

# PRE-SERVICE TEACHERS' TALK IN VOCATIONAL HIGH SCHOOL: A CLASSROOM INTERACTION ANALYSIS

Elis Homsini Maolida<sup>1</sup>, Fuzi Fauziyah<sup>2</sup>, Siti Gina Meilani<sup>3</sup>, and Susi Sulastri<sup>4</sup>

elishomsini@unsur.ac.id<sup>1</sup> fuzifau@gmail.com<sup>2</sup> ginameilani.11@gmail.com<sup>3</sup> susysulastrii15@gmail.com<sup>4</sup>

### Suryakancana University

### ABSTRACT

In teaching and learning process there is an interaction between teacher and students known as classroom interaction. Classroom interaction can be broken down into two: teacher's talk and student's talk. However, in many classes it is common that teacher's talk is more dominant than students' talk. Deploying descriptive qualitative study, this paper aimed to find out types of pre-service teacher's talk in vocational high school classroom interactions, and to find out the type that most frequently used in that classroom interaction. The data were obtained from transcripts of the teaching video from three English pre-service teachers. The data were then analyzed and categorized by using framework of teachers' talk proposed by Flanders (1970) namely Flanders Interaction Analysis Categories (FIAC). The result of this study shows that all categories of teachers' talk occurred in the pre-service teacher classroom interaction with varied percentage of occurrence, such as Asks Question 53%, Accepts Feeling 3%, Praises or Encourages 7%, Accepts or Uses Ideas of Student 6%, Lecturers 9%, Gives Direction 18%, and Criticizes or Justifies Authority 4%. From the data, it can be seen that Asking Question is the category occurred the most in the classrooms which shows the pre-service teachers' preference on using questions in their classroom interaction.

Keywords: English class, classroom interaction, pre-service teacher, teacher's talk, Flanders Interaction Analysis Categories (FIAC)

### **INTRODUCTION**

English is a compulsory subject in secondary level in Indonesia. In this case, students are targeted to master the four language skills, such as speaking, listening, writing, and reading. Ideally, the interaction between students and teacher should be in English, but not all students are mastering English yet. Therefore, many teachers in Indonesia combine the languages between English and their first and second language to make students understand.

In Indonesian context, it is a common phenomenon that English teacher talks more actively than the students during the whole teaching and learning

Copyright ©2020 JOEPALLT

process. This fact is supported by Putri (2015) who states that many classrooms in English as a foreign language are dominated by teacher's talk. Therefore, teacher's talk is important in teaching and learning process in order to ensure the students' understanding toward the material explained since teacher's talk is an important input for the students in English as a foreign language class (Nunan, as cited in Putri, 2015).

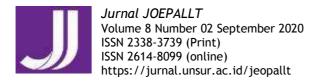
The student in an institute or a university that took faculty of teacher and education program will pass the process of training(Nurrina, Helmie, & Halimah, 2018). During teaching and learning process, it is required that teacher and students must interact each other. According to Flanders cited in Aisyah (2016) teaching and learning process involves the interaction between teacher and students where they influence each other and it is called as classroom interaction. It is affirmed that interaction in the classroom can give significant effect for both teacher and students since the interaction becomes the process exchanging of their thought and ideas. It is in lines with Huriyah and Agustiani (2018) declared that interaction there is a process of sharing feelings, thoughts, and ideas between teacher and students, or between students and the other students.

In the theory of Flanders (cited in Aisyah, 2016) classroom interaction can be divided into two, that is teacher's talk and students' talk which consists of the communication categories: verbal and non-verbal interaction. Verbal interaction can be defined as the interaction of teacher and students using verbal language, for examples teacher's talk and students' talk (Helmie, 2019). Meanwhile, non-verbal interaction is an interaction of teacher and students using non-verbal language, such as giving gesture and facial expression while interaction without saying anything.

Teacher's talk refers to the shape of delivering the lesson from teacher to students. According to Allwright and Bailey (cited in Putri, 2015), talk is one of effective ways teacher used in delivering information and controlling students' behavior in learning. Moreover, teacher's talk can give significant effect for the students in changing their attitudes in the class. It is in lines with Huriyah and Agustiani (2018) state that teacher's talk can be defined as an instrument to change students' attitudes and produce the decisions and actions. In addition, talk also can be defined as a media for learning, transferring meaning, tool of reflection, and also social purposes.

In the context of teaching practicum, classroom interaction occurs between for pre-service teachers and their students. Ivanova & Skara-Mincane (cited in Hapsari and Ena, 2019) stated that as teacher candidates, pre-service teachers are required to shape their professional identities as pre-service teachers. These identities are shaped during their studying period, especially through courses related to teaching and pedagogy. So from their statement, it can be inferred that pre-service teacher is a teacher candidate who gets experiences of teaching in real school.

This research focuses on the pre-service teachers' talk in classroom interactions. One of the guidelines in analyzing the interaction activities is by



using framework of teachers' talk proposed by Flanders (1970) known as Flanders Interaction Analysis Categories (FIAC). It includes accepts feeling, praises or encourages, accepts or uses students' ideas, asks question, lecturers, gives direction and criticizes or justifies authority.

There are several studies discussed about teacher's talk. The research was conducted by Putri (2015) aimed to find out the types of teacher's talk and the characteristics of classroom interaction in EFL class. Moreover, Aisyah (2016) also conducted a research to analyze the teachers' talk in EFL classroom. In addition Maolida (2013b) also conducted similar research but it focused more on analyzing teacher's talk in terms of its exchange patterns. Mostly, the previous research analyzed one teacher in one class, but this study was conducted to find out the types of pre-service teacher's talk in three vocational high school classroom interactions, by exploring the types of teacher talk that frequently occurs based on FIAC theory.

# THEORETICAL FRAMEWORKS

### **Classroom Interaction**

Huriyah & Agustiani (2018) stated that the teaching success depends to a large extent on the way of the interaction and teacher talk occurs between students and teacher. The way teacher talk affects the happening of interaction directly. To maintain communication to happen in the classroom, classroom interaction is really needed. Classroom interaction is the action done by the students and the teacher during instruction interrelated. They interact with each other on a continued base throughout the school day and for a number of distinct reasons. The basic fact of classroom pedagogy because each thing that occurs in classroom through live person-to-person interaction process can be said as interaction (Ellis, cited in Sukarni & Ulfah, 2015). Moreover, Lacas cited in Sari, Mukhaiyar & Hamzah (2018) believes that it is in the classroom that the thinking patterns should be specify, attitudes should be built and involvement can affect self-confidence of students to the studying. Therefore, the interaction should be shaped well for both teacher and students so they can be engaged to the learning matters well.

### **Pre-service Teachers**

Pre-service teachers as teacher candidates need to build their professional personalities as pre-service teachers. These personalities are built during their learning period, especially through courses related to pedagogy and teaching (Ivanova & Skara-Mincane cited in Hapsari and Ena, 2019). Chan (cited in Hapsari and Ena, 2019) stated that through such practice pre-service teachers discover important opportunities to gain teaching competence, improve their teaching skills, and get professional knowledge.

Student-teachers or pre-service teachers involve another population in a context of educational which is fascinating to research for they have double roles; they are teachers and students at the same time. Their achievement in the role as student may show similar achievement in the program of teacher education. Their



experience and role as teachers in the program of pre-service shows their prospect to be future teachers (Lipka & Brinthaupt cited in Rachmawati, Emilia, & Lukmana, 2017).

# **Teacher Talk**

Rod Ellis stated that the particular language that teachers apply when addressing L2 students in the classroom is teacher talk. There are the formal properties of the teacher's language systematic simplification. The research of teacher talk can be separated into those that investigate in the kind of language they apply in subject lessons. The language that teachers address to L2 student is treated as a register, with its own linguistics properties and particular formal (Ellis cited in Nurpahmi, 2017).

According to FIAC (cited in Putri, 2015) teacher talk is classified into two main kinds, direct influence and indirect influence. Teacher directly influences the learners by lecturing the learners, criticizing, and giving directions as well as justifying authorities. In indirect influence, teacher could accept learners' feeling, encouraging or praising learners, using or accepting learners' ideas, and asking questions to the learner. Nunan (in Khusnaini, 2019) stated that teacher talk is one of essential aspect not only for the classroom organization but also for the acquisition process.

# Flanders Interaction Analysis Categories FIAC

Flanders Interaction Analysis Categories FIAC is an investigation of student and teacher talk consisting of category system (Tsui cited in Pujiastuti, 2013). In this research, the authors took the categories of teacher talk only.

		Accepts feeling: clarifies and accepts the students' feelings in a manner of non-threatening. Feelings can be negative or positive. Recalling and predicting feelings are included.
Teacher Talk	Indirect Influence	<ul> <li>Praises or encourages: praises or encourages learner behavior or action. Jokes which release tension, not at the expense of another individual, saying 'go on' or 'uh huh?' or nodding head are included.</li> <li>Accepts or uses ideas of student: developing, building, or clarifying ideas or suggestions by a learner. As teacher takes more of his own ideas into play, shift to category five.</li> <li>Asks questions: asking a question about procedure or content with the intent that a learner can answer.</li> </ul>

**Table 1.** FIAC Category System (Adapted from Flanders cited in Aisyah, 2016)



	<b>Lectures:</b> giving opinions or facts about procedures or content; asking rhetorical questions; expressing his own ideas.	
Direct Influence	<b>Gives directions:</b> orders, commands, or directions with which a learner is expected to comply.	
	<b>Criticizes or justifies authority:</b> statements, intended to change learner behavior from non-acceptable to acceptable pattern, screaming someone out; stating why the teacher was doing what he was doing, extreme self-reference.	

# METHOD

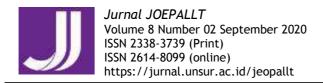
The goal of this study is to get a clear description of teachers' talk type in the English teaching learning process. In conducting this study, the researchers used descriptive qualitative method in analyzing and categorizing teachers' talk in the classroom interaction. The descriptive qualitative method was implemented because the data analysis is presented descriptively. It is in lines with Fraenkel and Wallen (1993, p.23) who said that descriptive method is a method used to explain, analyze, and classify, something through various techniques, survey, interview, questionnaire, and test. Furthermore, the qualitative research is an interpretative approach, which attempts to gain insight into the specific meanings and behaviors experienced in a certain social phenomena through the subjective experiences of the participants (Mehrad & Tahriri, 2019).

The participants of this study are three English pre-service teachers from Suryakancana University in three Vocational High Schools. The data were obtained from the transcripts of video teaching in the classroom. In collecting the data, the researchers transcribed all the interaction recorded on the videos. After that, the researchers analyzed, categorized, and described it using framework of teachers' talk proposed by Flanders (1970) namely Flanders Interaction Analysis Categories (FIAC).

# FINDINGS AND DISCUSSION

As a response to the major question, the result of transcript video analysis revealed all categories of teacher's talk from Flanders Interaction Analysis Categories (FIAC) in the classroom. The transcript data that got from three English pre-service teachers' performance were observed, analyzed, and categorized. From all the data observed, all the talk were dominated by the teacher. The most dominant type of teachers talk found in this study is asking questions which took up 53% of the whole talk done by the teachers. This category occurred the most due to teachers' attempt to stimulate, encourage and

 $\label{eq:copyright} \begin{array}{c} \texttt{Copyright} @ \texttt{2020} \ \textit{JOEPALLT} \\ \texttt{Journal of English Pedagogy, Linguistics, Literature, and Teaching} \end{array}$ 



invite students to participate in the learning process as well as ensuring students getting the notion of the lesson.

Here is the percentage table of teachers talk from Flanders Interaction Analysis Categories (FIAC):

N O	TYPES OF TEACHER' TALK	NUMBER OF UTTERANCES	FREQUENCY
1	Asks Question	126	53%
2	Accepts Feeling	7	3%
3	Praises or Encourages	17	7%
4	Accepts or uses ideas of student	14	6%
5	Lecturers	22	9%
6	Gives Direction	41	18%
7	Criticizes or justifies authority	10	4%

Table 2. The results of types of teacher's talk

### **Asking Questions**

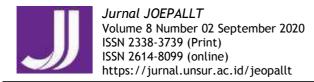
This category occurred the most in the classroom observed. It occurred in all meetings frequently. This category occurred up to 53% in whole classroom interaction.

### Excerpt 1

Participants	Classroom Verbal Interaction
Teacher	Okay, viola station itu sebagai apa?
Student	Subject
Teacher	Okay subject, will be at 6 a.m.
	Kalau a.m. itu pagi atau siang?
Student	Pagi

In the presented excerpt, questions were asked in order to ensure students' understanding about the text that they have read. The pre-service teacher asked the students by saying "Viola station itu sebagai apa?" (What is the role of Viola Station?). Then students answered "Subject" as their answer they found in the text, it supports the theory of Flanders that asking question is intended to ask a question about content or procedure with the intent that student may answer.

Question is not necessarily be used to test the comprehension of the students. It was also found that in some occurrences, the pre-service teachers



asked questions when they decided to start the lesson, implemented new learning materials and enhanced the knowledge of the students. It is supported by Brown (2001) described that questioning in interaction as a way to stimulate students speaking up their thoughts.

# Accepting Feeling

This category is the very least proportion compared to all the categories. This category just occurred up to 3% in whole classroom interaction.

Excerpt 2
-----------

Participants	Classroom Verbal Interaction
Pre-service teacher	Sekarang kalian work in group ya.
Student	Boleh school competition Mrs?
Pre-service teacher	Boleh, misalnya mau lomba paskibra, lomba PMR, atau someone mau ulang tahun, kita bikin announcementnya boleh.

In the presented expert, the pre-service teacher was giving students permission to choose the theme of announcement text freely. As we can see in the action performed by the student in which student asked the pre-service teacher may he chose his own theme as he said "Boleh school competition, Mrs?" Then, the pre-service teacher accounted student's feeling by saying Boleh, misalnya mau lomba paskibra, lomba PMR". The pre-service teacher's action showed that pre-service teacher was aware of students' feeling that the students wanted to use their own theme. This kind of action makes students feel accepted as Flanders (1970) stated that accepts and clarifies the feelings of the students in a non-threating manner. Moreover, Rothernberg (in Aisyah, 2016) states that teacher should provide a safe environment for learning and it includes accepting students' feelings.

# **Praising or Encouraging**

This category just occurred up to 7% in the whole classroom interaction, an example is shown in the following excerpt:

Excerpt 3

Participants	Classroom Verbal Interaction
Pre-service teacher A	So, after you're watching the video, what kind of text we'll learn today? Jadi apa text yang akan kita pelajari hari ini?
Student	Announcement text

Copyright ©2020 JOEPALLT



Pre-service teacher A	OK great! Announcement text.
Pre-service teacher B	Ada yang tahu terbuat dari apa
Student	Dari baja sir
Pre-service teacher B	Good! Dari ketiga tempat tersebut ada yang pernah di kunjungi?

The excerpt above showed that the teacher gave appraisal to students' statement. The student answered the teachers' questions correctly in which the teachers response with appraisal in the form of expression, or it is often termed as praise markers (Reigel, 2005 in Maolida, 2013b), such as "*OK*, great!" or "Good!" Besides giving word praises, the teacher also praised or encouraged students often by repeating student's answer, such as shown in the excerpt above, the teacher repeated the student's answer by saying "announcement text".

Praising or encouraging brings out students' readiness to participate more in class and it increases students' confidence. This category is employed to invite students' participation during teaching and learning situation. At some points the pre-service teacher gave encouragement to ensure students have the confidence to convey their thoughts.

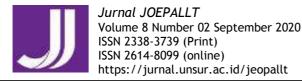
# Accepting or Using Ideas of Student

This category, accepting or using students' ideas takes up 6% of the interaction.

Participants	Classroom Verbal Interaction
Pre-service teacher	Coba ada yang mau bikin satu contoh kalimatnya?
Student	She has written a letter.
Pre-service teacher	Oke, kata Ismi katanya she has written a letter

**Excerpt 4** 

From the excerpt above it can be seen that accepting students' ideas could be meant as using their ideas to solve the problem. In the excerpt above, when the pre-service teacher asked "Coba ada yang mau bikin satu contoh kalimatnya?" there was one student answered "She has written a letter". Then the pre-service



teacher accepted students' idea by saying "Oke, kata Ismi katanya she has written a letter". Giving appreciation to students invites students' willingness to manage their ideas. When students' are feeling appreciated, they will likely have a good time in teaching and learning process, thus creates a comfortable environment.

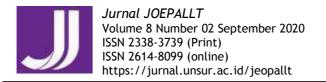
### Lecturing

This category only takes up to 9% of the interaction, the example is shown in the following excerpt:

Participants	Classroom Verbal Interaction
Pre-service teacher	Sebelumnya, kita hari ini akan mempelajari tentang descriptive teks, ada yang tahu mengenai descriptive text?
	Silahkan angkat tangan yang ingin menjawab
Student	Saya pak, descriptive text adalah menjelaskan suatu objek, orang
Pre-service teacher	Terus apa lagi? Ada tiga yah yaitu menjelaskan tentang orang, benda dan tempat.
	Jadi descriptive text itu menjelaskan atau menjabarkan tentang suatu kejadian.
	Biasanya untuk mendeskripsikan orang adalah suatu hal yang paling mudah contohnya mendeskripsikan orang yang kita sukai atau mendeskripsikan orangtua kalian masing2, kalo benda banyak sekali seperti pulpen, handphone. Kemudian tempat, yaitu biasanya mendeskripsikan mengenai tempat wisata.

# Excerpt 5

The excerpt above shows that the pre-service teacher employed lecturing type, a method of teaching by which the teacher gives an oral presentation of facts or principles to learners and the class usually being responsible for note taking, usually implies little or no class participation by such means as questioning or discussion during the class period (Kaur, 2011). In this case, the pre-service teacher explained and gave information about description text after students tried to answer the pre-service teacher question. Students answered "descriptive text adalah menjelaskan suatu objek, orang", then the pre-service teacher replied "ada tiga yah yaitu menjelaskan tentang orang, benda dan tempat, jadi



*descriptive text itu menjelaskan atau menjabarkan tentang suatu kejadian*". The pre-service teacher tried to reinforce the learning material by lecturing the students so students could obtain information from pre-service teacher's explanation.

### **Giving Direction**

This category occurred 18% in the classroom interaction. The following excerpt gives an example:

# **Excerpt 6**

Participants	Classroom Verbal Interaction
Pre-service teacher	Ok sekarang kita lihat dulu definition-nya, let's see the definition of announcement text. Ana can you read it?
Student	Annoncement text is a text that announce something will be happen

The excerpt above shows a short direction given by the pre-service teacher. Direction was provided to guide students doing given assignments. The preservice teacher asked students to read the slide of pre-service teacher's power point which was shown by the expression of *"Let's see the definition of announcement text"*. This shows that the pre-service teacher wanted the students to give their attention to the slide, so the students could understand the material. In the latter utterance, the pre-service teacher asked one of the students to read the slide, as she said *"Ana can you read it?"* In this case, the teacher's effort is in line with suggestion from Sofyan and Mahmud (2014, p. 56) as they suggest that giving direction will provide students with opportunity for practicing their capability in English language, in this case, student was asked to read aloud the material. In this case, the pre-service teachers tried to give clear instructions for the students as well as make sure the students understand the teacher's instructions.

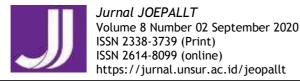
# **Criticizing or Justifying Authority**

This category only takes up to 4% of classroom interaction.

### Excerpt 7

Participants	Classroom Verbal Interaction
Pre-service teacher A	Jadi pengumuman ini untuk siapa?
Student	Untuk manager

Copyright ©2020 JOEPALLT



Pre-service teacher A	Untuk fans and media
Student	Sama-sama wisata
Pre-service teacher B	Ssstttttt

From the excerpt shown above, the teacher was likely to give feedback by correcting the student's answer with saying "*untuk fans and media*". This kind of feedback is also known as corrective feedback when the teacher attempts to correct the students' erroneous utterances (Maolida, 2017). It is also in lines with Aisyah (2016) stated that feedback is not merely given in the form of appraisal and encouragement, criticizing and justifying authority was also found to be a feedback for students. Furthermore, the excerpt also shows the teacher authority by saying "*sssssttttt*" which ensuring that students should be quite in doing their work. This category of teachers' talk was rarely employed by the teacher as it took up 4% on the average from the whole lesson. The teacher mostly employed this category only when correcting students answer or when students were noisy.

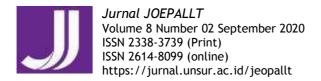
# CONCLUSION

This research was conducted with the intention to find out the types of pre service teachers' talk occurred in EFL classrooms as well as finding out which category of teachers' talk occurred the most in the classroom. This study was conducted with a descriptive qualitative design by analyzing the transcripts of teaching videos from three English pre-service teachers in Vocational High School English classrooms. The findings showed that the category occurred in the classroom interaction are Asks Question 53%, Accepts Feeling 3%, Praises or Encourages 7%, Accepts or uses ideas of student 6%, Lecturers 9%, Gives Direction 18%, Criticizes or justifies authority 4%. Therefore, it can be seen that asking question is the category occurred the most in the classrooms interaction between preservice teachers and their students.

# REFERENCES

- Aisyah, N. (2016). an Analysis of Teachers'Talk in an Efl Classroom. *Journal of English and Education*, 4(2), 63–79.
- Brown, H. D. (2001). Teaching by Principles: An Interactive Approach to Language Pedagogy, Second Edition. White Plains: Longman.
- Fraenkell, Jack. R and Wallen, Norman. G. (1993). How to Design and Evaluate Research in Education (2nd Ed.. New York: Mc, Graw-Hill International Edition.

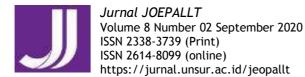
Hapsari, B. S., & Ena, O. T. (2019). English Pre-service Teachers' Identity



During Teaching Practice: Narrative Research. *International Journal of Indonesian Education and Teaching*, 3(1), 11-20. https://doi.org/10.24071/ijiet.2019.030102

- Helmie, J. (2019). Implementation of Dialogue Journal in Teaching( A Qualitative Case Study ), (1), 81–94.
- Huriyah, S., & Agustiani, M. (2018). An Analysis of English Teacher and Learner Talk in the Classroom Interaction. *Linguistic, English Education and Art* (*LEEA*) Journal, 2(1), 60–71. https://doi.org/10.31539/leea.v2i1.385
- Khusnaini, N. (2019). The Analysis of Teacher Talk and The Characteristic of Classroom Interaction in English for Young Learner. *ELT Forum: Journal of English Language Teaching*, 8(2), 166–174. https://doi.org/10.15294/elt.v8i2.32716.
- Maolida, E. H. (2013a). A descriptive study of oral corrective feedback in an ESL young learner classroom in Indonesia. *K@ta*, *15*(2), 117-123. DOI: 10.9744/kata.15.2.117-124.
- Maolida, E. H. (2013b). The influence of teacher's instructional objectives on variations of exchange patterns in an EFL classroom. *Indonesian Journal of Applied Linguistics*, *3*(1), 68-80. DOI: 10.17509/ijal.v3i1.661.
- Maolida, E. H. (2017). Relating teacher's oral corrective feedback to young learners' uptake: A case study in a young learner EFL classroom. *Indonesian EFL Journal, 3*(2), 181-192. https://doi.org/10.25134/ieflj.v3i2.665
- Mehrad, A. and Tahriri, M. (2019). Comparison between Qualitative and Quantitative Research Approaches: Social Sciences. *International Journal For Research In Educational Studies* 5(7), 1-7.
- Nurpahmi, S. (2017). Teacher Talk in Classroom Interaction. *ETERNAL (English, Teaching, Learning and Research Journal), 3*(1), 34–43. https://doi.org/10.24252/eternal.v31.2017.a4.
- Nurrina, Helmie, J., & Halimah. (2018). Pre-service Teachers' Corrective Feedback in Oral Interaction: A Comparison of Microteaching and Teaching Practicum. *International Seminar on Education and Development of Asia*.
- Pujiastuti, R. T. (2013). Classroom Interaction: an Analysis of Teacher Talk and Student Talk in English for Young Learners (Eyl). *Journal of English and Education*, *1*(1), 163–172.
- Putri, D. S. (2015). The Analysis of Teacher Talk and The Characteristic of Classroom Interaction in English As a Foreign Language Classroom. *Journal of English and Education*, *3*(2), 16–27.
- Rachmawati, D., Emilia, E., & Lukmana, I. (2017). Self-concept of EFL Preservice Teachers: A Reflection from a Teacher Practicum in Indonesia Context. *The Journal of English Language Studies*, 3(1), 1-18.
- Sari, M. N., Mukhaiyar, & Hamzah (2018). Classroom Interaction Patterns and Teachers-Students Perceptions on English Classes at SMAN 2 Bukittinggi West Sumatra. *Komposisi: Jurnal Pendidikan Bahasa, Sastra, dan Seni*, 19(2), 149-158.

Copyright ©2020 JOEPALLT



Sofyan, R. R., & Mahmud, M. (2014). Teacher talk in classroom interaction: a study at an english department in indonesia. *ELT World Wide*, 1(1), 46-58.
Sukarni, S., & Ulfah, S. (2015). an Analysis of Teacher and Student Talk in the Classroom Interaction of the Eighth Grade of Smp Negeri 18 Purworejo. *Vision: Journal for Language and Foreign Language Learning*, 4(2), 261. https://doi.org/10.21580/vjv4i21594