Original Article

The Effectiveness of Cooperative Learning in Teaching English for Specific Purposes to the Students of Nursing Regarding Pronunciation

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Abstract

Introduction: Language teachers can help students improve their learning of English by employing different approaches and taking into consideration various learning styles of their students. This study is an attempt to reveal the effect of cooperative learning (CL) on enhancing nursing students' English pronunciation.

Methods: Twenty five nursing students and thirty midwifery students in Yasuj University of Medical Sciences took part in this quasi experimental study as the intervention and the comparison groups, respectively. CL was implemented with the intervention group, dividing them into groups of five while the comparison group was taught through the traditional method. Phonetic transcriptions were used along passages taken from the English for the Students of Medicine (ESM) I book with both groups. The data, collected from three oral tasks, scores of pre-test, midterm and final written examinations, were analyzed using the SPSS software, version 19, through independent sample t-test.

Results: The results of the study showed that the intervention group outperformed the comparison group significantly (P<0.05) in all areas of oral tests and pronunciation.

Conclusion: This study suggests that CL helped significantly to enhance the nursing students' pronunciation. Teaching pronunciation, done in a cooperative context, yields better learning in students.

Keywords: Cooperative learning, Nursing, Pronunciation

Introduction

English for specific purposes (ESP) refers to the teaching and learning of English as a second or foreign language where the goal of the learners is to use English in a particular domain (1). ESP for the nurses focuses on the

specific ways in which the nurses use English both in the clinical setting as well as in nursing education. Nurses are required to use English while doing some discipline-specific tasks. Some of these tasks identified by Bosher include researching medical diagnosis of every patient nurses are assigned to care for, studying nursing course textbooks to support their assessment and diagnosis, charting, and documenting accurately and appropriately the nursing care they provide (2, 3).

Cameron identified accuracy in speech production as one of the most important needs in English for nursing. He believes that nurses must accurately pronounce words that are specific to nursing including medical terminology, diagnoses, procedures, and names of drugs. Sometimes, not being able to distinguish some phonemes can lead to miscommunication (4).

Research findings have shown that when students know how to say a word, it is easier for them to commit the word to memory (5, 6, 7).

Some methodologists (8, 9) advocate the teaching of phonology of a language with the aid of a phonetic script (usually the symbols of the International Phonetic Alphabet or I.P.A.).

Pronunciation learning is most profitable (and most pleasant) as believed by Morley when students are actively involved in their own learning, not passively detached repeaters of drills. In pronunciation work, perhaps more than any other part of language study, a comfortable classroom atmosphere is essential for maximum achievement. Classroom interactions need to be enjoyable and supportive with a focus on strengths as well as weaknesses (10).

As one of the best known approaches which help to create such an environment, cooperative learning will be addressed in the following section.

Cooperative learning dates from the early 1970s in America, and achieved substantial development in the middle of 1970s to 1980s. It is a method of instruction whereby students grouped in small learning teams work in cooperation with each other to solve a problem, or to perform a task presented by the teacher (11). The Chinese scholar, Wang, gave the following definition: "cooperative learning is a system of teaching strategy which promotes the students to cooperate in heterogeneous teams toward a common goal and are rewarded according to the success of the team" (12).

In principle, cooperative learning sticks to the following five elements, i.e. 1) positive interdependence, 2) individual accountability, 3) quality group processing, 4) explicit teaching of small group skills, and 5) teaching of social skills (13).

Out of the many methods that different teachers or researchers have developed, the following three models have received the most attention from English teachers: Student Team Achievement Divisions (STAD), Jigsaw, and Learning Together (LT) (11).

STAD includes small heterogeneous teams of 4-6 members who tutor each other on the material in the course and prepare each other for weekly quizzes. To be more specific, students are assigned to four- to six-member learning teams that are mixed in performance level, sex, and ethnicity. The teacher presents a lesson, and then students work within their teams to make sure that all team members have mastered the lesson. Finally, all students take individual quizzes on the material, during which they may not help one another (14).

A number of experimental studies have been conducted to compare the impact of the CL approach with traditional instruction on EFL teaching, which proved the effectiveness of this approach in teaching different language skills (13, 15-19).

In Iran, however, very few studies were found on implementing cooperative learning in EFL. Among them, we can refer to those conducted by Javadi Rahvard (20), Razavi et al. (21), Dabaghmanesh et al. (22), Naeimi & Foo (23), Jalilifar (24). Sanaee Moghadam et al. studied the effect of cooperative learning on comprehension and pronunciation of students of medicine in Yasuj (25) as the only study found to be done on pronunciation. Taking their participants' discipline into consideration, the results obtained cannot be generalized to the students of nursing. Regarding the importance of this skill, it seemed necessary to conduct some research on the effect of cooperative learning with a special emphasis on pronunciation development of nursing students.

English for Specific Purposes is presented to the students of nursing and midwifery of Yasuj University of Medical Sciences as a two-credit course in the third semester. The need assessment and impact evaluation of ESP in previous years suggested that in spite of students endeavor to learn English and their perception of their need for this knowledge in their future studies, their acquired language skills were not satisfactory and they seemed incompetent in these skills.

In this article, we aimed to demonstrate how cooperative learning and phonetic transcriptions could be utilized in a two-credit course of ESP to enhance English language

skills in students of nursing in Yasuj University of Medical Sciences. The researchers made an attempt to answer the following research question: What are the effects of cooperative learning on pronunciation of specific words by students of nursing?

Methods

The sample population of this quasi-experimental study, conducted in 2013 in Yasuj University of Medical Sciences, was 25 third semester students of nursing and 30 third semester students of midwifery who had chosen English for specific purposes simultaneously. They were all female with an average of 21 years of age.

Entering the third semester, students of midwifery and nursing had already passed a good bulk of their specific courses such as: principles of nursing and obstetric skills, cell biology and histology, pharmacology, epidemiology, nutrition, biochemistry, anatomy, physiology, immunology, parasitology and microbiology, and psychology. Therefore, they were familiar with technical terms, but with the nonstandard pronunciation the instructors of such courses use.

Approval to conduct the research was obtained from the faculty education office. On the first day of class, consent forms were distributed for students to sign after a brief explanation of the interventional procedure, the purpose

of the research and the CL techniques to be used. The empirical study lasted 17 weeks, with students studying English for one and half hour once a week.

A pre-test was taken from both groups and then the nursing class was selected randomly to be the intervention group and midwifery class as compare group. Both groups were provided with the same instructional materials. Phonetic transcripts were used along the texts in their book (English for the students of medicine 1). The book contains texts on different common diseases such as measles, influenza, and meningitis, mental and physical needs of patients, vaccination, etc. Phonetic symbols were taught to both classes in their first session.

Students of nursing were randomly divided into groups of 5 in the next session, using the enrolment list. STAD was the cooperative technique used in this study. After the formation of five groups and the process of teambuilding, each member in the group was given a particular role to play. Role assignment for each group member in cooperative learning context is another major feature that distinguishes cooperative learning from regular group learning. The designation and rotation of role assignment for each student can avoid the occurrence of free riders or potential complaint of overloading from some high achievers. The job description of each role was explained clearly and explicitly to the students. Adapted from Kagan (1989) (26), the responsibility of each role was explained in detail in Table 1.

Table 1. Role assignments and job description in STAD

Role	Job Description
Leader	The leader is the chairperson who hosts the group discussion and makes sure that each member is on task by participating in the discussion or any given task.
Recorder	The recorder needs to take notes during the discussion. The written report will be given to the reporter.
Reporter	The reporter is responsible for reporting the summary of his/her group's discussion to the class on behalf of his/her team.
Timer	The timer controls the time given to their group and makes sure that the assigned task is completed in time. If time is not enough to complete the task, the timer has to request more time from the teacher.
Checker	The checker makes sure that each one in the group finishes the worksheet or assigned task in class. If someone in the group has problem completing the individual worksheet, the checker reports to the leader who decides what kind of help will be given to that member.

The phonetic script of the passages of first lesson of the aforementioned book which was typed via "Just as Spoken" software was presented to the students to be practiced at home. The groups had a 10 minute discussion in groups about the passages at the beginning of each session and wrote a summary of the passage to be followed by presenting the summary by the reporter of the groups. Then students started to read the passages one by one while their pronunciation errors were corrected by

their peers. If they couldn't do this, or did it wrong, the teacher mediated and corrected them. The teacher read the passages, provided them with explanation of the technical terms, the roots, and the affixes, then the groups did the exercises. At the end of the session the passages of the next session were divided into 25 parts and distributed among students. Each person had the responsibility to rewrite the texts with phonemic symbols and type them via "Just as Spoken" software. The group members had to check their peers' script and correct the wrong symbols in 10 minute before starting the lesson. Checkers and leaders

in groups were in charge of helping others and making sure they did their job well. Their homework was checked and scored by the teacher. Each session their score was compared with their previous one, which was the base score for comparison. The differences were then regarded as their improvements.

The team score was the total of each member's improvement points rather than the raw quiz scores. In this way, each student's grade was based on his or her own score. But, at the same time, they also contributed to their group score by being better than their own previous scores. Students could earn points for their teams based on the degree to which their scores exceeded their first base scores.

The comparison group (students of midwifery) was also provided with the phonetic scripts, but there was no grouping or discussion for this group. The teacher taught the lessons through lectures. The typed phonetic scripts, made by each student, were gathered and corrected by the teacher who provided the students with the feedback in next sessions.

Because of the large number of students in our sample, the holistic approach (27) was chosen to assess the overall impression of the assessors of students' stress and production of sounds. Two scorers who were proficient in applied linguistics and IELTS and TOFEL testing assessed the reading aloud test which included reading a paragraph taken from their book. The assessors were asked to mark their overall impression of the production of sounds and stress according to the following scale: 1) Bad, 2) Quite good, 3) Good, 4) Very good and, 5) Excellent. The overall impression examined how natural or difficult to understand the student's performance was. The texts were the same for all students but different among pre-test, midterm and final exam. In this part the

marks of the two assessors were included in the results regardless of whether they differed or not. The average mark was counted out of the two. The inter-rater reliability among the two raters was calculated through the Pearson correlation coefficient which was 0.812.

The final exam included different parts, one of them asking students to write the words according to their phonetic symbols. The scores in this part were also calculated as a part of their pronunciation scores. The data were analyzed using the SPSS software, version 19, through independent samples t-test.

Results

This study aimed to explore the effect of CL method on pronunciation and linguistic competence of nursing students. So, the scores on oral exams and the part of written exam which was on pronunciation were of importance to the researchers.

As seen from the scores, the differences in the pre-test mean scores of the two groups were not statistically significant. Yet, the scores of the mid- and final tests suggested that the students studying in the cooperative context outperformed the students in the comparison group, gradually, from the mid-tests to the final exams. The mean of the intervention group scores in pronunciation was significantly more than that of the comparison group (P<0.05).

Differences in the means and standard errors in both pronunciation and oral tests suggested that the observed increase in the mean scores of intervention group was statistically significant. Regarding the significant results in table 2, it can be said, with 94% of confidence interval and upper and lower limits, that CL can be preferred over the conventional method.

Table 2. Comparison of mean between pronunciation and oral tests of the two groups
(P≤0.05)

		Groups	N	Mean	Std. Deviation	P value
Pronunciation exams	**Pre**	Compare	30	4.367	.999	0.869
		Intervention	25	4.420	1.374	
	Mid	Compare	30	9.907	1.473	0.032
		Intervention	25	10.740	1.296	
	Final	Compare	30	11.850	1.887	0.039
		Intervention	25	12.952	1.973	
Oral exams	**Pre**	Compare	30	10.117	1.823	0.614
		Intervention	25	9.860	1.918	
	Mid	Compare	30	17.217	1.959	0.002
		Intervention	25	19.000	2.161	
	Final	Compare	30	18.730	3.120	0.005
		Intervention	25	22.110	4.890	

Discussion

Maximizing learning through cooperating with other partners can be explained by the Learning Pyramid. The Learning Pyramid was the result of the research undertaken in Maine, USA and made available by Professor Tim Brighouse at the University of Keele. It quantifies retention in relation to the teaching method after two weeks. (13).
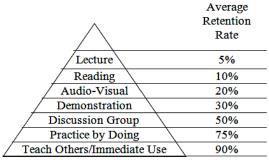

	Average Retention Rate
Lecture	5%
Reading	10%
Audio-Visual	20%
Demonstration	30%
Discussion Group	50%
Practice by Doing	75%
Teach Others/Immediate Use	90%

Figure 1. Learning Pyramid

As illustrated in Figure 1 (13), the move down the pyramid from "lecture" at the top to "teaching others" at the bottom paralleled the move from passive observation to active participation and a corresponding increase in retention (28).

From the illustration of the Learning Pyramid, we can see that the implementation of cooperative learning was not just an alternative to the teacher-centered lecturing method of teaching English, but a must if we were aiming at a high quality teaching.

Improvement scoring, a remarkable aspect of STAD, gave students points based on how much they improved, not just based on how well they did in comparison with other students. According to Kagan, improvement scoring is used so that students bring points back to the team based on how much they have improved over their usual level of performance; then, each student has the potential of bringing maximum points to the team. When improvement scoring is used, teammates are pleased to work with those who need help the most (29).

The findings on pronunciation part of the exam showed significant difference between the two groups table, which is in line with findings that Sanaee Moghadam et al. obtained in their study (25), despite the differences in disciplines and the amount of instructional materials presented to the students in the two studies. Phonetic scripts were provided as a medium in order to simplify their reading and for the students to learn the rules of pronunciation in sentences. The possible reasons to account for the significant gains in the intervention group

in terms of their improvement in the two areas can be the fact that the intervention group was endowed with more opportunities to frequently practice phonetic transcripts. Cooperative activities tended to integrate the acquisition of these skills and create powerful learning opportunities.

Phonics and other linguistic approaches to teaching reading are important in terms of word identification skills. Accurate and rapid word recognition leads to fluency in reading and constructing meaning (30). By reducing stereotypical thinking and imitating teachers, students can increase their independence (31).

Lightbown & Spada urged teachers and students to use correct pronunciation from the beginning. Students who have learned correct pronunciation and speech patterns can begin to practice and ultimately improve their speech patterns. In teaching pronunciation, teachers need to work with students from the very beginning and to make sure that students can produce the sound correctly and have formed a good habit of pronunciation. After they can produce the sound correctly, they may start to read aloud and then start to speak with proper grammatical rules (32).

Some limitations of the research may affect the generalizability of the results. First, this study was not a fully randomized control trial. We were not allowed to select the subjects randomly so we just did random allocation and conducted a pre-test for both groups. Further research employing a pre-test post-test control group experimental design with a larger sample, needs to be conducted to obtain more reliable findings. Second, only one area of language learning was assessed in this study. Further researches are recommended to study the effect of cooperative learning on learning other areas of language.

Conclusion

The overall findings of this study suggest that cooperative learning is a feasible and practical teaching method that helps to improve pronunciation. We can conclude that feedback they received from their classmates facilitated their learning (learning from their errors).

Phonetic symbols should be introduced to students as early in their education as possible because pronunciation and intonation are the foundations of verbal language. If bad habits are formed, it will require double effort, later, to correct them. If teaching phonetic symbols are stipulated in the curriculum, students at all levels can use them to learn the pronunciation of unfamiliar English words and to avoid the bad habit of marking the words with Persian characters bearing similar sounds. Students

need to understand that this latter habit will not help them learn how to pronounce the target language correctly.

It is suggested that instructors, especially ESP instructors, ESP curriculum designers, and evaluators follow this pursuit and provide better opportunities for learners. Accordingly, cooperative learning approach can be implemented more fruitfully and nursing students can apply their ESP knowledge in their entire period of education and nursing profession. Replication of this study with different sample size and different ESP courses at different faculties should be considered.

Acknowledgments

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