

THE EFFECT OF SCIENTIFIC APPROACH ON SPEAKING COMPETENCY AND ITS RELATIONSHIP TO ACHIEVEMENT MOTIVATION OF TENTH YEAR STUDENTS OF SMK PARIWISATA TRIATMA JAYA BADUNG

Ni Made Ernila Junipisa
ernilatriatma@gmail.com
Universitas Triatma Mulya

ABSTRACT

This experimental study aims to investigate the effect of scientific approach and achievement motivation on the speaking competency of tenth graders of SMK Pariwisata Triatma Jaya Badung in the academic year 2019/2020. This research applied 2x2 factorial design. Sixty students were selected as sample through random sampling. Data on students' speaking and achievement motivation were collected by using multiple-choice tests. The acquired data were analyzed statistically by Two Way Analysis of Variance (Two Way ANOVA) and Tukey test to know the interaction effect at 5% significance level. This research discovers: 1) The scientific Approach significantly correlates with students' speaking competency, 2) There is a significant interaction effect of teaching strategy and achievement motivation on students speaking competency, 3) The scientific Approach significantly correlates with the motivation students' speaking competency, and 4) Conventional Strategy significantly correlates with low motivation students' speaking competency.

Keywords: scientific approach, achievement motivation, speaking competency

ABSTRAK

Studi eksperimen ini bertujuan untuk menginvestigasi pengaruh pendekatan saintifik dan motivasi berprestasi terhadap kompetensi berbicara siswa kelas X SMK Pariwisata Triatma Jaya Badung pada tahun ajaran 2019/2020. Penelitian ini menggunakan rancangan 2x2 faktorial. 60 siswa dilibatkan sebagai sampel penelitian. Mereka dipilih dengan teknik sampling acak. Data kompetensi berbicara dan motivasi berprestasi dikumpulkan dengan tes pilihan ganda. Data yang diperoleh dianalisis dengan Analisis Varian AB (ANOVA AB) dan uji Tukey untuk mengetahui pengaruh interaksi. Temuan penelitian ini adalah (1) Pendekatan Saintifik berpengaruh secara signifikan terhadap kompetensi berbicara siswa, (2) terdapat pengaruh interaksi yang signifikan strategi mengajar dan motivasi berprestasi terhadap kompetensi berbicara siswa, (3) Pendekatan Saintifik berpengaruh secara signifikan terhadap kompetensi berbicara siswa yang memiliki motivasi tinggi, dan (4) Strategi Konvensional berpengaruh secara signifikan terhadap kompetensi berbicara siswa yang memiliki motivasi rendah.

Kata-kata kunci: pendekatan saintifik, motivasi berprestasi, kompetensi berbicara

1. INTRODUCTION

Communication is an act or instance of transmitting or a process whereby we attempt to transmit our thought, ideas, wishes, or emotions to others. The power of communication and global networks are the keys that lead the people to compete in global chance. Language is not only a means of communication, but also a medium to share and to express ourselves. As an international language, English is a medium of interaction and communication among people from different parts of the world. Being competent in English is now becoming one of the essential needs. The four language skills, which are listening, speaking, reading, and writing are used for practical purposes, as a medium to convey meanings and ideas. Those abilities must be seen as a whole ability because they are integrated with one another.

In the field of language teaching, the newest curriculum, which is known as “*Kurikulum 2013*” explicitly states that teaching English focuses on integrated skills of four language skills they are listening, speaking, reading, and writing. The other language components such as pronunciation, grammar, and vocabulary are also taught to support the development of language skills. These skills are taught in an integrated way because one skill cannot be performed without the others.

Furthermore, oral and written languages are used together in everyday experiences. It is likely listening may precede speaking and reading may precede writing. For instance, it is impossible to engage conversation if someone is not listening and there is a possibility when someone reads an article, he or she will have a small discussion or give comments on it. In another case, someone may write a report after reading some articles. From these things, teaching

those four skills in an integrated way will enable the students to use the language communicatively.

According to Nunan (2003), teaching speaking is about how to use the language quickly and confidently with few natural pauses, often referred to as fluency. Teaching speaking is important because speaking is reinforcing the use of organization thought in meaningful logical science, the use of appropriate words based on the situation, grammar, the use of intonation, and word stress. Due to the abovementioned facts, clearly the overall objectives of teaching speaking are in order to enable the students to express their ideas and thoughts orally.

Cutting (2000:27) stated that speaking also can be used as a means of revealing speakers’ personalities, attitudes, nationality, religion, etc. Speaking is the most basic medium of communication by humans. It is the only basic human right that has the least restrictions and considered highly important. Speaking is the process of building and sharing meaning through the use of verbal and non-verbal symbols, in a variety of contexts (Celce, 2001:13). This definition shows us how language and speaking could not be separated from each other. Language consists of verbal and nonverbal symbols, and in speaking, language is used as a means of building and sharing meaning in an interaction.

Moreover, language learning has a central role in students’ intellectual, social, and emotional development and becomes a key element of success in learning other disciplines. Language learning is expected to help learners to understand themselves, their culture, and the other culture. Besides, language learning also helps learners to express their ideas, opinion, and feeling, take part in social interaction, discover and use their analytical and imaginative thinking

(BSNP, 2006: 111). For foreign language teaching, the goal of a language teaching is mainly to enable students to communicate in the target language. The goal of language teaching is not only for mere mastery the structure of the target language but also for developing communicative competency. Communicative competency is the ability to understand and produce an oral or written sentence that is used in daily life communication.

Based on observation conducted in SMK Triatma Jaya, the researcher found that students faced difficulties in speaking. The students are likely to use language in oral form but most of them think that speaking is difficult. It is proven by the mean score of the test students is below the passing grade established by the school.

Concerning the abovementioned problem, it seems that the existence of an approach can help the students to guide them think of their ideas step by step before they try to speak. A scientific approach is an approach that contains five steps, which are observing, questioning, associating, experimenting, and communicating. According to Longman Dictionary (2013), the scientific approach is defined as the usual process of finding out information in science, which involves testing one's ideas by performing experiments and making decisions based on the result. The scientific approach in education provides the students with five important steps, which are observing, questioning, associating, experimenting, communicating.

Related to the scientific approach that provides a chance for the students to learn step by step and look at the progression of information or ideas in their speaking to reach an excellent standard of the goal, it can be said that the

scientific approach can enhance students' motivation in learning.

Furthermore, Marhaeni (2005) stated that achievement motivation is built from the readiness of individuals to receive new things. In this case, those new things are feedback given by the students themselves, guidance from their peers, and the teachers along the learning process. Students with high motivation are expected to maximize that feedback to improve their achievement and reach their excellent goal in learning.

In summary, there are two things said to have a great influence on the speaking achievement of the students: the approach and the motivation of the students in learning English. As such, this research aims to investigate whether the scientific approach that could enhance students' motivation and achievement motivation as one of several motives in human lives. Specifically, this research attempts to find some evidence on whether the implementation of a scientific approach and students' achievement motivation significantly correlate with students' speaking achievement. The research was conducted in the speaking class of tenth-year students of SMK Triatma Jaya Badung in Academic Year 2019/2020.

Based on the previous explanation about scientific approach, motivation, and speaking achievement, the problems that could be analyzed were:

1. Is there any significant correlation in speaking competence between the students who are taught by using the Scientific Approach and those are taught by the Conventional approach?
2. Is there any interaction correlation between teaching approach and achievement motivation on speaking competency?

3. Is there any significant correlation on students 'speaking competency who have high motivation by using a scientific approach and a conventional approach?
4. Is there any significant difference in students 'speaking competency who have low motivation taught by using a scientific approach and conventional approach?

2. METHOD

The research employed Posttest Only Control Group with 2x2 factorial design with 60 tenth graders of SMK Pariwisata Triatma Jaya Badung selected as the sample. The respondents were selected through random sampling. Through the lottery, A class was assigned as the experimental group and B class was assigned as the control group. The experimental group was taught by using the Scientific Approach and the control group was taught by using Conventional technique. Then, distributing achievement motivation test to measure students' motivation level. Then, students' achievement motivation level was classified into high and low by the Anastacy formula, for which 33% of the students who got the highest score were categorized into the students having high motivation and 33% of the students who got the lowest score were categorized into the students having low motivation. Treatment was done for 12 meetings followed by a posttest. The data analysis involved descriptive and inferential analyses. Descriptive analysis aims at describing the data by measuring the mean. Meanwhile, the inferential analysis aims at testing the hypothesis. Inferential analysis was done by using Two-Way ANOVA and Tukey Tests.

3. FINDING AND DISCUSSION

Based on two-way ANOVA and post hoc testing, the findings were as follows. The first finding suggests that the value of FA was 388.774 while Fcv (1;48;0.01) was 6.302. Since FA higher than Fcv, then H0 (1) stating that "there is no significant correlation on students' speaking achievement between the students taught by using Scientific Approach and conventional technique", was rejected. It means that H1 (1) stating that "there is a significant correlation in students' speaking achievement between the students taught by using scientific approach and conventional approach", was accepted. It can be concluded that there is a significant correlation in students' speaking achievement between students taught by using the scientific and conventional approach, where the mean score of students taught by scientific approach 83.5256 is higher than the mean score of students' speaking achievement for students taught by using conventional technique 73.2906.

The second finding indicates that the value of FAB on the interactional correlation was 17.976 while Fcv (1;48;0.01) was 6.302. Since FAB was higher than FCV, it means that the null hypothesis H0 (2) stating that "there is no significant interactional correlation between students' achievement motivation and the students' speaking achievement", was rejected. It means that the alternative hypothesis H1 (2) stating that "there is a significant interactional correlation between the scientific approach and conventional approach and students' achievement motivation towards the students' speaking achievement", was accepted. As such, it can be concluded that there is a significant interactional correlation between the scientific approach and the conventional approach and students' achievement

motivation towards the students' speaking achievement.

The third finding indicates that the Qob was 11.508496. The Q critical value should be based on three things: the level of significant (α), the number of means (t), and the df within that can be seen in anova table (q). For this study, the Q critical value should be Q with $t=4$ and $df=48$. However since the Q table does not provide 48 degrees of freedom, then 60 degrees of freedom was used. From the Q table, the $Q_{cv}(4;60;0.05)$ was 3.74 and the $Q_{cv}(4;60;0.01)$ was 4.59. This means the Qob was higher than the Qcv in both 0.05 and 0.01 level of significance, so H_0 was rejected. Therefore, it can be determined that there was a significant difference between the students with high achievement motivation taught by using the scientific approach and the conventional approach. The students with high achievement motivation taught by using the scientific approach technique ($X=87.051308$) shows higher achievement than those with conventional achievement ($X=74.615385$).

The fourth finding suggests that the Qob was 7.4350663. The Q critical value should be based on three things, they are the level of significant (α), the number of means (t), and the df within that can be seen in anova table (q). For this study, the Q critical value should be Q with $t=43$ and $df=56$. However since the Q table does not provide 56 degrees of freedom, then 60 degrees of freedom was used. From the Q table, the $Q_{cv}(4;60;0.05)$ was 3.74 and the $Q_{cv}(4;60;0.01)$ was 4.59. This means the Qob was higher than the Qcv in both 0.05 and 0.01 level of significance, so H_0 was rejected. Therefore, the finding indicates that there is a significant difference between the students with low achievement motivation taught by using the scientific approach and conventional approach. Students with low achievement

motivation taught by using the scientific approach technique ($X=80$) shows higher achievement than those with conventional achievement ($X=71.965769$).

The fifth finding shows the Qob was 6.5254464. The Q critical value should be based on three things, they are the level of significant (α), the number of means (t), and the df within that can be seen in anova table (q). For this study, the Q critical value should be Q with $t=43$ and $df=56$. However since the Q table does not provide 56 degrees of freedom, then 60 degrees of freedom was used. From the Q table, the $Q_{cv}(4;60;0.05)$ was 3.74 and the $Q_{cv}(4;60;0.01)$ was 4.59. This means the Qob was higher than the Qcv in both 0.05 and 0.01 level of significance, so H_0 was rejected. As such, it can be surmised that there is a significant difference between the students with high achievement motivation and the students with low achievement motivation taught by using the scientific approach. The students with high achievement motivation taught by using the scientific approach ($X=87.051308$) shows higher achievement than the students with low achievement motivation taught by using the scientific approach ($X=80$).

The sixth finding indicates the Qob was 7.531. The Q critical value should be based on three things, they are the level of significant (α), the number of means (t), and the df within that can be seen in anova table (q). For this study, the Q critical value should be Q with $t=43$ and $df=56$. However, since the Q table does not provide 56 degrees of freedom, then 60 degrees of freedom was used. From the Q table, the $Q_{cv}(4;60;0.05)$ was 3.74 and the $Q_{cv}(4;60;0.01)$ was 4.59. This means the Qob was higher than the Qcv in both 0.05 and 0.01 level of significance, so H_0 was rejected. The finding suggests that there was a significant difference between the students with high achievement

motivation and the students with low achievement motivation taught by using the conventional technique. The students with high achievement motivation taught by using the scientific approach ($X=74.615385$) shows higher achievement than the students with high achievement motivation by the scientific approach ($X=71.965769$).

The high English achievement was shown by the group of students with high achievement motivation taught by using the scientific approach. The conventional technique does not provide a chance for the students to look at the progression of information or ideas in their writing to form coherent writing as it can be found in the scientific approach.

The students with low achievement motivation, on the other hand, will be discouraged to have a good process in speaking. It means that the students with low achievement motivation will never try the best effort to make the best achievement. Students with low achievement motivation need to be stimulated by the interesting technique. In fact, the conventional technique does not really give an interesting atmosphere of learning. Therefore, the scientific approach gives more benefits to the students with low achievement motivation rather than those who were taught by using the conventional technique.

In another point, achievement motivation is a drive to reach an excellent standard. High achievement motivated students like new and challenging things. Moreover, they usually set the goal of their task in learning. Therefore, high achievement motivated students need new things (e.i. feedback) as the reflection of their progress to reach goals.

In summary, students who have high achievement motivation can reach optimum speaking achievement if they are taught using the scientific approach.

4. CONCLUSION

Based on the findings and the result of data analysis, it can be concluded that: 1) The Scientific Approach significantly correlates to students' speaking competency, 2) there is a significant interaction correlation between teaching strategy and motivation on students speaking competency, 3) The Scientific Approach significantly correlates with the high motivation students' speaking competency, and 4) Conventional Strategy significantly correlates with the low motivation students' speaking competency. Generally, the scientific approach has brought a positive effect on students' speaking competency.

Furthermore, recommendations can be drawn for three parties: teachers, students, and other researchers. For the teacher, three recommendations are given. First, Scientific Approach should be used in teaching speaking as an alternative strategy to solve problems of students' low speaking competency. It can be recommended since the Scientific Approach affects better on students' speaking competency. Second, since achievement motivation has a significant role in affecting students' speaking competency, it is suggested to the teacher should do their best to increase their students' achievement motivation. If low motivation students were found, the teacher should direct them to improve their motivation in certain ways. Third, in implementing the Scientific Approach, achievement motivation should also be taken into account. As being found that the students having high motivation taught with the Scientific Approach have higher speaking competency than those taught with the Conventional Approach.

For the students, it is recommended that during the implementation of the Scientific Approach, the students are

expected to follow each step seriously because all the steps can influence their speaking competency. Furthermore, it can be recommended that the students should change their learning paradigm which focuses on individual and passive learning. They have to open their minds that learning is more fun to be done in collaborative and cooperative ways.

Finally, other researchers are recommended to research Scientific Approach on other language skills. Moreover, the other researchers are also suggested to use other variables as a moderator variable in researching the Scientific Approach, for example, anxiety, self-concept, creativity, and self-reflection.

The high English achievement was shown by the group of students with high achievement motivation taught by using the scientific approach. The conventional technique does not provide a chance for the students to look at the progression of information or ideas in their writing to form coherent writing as it can be found in the scientific approach.

The students with low achievement motivation, on the other hand, will be discouraged to have a good process in

speaking. It means that the students with low achievement motivation will never try the best effort to make the best achievement. The students with low achievement motivation need to be stimulated by the interesting technique. In fact, the conventional technique does not really give an interesting atmosphere of learning. Therefore, the scientific approach gives more benefits to the students with low achievement motivation rather than those who were taught by using the conventional technique.

Additionally, achievement motivation is a drive to reach an excellent standard. High achievement motivated students like new and challenging things. Moreover, they usually set the goal of their task in learning. Therefore, high achievement motivated students need new things (i.e. feedback) as the reflection of their progress to reach goals.

In conclusion, activity develops through the scientific approach could help students who have high achievement motivation to reach optimum speaking achievement if they are taught by using the scientific approach.

References

- Brown, H. D. 2001. *Teaching by Principles: an Interactive Approach to Language Pedagogy*. New York: Addison Wesley Longman.Inc.
- BSNP. 2006. *Panduan Penyusunan Kurikulum Tingkat Satuan Pendidikan Jenjang Pendidikan Dasar dan Menengah*. Jakarta: Departemen Pendidikan Nasional.
- Celce-Murcia, M. (2001). *Teaching english as a second and foreign language*. Boston: Heinle & Heinle
- Cutting, Joan. 2000. *The Grammar of Spoken English and EAP Teaching*. Great Britain: University of Sunderland press.
- Depdiknas. (2007). *Kurikulum 2004: standar kompetensi mata pelajaran bahasa inggris*. Jakarta. Depdikbud.
- Dhamodaran, V. and Rengarajan, V. (2007). *Innovative methods of teaching*. Available at: http://www.google.co.id/url?url=http://math.arizona.edu/~atp-mena/conference/proceedings/Damodharan_Innovative_Methods.pdf&rct=j&sa=U&ei=oMi2UL7HI4ztrQf7j4GQDA&ved=0CBwQFjAA&q=innovative+teaching+methods&usg=AFQjCNGVLR-eh_JLLhnleq6KWotgft7Exw

- Guntoro, et.al. (2014). *The implementation of scientific approach in teaching English at 8 grade of smp colomadu in 2014/2015*. Downloaded on September 2nd, 2015. It is available at <http://eprints.ums.ac.id/36696/1/Naskah%20Publikasi.pdf>
- Huang, Irene, Y. 2008. *Role Play for ESL/EFL Children in the English Classroom*, http://www.iteslj.org/Techniques/Huang_RolePlay.html. Accessed on September 9th, 2013
- Johnson, K, and K, Morrow. 1981. *Communication in the Classroom: Applications and Methods for A Communicative Approach*. London: Longman Group. Ltd.
- Kartikawati, Y. (2015). *The implementation of scientific approach in teaching english at the eight grade of smp muhammadiyah 10 surakarta in 2014/ 2015 academic year: A naturalistic study*. Universitas Muhamadiah Surakarta
- Kayi, H. 2006. *Teaching Speaking: Activities to Promote Speaking in A Second Language*, <http://iteslj.org/Techniques/Kayi-TeachingSpeaking.html> . Accessed on September 8th, 2013.
- Kementrian Pendidikan dan Kebudayaan Direktorat Jendral Pendidikan Dasar Direktorat Sekolah Menengah Pertama. (2013). *Kurikulum 2013*. Downloaded on September 2nd, 2015. It is available at <http://www.kemdikbud.go.id/kemdikbud/>
- Louma, Sari. 2009. *Assessing Speaking*. Cambridge; Cambridge University Press
- Marhaeni. 2005. *Pengaruh Assessment Portfolio dan Motivasi Berprestasi dalam Belajar Bahasa Inggris Terhadap Kemampuan Menulis dalam Bahasa Inggris*. Unpublished Dissertation: Program Pascasarjana Universitas Negeri Jakarta
- Nunan, David. 2003. *Practical English Language Teaching*. Singapore: McGraw-Hill Inc.
- Pendekatan Scientific dalam Implementasi Kurikulum 2013 <http://penelitianindakankelas.blogspot.com/2013/7/pendekatanscientificdalamimplemtasikurikulum2013.html>
- Suharyadi. (2013). *Exploring "scientific approach" in english language teaching*. Unpublished Graduate Thesis. The State University of Malang.