AN ANALYSIS OF CLASSROOM INTERACTION IN ENGLISH TEACHING AND LEARNING PROCESS USING PROBLEM BASED LEARNING APPROACH

Sumartono 1), Sri Wuli Fitriati 2), Sri Wahyuni 3), Zulfa Sakhiyya 4).
Faculty of Languages and Arts
Universitas Negeri Semarang
Semarang-Indonesia
smartonpbi@students.unnes.ac.id

Abstract

This article aims at analysing the interaction built by teacher and students in classroom teaching and learning activities by using problem based learning approach. The research was conducted at the tenth grade students of state vocational high school 4 Kalabahi, East Nusa Tenggara handled by one of English teacher when she took the apprenticeship program in the in-service teacher of Teacher Professional Education Program at Universitas Pancasakti Tegal. The writer used case study design and descriptive qualitative as the research approach. Flander's Interaction Analysis Category System (FIACS) is used to analyse the classroom interaction by doing several stages; (1). Transcribing and coding the interactions, (2). Categorizing the interactions, (3). Calculating the frequency of interaction for the categories, and (4). Comparing the frequency of teacher and students' talk. The result of analysis shows that the interactions happened in all interaction categories, except for the silence or confusion category. The frequency of teacher's talk dominates the whole classroom interaction with 61.5%, meanwhile the students' talk takes 38.5%. In conclusion, the teacher still takes much role in handling the class. Therefore, it is recommended for the teacher to give more chances for students to get involved in the classroom interactions for creating the students-centred learning atmosphere as the main characteristic of implementing problem based learning approach.

Keywords - Classroom interaction, Problem based learning approach, in-service teacher, apprenticeship program.

Introduction

Language is used to develop and sustain relationships with other individuals as well as to convey information. We use language to communicate meanings and our own personal intentions, as well as to manipulate, influence, and define situations as we see fit. As foreign language, English is one of the tools to express ideas, thoughts, opinions, and feelings, both verbally and in writing in a foreign language (Rabiah, 2012). One needs to master grammar, vocabulary, the coherence and cohesion in a discourse or speech act of a given language, as well as when to use it, in order to successfully use the language in conversational contact.

Classroom Interaction is very important for teaching and learning process. Sundari (2017) argues that classroom interaction has been a central issue in teaching and learning English in the era of communicative language teaching. It is because classroom interaction involves a collaborative exchange. It includes feeling or ideas between a teacher and students or a student and other students resulting in the classroom interaction (Martina et.al. 2021). The interaction that takes place throughout the teaching-learning process is primarily between a teacher and his/her students, who essentially take role as the key players in the teaching and learning process. Other interactions occur among

students, between students and materials, and between the teacher and students, who make up the core of the teaching-learning process, and the materials, time, space, teaching-learning facilities, and learning media, as well as the school environment and the environment around the school. In line with that fact, Amatari (2015) also argues that the term 'interaction' implies an action – reaction or a mutual or reciprocal influence which may be among individuals, e.g. student – student; teacher-students in classroom setting or between materials and individuals or groups. An interaction is usually inferred from the behaviour of persons in the environment being studied. Interaction Analysis (IA) is a method of analytical observation that provides information about the actions of teacher that takes place while delivering a lesson. It is a methodical observation that serves as a beneficial tool for discovering, researching, categorizing, and measuring particular factors while a teacher and his or her students interact in a learning environment. In fact, interaction is crucial for the efficient operation and accomplishment of the goals being pursued.

Classroom interaction is the action of interaction which is carried out by teacher and student in the teaching and learning process. In this case teacher takes the main role in the teaching and learning activity. In the classroom interaction, the teacher usually controls the topic and the amount of attention that each students receive and allocated turns (Erickson, 2004). In the English Foreign Language (EFL) classroom, the role of teachers is very important to interact with the students in giving the direction and explanation,

and checking the students' comprehension about the target language (Yanfen & Yuqin, 2010). The term "classroom interaction" describes how students engage with one another and with the teacher in the classroom. The language that the teacher and students used, the interactions they created, and how they affected the second language learning were the main topics of earlier research on the second language classroom interaction. According to Nisa (2012)"Interaction occurs as long as people are communicating each other and giving action and receiving the reaction in one another anywhere and anytime, including in the classroom setting. One of the interactions in the teaching-learning process that interact me to do an investigation occurs in English teaching-learning process at vocational high schools. In this study, I would like to analyze about how a teacher and her students interact one another in English teaching and learning process at the tenth grade students of state vocational high school 4 Kalabahi, East Nusa Tenggara. It was one of the class handled by one of students in apprenticeship program in the in-service teacher of Teacher Professional Education Program. I observed how the teacher, as one of my students who I supervised interacted with her students during the teaching and learning process by using problem based learning approach through several learning stages, involving; orient students to the problem, organize students for study, assist independent and group investigation, develop and present artefacts and exhibits, and analyze and evaluate the problem solving process in handling the EFL classroom activities. I analyzed how the classroom interaction

happened by using Flanders interaction analysis categories system (FIACS). FIACS is one popular and often utilized system for providing a conceptual framework to direct classroom interaction research. Ned A. Flanders invented the analysis system in the 1950s while he was a student at the University of Minnesota. The main issues that the FIACS addresses are the emotional atmosphere created in the classroom by the teacher and students' spoken (Evans cited in Zhao, K. & Boonyaprakob, 2022). Flanders Interaction Analysis is a system of classroom interaction analysis which is concerned with verbal behavior only, primarily because it can be observed with higher reliability than can non-verbal behavior and more also, the assumption made that the verbal behavior of an individual is an adequate sample of his total behavior. Flanders Interaction Analysis Categories (FIAC) is a Ten Category System of communication which are said to be inclusive of all communication possibilities (Amatari, 2015). It contains ten category system of communication. The number of each categories can be described as the following; there are seven categories used when the teacher is talking (Teacher talk), two when the pupil is talking (Pupil talk) and one category is that of silence or confusion. Meanwhile, the whole categories involve the followings: (1). Accept feeling, (2). Praises or encourages, (3). Accepts ideas, (4). Asks questions, (5). Lecture, (6). Giving directions, (7). Criticizes or justifies the authority, (8). Pupil-talk-response, (9). Pupil-talk-initiation, (10). Silence or confusion.

Methodology

I used descriptive qualitative as the research approach. Qualitative procedure is used to generate a theory that explains, at a broad conceptual level, a process, an action, or an interaction about substantive topic" (Creswell, 2012). Case study was chosen as the design of this research, where it particularly focuses on an object as a case to be studied in depth, which can help me to deeply analyze the phenomena in terms of how the interactions between teacher and students happen during the teaching and learning process in a classroom through the integrative stages of problem based learning approach. In this study, the teacher's talks and her students responses were investigated.

The subjects of this research are an English teacher who took the in-service teacher of Teacher Professional Education program at Universitas Pancasakti Tegal initiated by the ministry of culture and education for legalizing the teacher's professionalism when she joined the apprenticeship program and her students at the tenth grade students of state vocational high school 4 Kalabahi, East Nusa Tenggara.

In this research, classroom observation is used in collecting the data. Halim et.al, (2018) defined the classroom observation as the practice of sitting in another teacher's class to observe, learn and reflect a process. Classroom observation is also defined as a method of evaluating and recording specific information about what is going on within a classroom. I did the observation directly by means of virtual sit-in classroom activity and made the deep analysis trough

video recording submitted by the English teacher trough a Learning Management System (LMS) presented by the ministry of culture and education to look at the classroom interaction concerning with how teacher talks and how her students respond the teacher's questions and instructions during the teaching and learning activities. In conducting the observation, I used field notes, video recording and observation sheet as the research instrument.

In analyzing the data, I did the following stages; (1). Deciding the code of interaction consisting of teacher and students talks, (2). Transcribing the verbal classroom interaction, (3). Categorizing the interaction into the teaching stages, involving pre-teaching, whilst-teaching, and post-teaching. (4) Classifying the data into interaction categories, (5). Giving a code number of the interaction, (6). Calculating the percentage of interaction categories based on Flander's formula, (7). Calculating the percentage of teacher and students' talk based on Flander's formula, (8). Presenting the conclusion and suggestions relating to the research topic.

Finding and Discussion

This section contains the research findings and discussion. In presenting the research findings, I firstly categorize the teacher and students interaction into several excerpts, involving; pre-teaching, whilst-teaching, and post-teaching. Secondly, I analyze the interactions happen during teaching and learning process for each excerpts by using Flanders Interaction Analysis System (FIACS), thirdly I calculate the percentage of interaction categories involving (1). Accepts feeling, (2). Praises and encourages, (3). Accepts ideas, (4). Asks

questions, (5). Lectures, (6). Giving directions, (7). Criticizes or justifies authority, (8). Pupil-talk-response, (9). Pupil-talk-initiation, (10). Silence or confusion. Later on, I calculate the percentage of teacher and students' talk to know their engagement during the classroom activities. Meanwhile, in the discussion, I draw the conclusion from the analysis of all excerpts after being analyzed trough FIACS.

The classroom interaction in pre-teaching activity can be described in the following excerpts:

T : Hello, good morning students, how are you today? (4)

SS : I'm fine thank You. (8) and You? (9) (Chorus…)

T : That's good, I'm fine, too. (1) Nice to meet you today (1). Before we start our lesson today, I want one of you to lead pray together. (6)

Rois : Before we start our lesson today, let's pray together… (8)

SS : Pray together (8)

Rois : Finish (8)

T : Okay thank you Rois (2) Yeah, attention please, I will check your attendance today. I will call your name one by one. (6)

SS : Yes Mom, (8)

T : (Teacher call students one by one…). By the way, do you have a best friend? (4)

SS : Yes, I have (chorus…) (8)

T : If you have a boyfriend, what does she look like? Okay Tina (4)

Tina : He has pointed nose (8)

T : Okay good, he has pointed nose (2) what else? (4)

Tina : He has oval face. (8)

T : Okay, he has oval face. (2)

T I will explain the learning objectives relates to our material today. (Teacher explain…) (5)

Do you understand? (4)

SS : Yes, Mom… (Chorus…) (8)

In this phase of teaching activity, involving greetings, asking students' condition, checking students' attendance, and telling the materials that would be learnt by the students in the meeting; there are 23 utterances happen in the interaction. The numbers in parentheses at the end of each utterance indicate the category of interaction. The interaction above shows the followings: (1). Accepts feeling = 2, (2). Praises or encourages = 3, (4). Asks question =5, (5) Lecture = 1, (6). Giving direction = 2, (8). Pupil-talk-response = 9. (9). Pupil-talk-initiation = 1. The percentage for each category of interaction can be described as follows: (1). Accepts feeling = 8.7%, (2). Praises and encourages = 13%, (4). Asks questions = 21.7%, (5). Lecture = 4.3%, (6). Giving directions = 8.7%, (8). Pupil-talk-response = 39.1%, (9). Pupil-talk-initiation = 4.3%. Meanwhile, in describing the teacher and students interaction ratio, the researcher uses the formula presented in FIACS as follows:

a) % Teacher interaction ratio $= \frac{100}{total\ tallies} \times \sum$ (cat. 1 + cat. 2 + cat. 3 + cat. 4 + cat. 5 + cat. 6 + cat. 7), so the percentage of teacher interaction ratio is $\frac{100}{23} \times 13 = 56.5\%$

b) % Pupil interaction ratio $= \frac{100}{total\ tallies} \times \sum$ (cat. 8 + cat. 9) , so the percentage of pupil interaction ratio is $\frac{100}{23} \times 10 = 43.5\%$.

The classroom interaction in whilst-teaching activity can be described as follows:

T : Okay, I will explain about our material today. That is descriptive text (Teacher explain…) (5)

Do you understand? (4)

SS : Yes, Mom… (Chorus…) (8)

T : To know more about our material today, please look at the picture in the slide. (6)

Okay, do you know him? (4)

SS : Yes, I know (8)

T : Okay, who is he? (7)

SS : He is the president of Indonesia. (8)

T : Good. He is the president of Indonesia. (2) Okay, what does he look like? Dian… (4)

Dian : He has pointed nose. (8)

T : Okay, he has pointed nose. (2) Any other? Fina… (4)

Fina : He has straight black hair (8)

T : Okay, any other? Nisa… (4)

Nisa : He has black eyes and oval face. (8)

T : That's good. (2) Okay, it's time for discussion in group. You can sit in group consists of five students. Your task in group is, for task one, you can read a text about a describing person, and then you can identify the social function, generic structure, and language features, and task two, you can arrange a descriptive text about person. (6) Do you understand? (4)

SS : Yes, Mom (Chorus) (8)

In whilst-teaching activity, as the main activity in the teaching and learning activity, there are 20 utterances happen in the classroom interaction; involving (2). Praises or encourages = 3, (4). Asks questions = 6, (5). Lectures = 1 (6). Giving

directions = 2, (7). Criticizes or justifies authority = 1, (8). Pupil-talk-response = 7. The percentage of each categories can be shown as follows: (2). Praises or encourages = 15%, (4). Asks questions = 30%, (6). Giving directions = 10%, (7). Criticizes or justifies authority = 5%, and (8). Pupil-talk-response = 35%. Meanwhile, the teacher and students interaction ratio can be shown as the followings:

a) % Teacher interaction ratio = $\frac{100}{total\ tallies} \times \sum$ (cat. 1 + cat. 2 + cat. 3 + cat. 4 + cat. 5 + cat. 6 + cat. 7), so the percentage of teacher interaction ratio is $\frac{100}{20} \times 12 = 60\%$

b) % Pupil interaction ratio = $\frac{100}{total\ tallies} \times \sum$ (cat. 8 + cat. 9), so the percentage of pupil interaction ratio is $\frac{100}{17} \times 6 = 40\%$

In post-teaching and learning activity, the classroom interaction can be described as the followings:

T : Let's make conclusion for the topic today. (6) Yeah, Okay, What is descriptive text, based on your opinion? Yeah, Tia… (4)

Tia : Descriptive text is….. (Explaining) (8)

T : That's right, (3). what is the generic structure of Descriptive text? Jesi… (4)

Jesi : The generic structure of Descriptive text is… (8)

T : That's good. (3) What is the social function of descriptive text? Yeah, Susi… (4)

Susi : The social function of Descriptive text is… (Explaining) (8)

T : Yes, that's good. (3) What is your difficulty in learning the material for today? (4)

SS : Nooo… (8)

T : No? Do you understand? (4)

SS : Yes Mom… (Chorus) (8)

T : Okay, to check your understanding about the topic today, you will take the evaluation. (6)
Okay? Are you ready? (4)

SS : Ready Mom… (Then students do the evaluation) (8)

T : I give you homework, yeah… Your homework is describe one of your family member. (6) Okay? Do you understand? (4)

SS : Yes Mom… (Chorus…) (8)

T : Okay, the topic for the next meeting, we will still discuss about descriptive text. Okay thank you for joining the class today, and see you at the next meeting. (6)

SS : See You Mom, Thank You… (Chorus…) (8)

In the last phase of the teaching and learning process involving; constructing conclusion of the whole materials being discussed, evaluating, reflecting, and giving further practices, the classroom interaction can be described as the followings:

There are 22 utterances happen in the classroom interaction; involving (3). Accepts ideas = 3, (4). Asks questions = 7, (6). Giving directions = 4, (8). Pupil-talk-response = 8. The percentage of each categories can be shown as follows: (3). Accept ideas = 13.6%, (4). Asks questions = 31.8%, (6). Giving directions = 18.2%, and (8). Pupil-talk-response = 36.4%. Meanwhile, the teacher and students interaction ratio can be shown as the followings:

a) % Teacher interaction ratio = $\frac{100}{total\ tallies} \times \sum$ (cat. 1 + cat. 2 + cat. 3 +

cat. 4 + cat. 5 + cat. 6 + cat. 7), so the percentage of teacher interaction ratio is $\frac{100}{22} \times 14 = 63.6\%$

b) % Pupil interaction ratio $= \frac{100}{total\ tallies} \times \sum$ (cat. 8 + cat. 9), so the percentage of pupil interaction ratio is $\frac{100}{22} \times 8 = 36.4\ \%$

From the findings described through several excerpts above, it can be seen that the classroom interaction mostly happen between teacher and students who took the main role in the interaction. Only a few of the interactions happened between student and other students such as in pre-teaching section when one of student lead to pray and other students gave responses to pray. According to the description of all excerpts above, the classroom interaction covers all categories of interaction, except for the silence and confusion category, although their percentage of frequency varies among the categories. In detail, the frequency of each category can be described in the following table:

Table 1. The frequency of interaction categories

Category	Frequency	Percentage
Accepts feeling	2	3.1%
Praises/encourages	6	9.2%
Accept ideas	3	4.6%
Asks questions	18	27.7%
Lecture	2	3.1%
Giving directions	8	12.3%
Criticizes/justifies Authority	1	1.5%
Pupil-talk-response	24	36.9%
Pupil-talk-initiation	1	1.5%
Silence/confusion	0	0
Total	65	100%

The table above shows that students predominantly gave direct responses for the teacher's talk (36.9%) through the interaction category of asks questions (27.7%) and giving directions (12.3%). Meanwhile, for the students' talk, Pupil-talk-response category dominantly appears. Conversely only a few Pupil-talk-initiation happened, whereas this type of interaction is actually needed to be increased in classroom interaction. Flanders as cited in Hai and Bee (2017) stated that uses idea of students can be identified such as clarifying, using, interpreting, summarizing the ideas of students. Besides, I also compare between the teacher's talks and students' talks to measure their role in the classroom interaction. The details can be seen in the following table:

Table 2. The Teacher and students' talks Ratio

Role	Frequency	Percentage
Teacher's talk	40	61.5%
Students' talk	25	38.5%
Silence/confusion	0	0

The teacher's talk ratio is calculated from the total number of interaction categories involving accepts feeling, praises/encourages, accepts ideas, asks questions, lecture, giving directions, and criticizes/justifies authority. Meanwhile, the students' talk ratio is found out from the total numbers of pupil-talk-response

and pupil-talk-initiation. The table above shows that the teacher still more dominantly take the role (61.5%) comparing to students (38.5%) in the classroom interaction. Astini (2014) confirms that linguistics aspects of teacher talk is important aspects that language teachers can use in their talk not only neutrally to convey comprehensible information but also to express positive attitudes toward their students in the classroom.

Conclusions

Brown (2001:165) defines interaction as the collaborative exchange of thoughts, feelings, or ideas between two or more people, resulting in a reciprocal effect on each other. Successful verbal exchanges happen when the teacher and the pupils can both clearly grasp what is being said. During the teaching-learning process, it takes place verbally between the teacher and the students. Therefore, a teacher is really demanded to have an adequate capability in managing the classroom atmosphere. In relation to this fact, Consolo (2016) states that teacher is expected to have adequate competency in managing classroom to encourage students' participation to help their oral language development. One of them is by managing classroom interaction since it takes a pivotal role in determining the successful teaching and learning process. By using FIACS analysis, how effective a teacher interacts with his/her students in delivering the materials can be identified. This type of analysis identifies the classroom interaction by categorizing the type of interactions and measuring the frequency of teacher's talks and students'

talk as well. This study shows that the type of interactions happen in almost all categories, except the silence or confusion. Asks question as the most frequently interaction takes 27.7% for teacher's talk. This fact is in line with Jia (2013) arguing that Questioning plays a significant part in classroom teaching. That category is successively followed by other categories; giving direction takes 12.3%, praises/encourages takes 9.2%, accepts ideas takes 4.6%, accepts feeling takes 3.1%, lecture takes 3.1%, and criticizes or justifies the authority takes only 1.5%. Meanwhile, for students' talk, pupil-talk-response dominantly happen with 36.9%, pupil-talk-response only takes 1.5%, and there is no silence or confusion interaction category, although silence doesn't always mean know nothing. Walsh (2011) states that the meaning of students' silence in verbal communication was not always confusion or they do know nothing. Yamat, et.al. (2013) also support that fact arguing that the students actually learn language even though they keep silent. In the analysis I also identify the comparison between the frequency of teacher's talk and students' talk. The data shows that teacher's talk takes 61.5% and students' talk takes 38.5%. Based on the calculation above, it can be concluded that the teacher dominantly asks question and gives direction in building the classroom interaction, meanwhile, the teacher still dominantly takes much role rather than students in conducting the teaching and learning process. For this fact, it is recommended for the teacher to give more chances for her students to get involved in the classroom interaction for yielding the more students-centered atmosphere as the

main characteristic of the implementation of problem based learning approach. Besides, teachers have to give more chances to their students to practice the language in the classroom as because it will increase their learning and improve their ability in communication (Pratama, et.al., 2020)

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