

The Comparative Study between Science and Social Students in Learning English Speaking through Problem-Based Learning

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Abstract

This research aimed to measure the comparison of the students' learning motivation and attitude towards the implementation of teaching English speaking through Problem-Based Learning. The method applied was quantitative with comparative design in which 30 science and 30 social students in year eleventh of SMA Negeri 13 Makassar (XI. IPA 5 and XI. IPS 2) become the samples. The researcher used a questionnaire as the research instrument. The results showed that the science students got higher motivation in learning English than social students. In terms of learning attitudes, science students' responses tended to show higher interest and activeness in learning English toward the implementation of Problem-Based Learning than social studies students. Therefore, it can be inferred that the science students in year eleventh of SMA Negeri 13 Makassar have better speaking skills than the social students through the Problem-Based Learning model

Keywords: Science Students, Social Students, Speaking skills, PBL

1. Introduction

Every country in the world has a different language. Even our country, Indonesia is rich in languages. English is one of the foreign languages in our country. The teaching of English has become increasingly important as a foreign language in Indonesia. It is the first foreign language in Indonesia. It is a compulsory subject to be taught for three years at Junior High Schools and for three years in Senior High Schools (Lauder, 2008). English also has been taught in Elementary Schools as an elective subject since the implementation of the 1994 Curriculum. It seems the development of English language teaching in Indonesia touches the recent English curriculum objectives. The English language is also taught in informal school such as language courses.

The main point of learning English on senior high school is the development of four language skills: listening, speaking, reading, and writing through the selective themes based on the interest, mastery vocabularies and structure. After having studied English for several years at school, however Indonesian students have no competence in speaking. We can see the reality that our students understand English but it is hard for them to speak it.

The phenomenon in society is often debating which is better between science and social students. Without realizing it, discrimination between the two majors happened because that stigma continues in society. In fact, students majoring in science and social both have equal abilities. They have abilities in each field. With majors, they will be more focused on making decisions about choosing which university or college will support their dreams. Stigma like this continues to grow and strangely does not disappear, even though generations have changed with better quality education every year. Science students often tend to always be considered smart and diligent. This labeling has an impact on the psychological state of other students, for example social students. Labeling students as smart and more diligent will definitely have an impact on all aspects of learning. In reality, quality depending on the learning process and how to motivate their self.

The English learning motivation of science students is lower than social students. Social students think that learning English make them feel educated and prestigious. The mindset of using English in urban communities represents symbolically that foreign languages must be mastered and used every day (Hidayah Y, 2022). The use of English as

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the main language is considered to symbolize prestige and socio-economic level (Prayoga & Khatimah, 2019). Social students consider learning English is more important to support communication from various countries.

The science students had better language attitudes towards English, they had more motivation to learn English and higher intelligence compared to those in the social students. The social students significantly poorer in speaking skill than those from the science students. The factors that are further discussed in the following sections are language attitude, motivation, and intelligence. The social students did not interest in learning English. This was proven by the students' achievement in the speaking test (Muliawati I, 2017). According to Tahaine and Daana (2013), as cited in Alaga (2016, p. 4), said that language attitudes vary in strength. It is crucial in language teaching and learning that students should possess a positive language attitude as it will bring students the ability to communicate effectively in English. On the contrary, a negative language attitude is about to lead them into failure in English competence.

SMA Negeri 13 Makassar is one of the senior high schools that only has the science and social science programs as their two majors of study. There is no language major due to not enough foreign language teachers and no language laboratory. Science program students must study subjects such as biology, physics, chemistry, and mathematics. Meanwhile, students in the social science program are taught subjects such as economics, geography, sociology, history, and so on. As for English, it is a common compulsory subject. The students in both majors are taught and receive the same English materials for each skill under the same circumstances.

Speaking skills are one of the important elements in language learning. SMA Negeri 13 Makassar is one of the schools where science and social students have different interests in English. It can be seen during the learning process takes place, most of the science students who attend classes enthusiastically and mastering the material presented teachers in the learning process in the classroom. While most of the social students seem less interested and do not master the material presented in the lesson English teachers especially those on the speaking skills. Besides that, based on researchers' observations science and social studies students in SMA Negeri 13 Makassar have different interests in choosing extracurricular activities in relation to language development. Science students tend to actively participate in English extracurriculars (English Club) while social students who prefer to participate in extracurricular activities related to sports or the arts.

In addition, students tend to be attracted to subjects that they seem appropriate to their needs, easy and produces a good value. In learning English, social students tend to be less interested than science students. Judging from the acquisition of the speaking skill scores of social students and science students in learning English is different, the difference can be seen from the results of daily tests, usually the test scores of science students are higher than social students.

2. Literature Review

2.1. Speaking Skill

Speaking is an individual's way of orally expressing opinions, thoughts and feelings to other individuals. It is an interactive process between a listener and speaker. According to Srinivas (2019), speaking is the most important of all four language skills to communicate well in this global world. As English is widely used around the world, students need to acquire its communication skills to be successful in their respective fields. Speaking is a way of communicating which ideas and through a message orally. To enable students to communicate, we need to apply language in real communication. Namaziandost & Ahmadi (2019), state that Speaking is one of the fundamental language skills that must be fully acquired by EFL students due to its importance and use for interaction. It is very vital to be able to speak English because it is the language most commonly recognized in the world, so it will be extremely beneficial for those who understand it will not only develop their knowledge and skills, but also easier for them to find a job. By mastering speaking skills, it can make it easier for us to expand our relationships in collaboration with people around the world. Therefore, the classroom is the ideal platform for acquiring good communication skills, in particular, speaking skills.

2.2. The motivation for learning a foreign language

Motivation is a multifaceted concept that has been the subject of scholarly researches in different academic areas and no single available theory has yet captured its total complexity (Dörnyei, 2001). Gardner (2006) also confirmed that "motivation is a very complex phenomenon with many facets...thus it is not possible to give a simple definition." This is because the expression of motivation has been investigated differently by different perspectives. On the behavioral perspective, motivation is "quite simply the anticipation of reward" (Brown, 2000). Whereas the cognitive

perspective views the term of motivation as being more related to the student's decisions, and the choices students make as to what experiences or goals they will approach or avoid, and the degree of effort they will exert in that respect. For the constructivists in their definition of motivation, they place further emphasis on the social context as well as the individual's decisions. Regardless of the differences in all the definitions of motivation given by the three different perspectives, the concept "needs" is emphasized, that is, "the fulfillment of needs is rewarding, requires choices, and in many cases must be interpreted in a social context" (Brown, 2000).

In terms of language learning, there are many definitions of motivation. Lightbown and Spada (1999) noted that motivation in second language learning is quite complicated to study. This can be explained in terms of two factors: students' communicative needs and their attitudes towards the second language community. In addition, Parsons, Hinson and Brown (2001) defined motivation as an important component or factor in the learning process. Learning and motivation have the same importance in order to achieve something. Learning helps students gain new knowledge and skills, and motivation pushes them or encourages them to go through the learning process. Gardner (1983), in his socio-educational model, considered that motivation is perceived to be composed of three elements such as: effort, desire, and effect. The effort refers to the time the student spends on a foreign language learning and the drive of the student. The desire indicates how much the student wants to become proficient in the language, while the effect means the student's emotional reactions which is related to language learning.

2.3. Attitude in language learning

Attitude can be defined as a tendency of a person to respond positively or negatively towards something (idea, object, person, situation), therefore language learning attitude refers to one's tendencies toward their effort in learning languages. Research on learners' attitudes on language learning has been a topic of many researches in EFL learning. Most findings suggest that positive attitude towards learning yields positive result and vice versa (Wang, 2010). Brown (2000) reviewed a large number of studies related to attitudes shaping the language learning. He found that positive attitude on one's language learning will shape the way these people learn the language, which results in positive result. At the same time, failure in language learning is the result of negative attitude towards learning (see Holmes, 1992; Karahan, 2008). If this is the case, to allow successful language learning, teachers should also pay attention on boosting their students' attitudes towards learning, which then in turn will increase possibilities for students' learning success (Mantle-Bromley, 1995).

3. Research Method

This research used quantitative research method. The design employed in this research was a comparative design, in which researcher will compare two different groups (science and social students' scores in speaking skill, learning motivation and attitude). This research was conducted in July 4 to August 2, 2024. The research took place at SMA Negeri 13 Makassar, Jl. Tamangapa Raya III No.37, Makassar, South Sulawesi. There were independent and dependent variable in this research. The independent variable was Problem-Based Learning and the dependent variable was students' English motivation and learning attitude in science and social classes. This research's population consisted of eleventh year students from SMA Negeri 13 Makassar. There were 11 classes. The number of populations was 1.089 students. In this research, the researcher used cluster sampling. This technique was often used in two steps, namely the first stage determines the sample area, and the next stage of determining those that exist in that area by sampling too. Therefore, researcher chose SMA Negeri 13 Makassar in year eleventh as a sample where in, the Class XI.IPA 5 which consist of 36 students and the Class XI.IPS 2 which consist of 32 students. However, to balance the number of samples, the researcher chose 30 science and 30 social students. The instrument used for data collection was questionnaire.

4. Results

This section presents the findings of the research. In order to know the differences in motivation and learning attitudes of science and social science students in learning English especially speaking skills, the researcher administered questionnaire. This questionnaire consisted of 10 items. The researcher used Likert scale with indicators of (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, (5) strongly agree.

4.1. Students' Learning Motivation

The way to provide an interpretation was to look at the significant value (p) in SPSS in the Sig. (2-tailed) column. If the $p < 0.05$, then the question Item was valid. Based on the table above, it can be concluded that the P value in the

first question was valid because 0.000 was lower than 0.05, the second question was valid because 0.013 was lower than 0.05, the third question was valid because 0.001 was lower than 0.05, the fourth question was valid because 0.000 was lower than 0.05, the fifth question was valid because 0.000 was lower than 0.05, the sixth question was valid because 0.043 was lower than 0.05, the seventh question was valid because 0.000 was lower than 0.05, the eighth question was valid because 0.000 was lower than 0.05, the ninth question was valid because 0.000 was lower than 0.05, and the tenth question was valid because 0.000 was lower than 0.05.

Table 1. Validity Test of Science and Social Students' Learning Motivation

	Sig. (2-tailed)	< 0.05	Description
Q1	0.000	< 0.05	Valid
Q2	0.013	< 0.05	Valid
Q3	0.001	< 0.05	Valid
Q4	0.000	< 0.05	Valid
Q5	0.000	< 0.05	Valid
Q6	0.043	< 0.05	Valid
Q7	0.000	< 0.05	Valid
Q8	0.000	< 0.05	Valid
Q9	0.000	< 0.05	Valid
Q10	0.000	< 0.05	Valid
N = 60			

Table 2. Reliability Test of Students' Learning Motivation

Reliability Statistics	
Cronbach's Alpha	N of Items
0.835	10

The way to provide an interpretation is to look at Cronbach Alpha column. If the Alpha > 0.7, then the question item is reliable. Based on the table 2, it can be concluded that the data was reliable because 0.835 was bigger than 0.7.

Table 3. Frequency of Percentage of Science students' Questionnaires

No.	Classification	Score	Frequency	Percentage
1.	Very Positive	41-50	2	6.67%
2.	Positive	31-40	25	83.33%
3.	Neutral	21-30	3	10%
4.	Negative	11-20	0	0%
5.	Very Negative	1-10	0	0%
TOTAL			30	100%

Based on the table 3, it showed that there were 2 (6.67%) science students gave very positive response, 25 (83.33%) students gave positive responses, 3 (10%) students gave neutral responses, there was no (0%) student gave negative and very negative response.

Table 4. Frequency of Percentage of Social students' Questionnaires

No.	Classification	Score	Frequency	Percentage
1.	Very Positive	41-50	1	3.33%
2.	Positive	31-40	18	60%
3.	Neutral	21-30	11	36.67%
4.	Negative	11-20	0	0%
5.	Very Negative	1-10	0	0%
TOTAL			30	100%

Based on the table 4, it showed that there was 1 (3.33%) social student gave very positive response, 18 (60%) students gave positive responses, 11 (36.67%) students gave neutral responses, there was no (0%) student gave negative and very negative response.

Based on the result of the two tables, it can be concluded that science students had higher learning motivation than social students in learning English, especially speaking skill.

4.2. Students' Learning Attitude

Table 5. Validity Test of Science and Social Students' Learning Attitude

	Sig. (2-tailed)	< 0.05	Description
Q1	0.000	< 0.05	Valid
Q2	0.000	< 0.05	Valid
Q3	0.000	< 0.05	Valid
Q4	0.001	< 0.05	Valid
Q5	0.027	< 0.05	Valid
Q6	0.000	< 0.05	Valid
Q7	0.038	< 0.05	Valid
Q8	0.003	< 0.05	Valid
Q9	0.000	< 0.05	Valid
Q10	0.001	< 0.05	Valid
N = 60			

The way to provide an interpretation was to look at the significant value (p) in SPSS in the Sig. (2-tailed) column. If the $p < 0.05$, then the question Item was valid. Based on the table above, it can be concluded that the P value in the first question was valid because 0.000 was lower than 0.05, the second question was valid because 0.000 was lower than 0.05, the third question was valid because 0.000 was lower than 0.05, the fourth question was valid because 0.001 was valid than 0.05, the fifth question was valid because 0.027 was lower than 0.05, the sixth question was valid because 0.000 was lower than 0.05, the seventh question was valid because 0.038 was lower than 0.05, the eighth question was valid because 0.003 was lower than 0.05, the ninth question was valid because 0.000 was lower than 0.05, and the tenth question was valid because 0.001 was lower than 0.05.

Table 6. Reliability Test of Students' Learning Attitude

Cronbach's Alpha	N of Items
.825	10

The way to provide an interpretation is to look at Cronbach Alpha column. If the Alpha > 0.7 , then the question item is reliable. Based on the table 6, it can be concluded that the data was reliable because 0.825 was bigger than 0.7.

Table 7. Frequency of Percentage of Science students' Questionnaires

No.	Classification	Score	Frequency	Percentage
1.	Very Positive	41-50	1	3.33%
2.	Positive	31-40	26	86.67%
3.	Neutral	21-30	3	10%
4.	Negative	11-20	0	0%
5.	Very Negative	1-10	0	0%
TOTAL			30	100%

Based on the table 7, it showed that there were 1 (3.33%) science students gave very positive response, 26 (86.67%) students gave positive responses, 3 (10%) students gave neutral responses, there was no (0%) student gave negative and very negative response.

Based on the table 8, it showed that there were 2 (6.67%) social students gave very positive response, 17 (56.67%) students gave positive responses, 11 (36.67%) students gave neutral responses, there was no (0%) student gave negative and very negative response.

From the result of questionnaire above, in terms of learning motivation and attitudes, science students' responses tended to show higher interest and activeness in learning English toward the implementation of Problem-Based Learning than social studies students

Table 8. Frequency of Percentage of Social students' Questionnaires

No.	Classification	Score	Frequency	Percentage
1.	Very Positive	41-50	2	6.67%
2.	Positive	31-40	17	56.67%
3.	Neutral	21-30	11	36.67%
4.	Negative	11-20	0	0%
5.	Very Negative	1-10	0	0%
TOTAL			30	100%

5. Discussions

This part presents the discussion of the research findings. As mentioned in the previous chapter that there was a problem statement proposed in this research. The objective of the research was to measure the comparison of the students' learning motivation and attitude towards the implementation of teaching English speaking through Problem-Based Learning in science and social classes.

The phenomenon in society is often debating which is better between science and social students. Without realizing it, discrimination between the two majors happened because that stigma continues in society. In fact, students majoring in science and social both have equal abilities. They have abilities in each field. With majors, they will be more focused in making decisions about choosing which university or college will support their dreams. Stigma like this continues to grow and strangely does not disappear, even though generations have changed with better quality education every year. Science students often tend to always be considered smart and diligent. This labelling has an impact on the psychological state of other students, for example social students. Labelling students as smart and more diligent will definitely have an impact on all aspects of learning. In reality, quality depending on the learning process and how to motivate their self.

The stigma surrounding the differences in mastering English speaking skills between science and social studies students often stems from misunderstandings or oversimplifications of what each field demands. Science students are sometimes seen as less expressive, while social studies students are often assumed to be better speakers due to their focus on argumentation and discussion. However, both groups require distinct but equally important speaking skills tailored to their specific fields. Challenging these stereotypes and recognizing the value of communication in both science and social studies is essential in fostering a more balanced and realistic view of language mastery in different academic domains.

The researcher administered questionnaire of learning motivation and attitude of science and social students to find the differences in response between the two majors. In this Research, the researcher found that there was a previous related to study that opposed to the researcher results presented by Hidayah Y, 2022. The learning motivation of science students is lower than that of social students. Social students think that learning English make them feel educated and prestigious. The mindset of using English in urban communities represents symbolically that foreign languages must be mastered and used every day (Hidayah, Y. 2022). The use of English as the main language is considered to symbolize prestige and socio-economic level (Prayoga & Khatimah, 2019). Social students consider learning English is more important to support communication from various countries. This was proven by the result of research by researcher which show that science students showed higher motivation than social students.

The researcher got the same result from previous study presented by Indriani (2020). The result state that science students have higher intrinsic motivation to master English, especially because they see English as a tool to understand scientific materials, participate in international research, or access scientific literature. This higher motivation also contributes to better English mastery.

In this research, the researcher got the same results from the previous study presented b Muliawati I, 2017. The science students had better language attitudes towards English, they had more motivation to learn English and higher intelligence compared to those in the social students. The social students significantly poorer in reading skill than those from the science students. The factors that are further discussed in the following sections are language attitude, motivation, and intelligence. The social students did not interest in learning English. This was proven by the students' achievement in the reading comprehension test (Muliawati I, 2017). According to Tahaine and Daana (2013), as cited in Alaga (2016, p. 4), said that language attitudes vary in strength. It is crucial in language teaching and learning that students should possess a positive language attitude as it will bring students the ability to communicate effectively in English. On the contrary, a negative language attitude is about to lead them into failure in English

competence. This was proven by the result of research by researcher which show that in terms of learning attitudes, science students' responses tended to show higher interest and activeness in learning English toward the implementation of Problem-Based Learning than social students.

6. Conclusion

According to the findings of science and social students' responses to SMA Negeri 13 Makassar, science students showed higher motivation than social students. In terms of learning attitudes, science students' responses tended to show higher interest and activeness in learning English toward the implementation of Problem-Based Learning than social students. This was proven by the result of research by researcher which show that in terms of learning attitudes, science students' responses tended to show higher interest and activeness in learning English toward the implementation of Problem-Based Learning than social students.

References

- Asher, J. J., & Ph, D. (n.d.). *Organizing Your Classroom for Successful Second Language Acquisition*. 1–5.
- Bailey, K. M., & Nunan, D. (2005). *Practical English language teaching: Speaking*. McGraw Hill Education.
- Baker, J., & Westrup, H. (2003). *Essential Speaking Skills: A Handbook for English Language Teachers*. Continuum.
- Haidir, A. M., Dollah, S., Basri, M., & Sakkir, G. (2025). The Implementation of the Collaborative Learning Approach in Teaching Speaking: A Case Study of an Indonesian EFL Classroom. *Ethical Lingua: Journal of Language Teaching and Literature*, 12(1).
- Hedge, T. (2000). *Teaching and Learning in the Language Classroom*. Oxford: Oxford University Press.
- Hidayah, Y., Zannah, F., & Lestari, N. C. (2022). *Perbandingan motivasi belajar Bahasa Inggris antara siswa kelas X-IPA dan kelas X-IPS*. Al Qalam: Jurnal Ilmiah Keagamaan dan Kemasyarakatan, 16(1), 286-296.
- Merisuo-Storm, T. (2007). *Pupil's Attitudes towards Foreign-Language Learning and the Development of Literacy Skills in Bilingual Education*. *Teaching and Teacher Education*, 23, 226-235.
- Namaziandost, E. (2019). The Assessment of Oral Proficiency through Holistic and Analytic Techniques of Scoring: A Comparative Study. *Applied Linguistics Research Journal*, 3(2), 70–82.
- Nurrahmi, N., Muhayyang, M., & Sakkir, G. (2022). STUDENTS' PERCEPTION OF THE USE OF SOCIAL MEDIA FOR LEARNING ENGLISH DURING COVID 19 PANDEMIC. *Journal of Technology in Language Pedagogy (JTechLP)*, 1(4), 470-486.
- Rahman, H., Sakkir, G., & Khalik, S. (2021). Audio-Lingual Method to Improve Students's Speaking Skill at Smp Negeri 1 Baranti. *La Ogi: English Language Journal*, 7(1), 31-40.
- Sakkir, G., Dollah, S., & Ahmad, J. (2022). Students' perception of the presentation activities in online speaking class. *EduLine: Journal of Education and Learning Innovation*, 2(3), 255-260.
- Sakkir, G., Mahmud, N., & Ahmad, J. (2020). Improving speaking ability using English" Shock Day" approach. *International Journal of Humanities and Innovation (IJHI)*, 3(2), 50-53.
- Sakkir, G., Safitri, N., & Muhayyang, M. (2022). *Students' Perception of Using Weekly Quizzes in EFL Classroom*. *Celebes Journal of Language Studies*, 65-74.
- Sulaiman, M. R., Korompot, C. A., & Sakkir, G. (2024). IMPROVING STUDENTS' SPEAKING SKILL THROUGH QUESTIONING TECHNIQUES. *International Journal of Business English and Communication*, 2(4), 108-114.
- Tuan, Nguyen Hoang, & Mai, T. N. (2015). Factors Affecting Students' Speaking Performance at Le Thanh Hien High School. *Asian Journal of Educational Research*, 3(2), 8–23.
- Zafar, S., & Meenakshi, K. (2012). Individual Learner Differences and Second Language Acquisition: A Review. *Journal of Language Teaching and Research*, 3(4), 639–646.

Zuhri, N. A., Salija, K., & Sakkir, G. (2022). THE IMPACTS OF SPEAKING ANXIETY ON STUDENTS'LEARNING PROCESS. *Journal of Technology in Language Pedagogy (JTechLP)*, 1(3).