the high proficiency learners by providing room and opportunity to maximize their ability. Similarly according to Sadrina and Ramlee (2017), the character of a project in PjBL which is open-ended, gives learners more choices to demonstrate their knowledge.

Conclusion and recommendations

The study was conducted to determine the effects of using PjBL teaching strategy on the listening competency of English language learners in comparison with a conventional teaching strategy with the hope of adding knowledge and increasing understanding in the area of teaching of listening in English language field. The study has found a significant difference between groups, indicating a significant improvement in listening competency of learners who are taught using the PjBL group in comparison to the learners who are taught using the conventional teaching strategy. The significant improvement has been equally identified in high, medium and low English proficiency learners in the PjBL group. The learners in the PjBL group have also been found to outperform those in the control group in the dialogue listening area. Even though no significant difference has been found in monologue listening area, both groups have clearly shown improvement at the end of the study. Therefore, it can be concluded that using PjBL teaching strategy, ESL learners in the present study can still improve their competence in monologue listening as much as those who are taught using the conventional teaching strategy.

Overall, this study informs that collaboration, authentic materials, integration of skills and learning opportunities are probable aspects which may have led to improved listening competency of learners; thus, should be taken into consideration in the teaching of listening in ESL classrooms. This study also strengthens the idea that PjBL is a suitable teaching strategy that meets the needs of the ESL learners especially the low proficient learners. The evidence found has led to the conclusion that PjBL is effective in improving the listening competency of college-level ESL learners in the present study.

Nevertheless, the study was limited by the absence of random sampling and small sample size used, requiring caution to be exercised when interpreting the results as they only apply to the participants of the study. On the bright side, it is believed that the difference that exists when a small sample size is used, like in this present study, tends to be practically significant and meaningful (Sauro, 2014). Still, considerably more work will need to be done to establish the effectiveness of using project-based learning as a teaching strategy in improving the English language listening competency, in the literature. Hence, further research in a similar area should include a larger sample size and randomly selected from a population for generalisation of results to be achievable.

Acknowledgements

References

Aiedah Abdul Khalek, & Lee, A. (2012). Application of project-based learning in students ' engagement in Malaysian Studies and English Language. *Journal of Interdisciplinary Research in Education*, *2*(1), 37–46.

Alam, Z., & Sinha, B. S. (2009). Developing listening skills for tertiary level learners. *The Dhaka*

University Journal of Linguistics, *2*(3), 19–52. http://doi.org/10.1080/00150193.2014.891923

Azura Omar, Nor Farizah Taib, & Ida Suriana Basri. (2012). Project-based learning : English carnival in Universiti Kuala Lumpur-Malaysia France Institute. *The English Teacher*, *XLI*(August), 27–41.

British Council. (2018). Prepare for IELTS: understand the listening test. Retrieved September 19, 2018, from http://takeielts.britishcouncil.org

Buck Institute for Education. (2017). English learner scaffolds for PBL. Retrieved July 14, 2017, from www.bie.org

Cheah, B. (2015, November 10). Poor English among students a grave concern. *The Sun Daily*. Retrieved from https://www.thesundaily.my

Choo, S. S., & Melur Md. Yunus. (2017). Audio clips in developing listening comprehension skills in Malaysian Primary ESL classrooms. *Proceedings of the ICECRS*, *1*(1), 421–430. http://doi.org/10.21070/picecrs.v1i1.511

Cohen J. (1988). *Statistical power analysis for the behavioral sciences*. *NY: Routledge Academic*. New York.

Creswell, J. W. (2014). *Research design : Qualitative, quantitative and mixed methods approaches*. *SAGE Publications* (4th ed.). SAGE Publications. http://doi.org/10.1007/s13398-014-0173-7.2

Danial Rahman. (2016, July 14). Making Malaysian graduates more employable a reality. *The Star Online*. Retrieved from https://www.thestar.com.my

Eaton, S. E. (2010). *Global trends in language learning in the twenty-first century*. Calgary: Onate Press.

Fani, T., & Ghaemi, F. (2011). Implications of Vygotsky's Zone of Proximal Development (ZPD) in teacher education: ZPTD and self-scaffolding. *Procedia - Social and Behavioral Sciences*, *29*, 1549–1554. http://doi.org/10.1016/j.sbspro.2011.11.396

Intykbekov, A. (2017). *Teacher perceptions of project-based Learning in a Kazakh-Turkish Lyceum in the northern part of Kazakhstan*. Nazarbayev University.

Kalabzov, M. (2015). *The application of project based learning in the English classrooms*. University of West Bohemia.

Kean, A. C., & Kwe, N. M. (2014). Meaningful learning in the teaching of culture: The project based learning approach. *Journal of Education and Training Studies*, *2*(2), 189–197. http://doi.org/10.11114/jets.v2i2.270

Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work : An analysis of the failure of constructivist, discovery, problem-Based, experiential, and inquiry-based teaching. *Educational Psychologist*, *41*(2), 75–86. http://doi.org/10.1207

Larmer, J. (2015). Debunking 5 myths about project-based learning. Retrieved July 12, 2017, from https://www.edutopia.org/blog/debunking-five-pbl-myths-john-larmer

Larmer, J., & Mergendoller, J. (2011). The main course, not dessert. Retrieved April 11, 2017, from http://www.occgate.org

Larmer, J., Mergendoller, J., & Boss, S. (2015). Gold Standard PBL : Essential project design elements. Retrieved from https://www.pblworks.org/blog/gold-standard-pbl-essential-project-design-elements

Lin, S. E., Abdul Rashid Mohamed, & Muhammad Javed. (2013). Analysis of students ' competency in listening comprehension of the English language at Pakistani secondary school level. *Middle-East Journal of Scientific Research*, *16*(3), 331–341.

http://doi.org/10.5829/idosi.mejsr.2013.16.03.2298

Ma, T. (2010). Communicative listening training in English— features, strategies and methods. *Journal of Language Teaching and Research*, *1*(4), 464–472. http://doi.org/10.4304/jltr.1.4.464-472

Miller, B. A. (2016). The potential of project based learning and English language learners. *Curriculum in Context*.

Ministry of Education Malaysia. (2018). Portal Rasmi Kementerian Pendidikan Malaysia. http://doi.org/10.1016/j.tate.2010.08.007

Moss, D., & Van Duzer, C. (1998). Project-based learning for adult English language learners. *ERIC Digest*, 1–7. Retrieved from http://www.cal.org

Nair, S., Yew, L. K., & Kesuma Abu Bakar. (2014). Exploring the listening processes of pre-university ESL students. *Procedia - Social and Behavioral Sciences*, *118*, 475–482. http://doi.org/10.1016/j.sbspro.2014.02.065

Newprasit, N., & Seepho, S. (2015). The effects of a project-based learning approach on the improvement of English language skills. *Journal of Applied Language Studies and Communication*, *1*(June), 16–51.

Ng, K. S., Lim, S. K., & Tan, A. L. H. (2009). *Getting ahead with English: Listening & speaking*. Selangor, Malaysia: Marshall Cavendish (Malaysia) Sdn. Bhd.

Normah Yusof. (2012). Effective uses of computer-based software in teaching the listening skill in ESL. *Malaysian Journal of Educational Technology*, *12*(1), 43–53.

Nunan, D. (1995). New Ways in Teaching Listening. In *The Journal of TESOL France* (pp. 51–65).

Rexhaj, X. (2016). Constructivist approaches and strategies for improving the listening language skills. In *Thesis* (pp. 5–22). Kosovo: AAB College.

Sadrina, & Ramlee Mustapha. (2017). The evaluation of project-based learning at the Mechanical Engineering Department , Polytechnic Malaysia : A product dimension assessment. *Jurnal Ilmiah Pendidikan Teknik Elektro*, *1*(1), 51–62.

Saricoban, A., & Karakurt, L. (2016). The use of task-based activities to improve listening and speaking skills in EFL context. *Sino-US English Teaching*, *13*(6), 445–459. http://doi.org/10.17265/1539-8072/2016.06.003

Sauro, J. (2014). What does statistically significant mean? Retrieved October 20, 2018, from https://measuringu.com

Shabani, K. (2016). Applications of Vygotsky's sociocultural approach for teachers' professional development. *Cogent Education*, *3*(1), 1–10. http://doi.org/10.1080/2331186X.2016.1252177

Shanthi, W. G., Anniepothen, & Rao, A. R. (2015). Project based learning : An effective tool for developing aural and oral skills of engineering students - A study. In *International Conference on Humanities, Literature and Management* (pp. 9–11). http://doi.org/https://doi.org/10.15242/icehm.ed0115102

Syed Jaymal Zahiid. (2015, November 11). Poor English eroding Malaysian graduates' self-belief. *The Malay Mail*. Retrieved from https://www.malaymail.com

Tan, C. (2017, March 25). Poor English skills a major complaint in every industry. *The Star Online*. Retrieved from http://www.thestar.com.my

Tavil, Z. M. (2010). Integrating listening and speaking skills to facilitate English language learner's communicative competence. *Procedia - Social and Behavioral Sciences*, *9*, 765–770. http://doi.org/10.1016/j.sbspro.2010.12.231

Walker, N. (2014). Listening: The most difficult skill to teach. *Encuentro*, *23*, 167–175. http://doi.org/10.1177/1362168813482935

Woro Sumarni. (2015). The strengths and weaknesses of the implementation of project based learning: A review. *International Journal of Science and Research*, *4*(3), 478–484. Retrieved from http://www.ijsr.net/archive/v4i3/SUB152023.pdf

Xue, M. (2013). Effects of group work on English communicative competence of Chinese international graduates in United States institutions of higher education. *The Qualitative Report*, *18*(7), 1–19. Retrieved from http://www.nova.edu/ssss/QR/QR18/xue14.pdf

Yildiz, N., & Albay, M. (2015). The role of listening skills in developing communicative competence : A case study in the language classroom. *International Journal of Social Sciences & Educational Studies*, *2*(2), 4–11.

Zhang, Y. (2015). Project-based learning in Chinese college English listening and speaking course : From theory to practice. *Canadian Social Science*, *11*(9), 40–44. http://doi.org/10.3968/7532

Author Information

Noor Idayu Abu Bakar is a lecturer at MARA Professional College Bandar Penawar, Johor, Malaysia. She is currently pursuing her PhD in the field of Teaching English as a Second Language at Universiti Putra Malaysia. Her research interests are on student-centred learning and language teaching and learning strategies.

Nooreen Noordin holds a doctoral degree from Universiti Putra Malaysia in the field of Teaching English as a Second Language. She is a senior lecturer at the Department of Language and Humanities Education, Faculty of Educational Studies, Universiti Putra Malaysia. Her research interests are on language learning technology, content-based instruction and learning styles. She has authored and co-authored several book chapters and journal papers. She was also the recipient of the Vice-Chancellor's Fellowship Award for the Teaching Category in 2016.

Abu Bakar Razali graduated from Michigan State University with PhD in Curriculum, Instruction, and Teacher Education (Language and Literacy Education). Abu Bakar currently works as a senior lecturer at the Faculty of Educational Studies, Universiti Putra Malaysia (UPM). Abu Bakar's research interests are on the teaching and learning of English as a second language, particularly in reading and writing instruction and educational technology. Abu Bakar is also interested in creative writing and popular culture in the teaching and learning of English as a second language.