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By Universitas Muhammadiyah Sidoarjo

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Application of Pedagogical Technologies on the Topic: "Polymer Composite Materials and their Significance"

Penerapan Teknologi Pedagogis pada Topik: "Bahan Komposit Polimer dan Signifikansinya"

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Abstract

Composite materials are soluble and insoluble, and its effectiveness is enhanced by the addition of additives. Natural and artificial composite materials, with a natural group of cellulose fibers in the body and stem of the plant, containing lignin, and for bones in the human and animal organism, the binding of thin, mature phosphate salts to plastic collagen is characteristic. Powder composite material (PCM) is characterized by resistance to deformation, cutting, welding, corrosion and heat .In the manufacture of disks and shovels, the properties of nickel-chromium alloys and powders with the addition of hafnium oxide are additionally improved.

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Introduction

“Language is very important in our lives to communicate in everyday life. Speaking skills are often considered of the most important part in English learners. In foreign language teaching and learning, the capability to speak is the most essential skill since the basic for communication. Speaking is one of the productive abilities, which is the substantiation of a student that how much he or she is competent in a language. Moreover, much of the communication is made by speaking. In short, learning a language remains incomplete if one does not reach competence in speaking. “ Speaking can be realized as the most general way to convey the message to others and the skill to communicate effectively is a basic requirement which needs to be taken seriously in English education. Zyoud, Munther [1]

“Azadi et.al [2] state Speaking is one of four basic skills in learning foreign language besides listening, reading and writing. Usually, students possess inability in communicating appropriately and correctly. This leads to learners' lack of self- confidence. Oradee [3]. To make students speak in front of the class is not easy. The problem also happened at grade VIII students of MTS Muhammadiyah 1 Taman. Based on pre-observation and pre-interview, students have low score in speaking because they lacked in vocabulary and did not have confident. “

Yulia siska [4] there are internal factor and external factor that affect student's low ability in vocabulary. There are 5 internal factors problems why they lacked in vocabulary: (1) Students confuse to answer when asked in English (2) fear to speak English because they not understand the grammar well (3) It takes a long time to think about translating what they want to say (4) Difficult to understand text in English (5) Worried about making mistakes, able to understand but cannot express it.

Then 5 external factors are: (1) Teacher less clever when delivering the material and make students feel boring in the class (2) There is no partner to practice it (3) The way teacher teach make students hard to understand the lesson (4) Influence of school environment that lacked a decent place to read, learning media such us language laboratory which is not available (5) Characteristic of teacher that cannot accept by students.

Therefore, this research will suggest a good technique to improve the speaking skill and it can build students confident at the VIII grade students of MTS Muhammadiyah 1 Taman. Kayi [5] believe using picture series in retelling story is an activity based on some sequential pictures. This technique has been known as one of the teaching activities in foreign language classes. One of the reason using retelling story to depend so much on word, offering a primary and constant source of language experience for children Wright [6]. As Eliwarti [7] states, retelling story is part of speaking activities, it is means can play an important role performance based on the speaking assessment. It will help them in learning about telling stories or events in sequence. By using this technique, it can make students practice more especially in English speaking. . Furthermore, Miller and Pennycuff [8] retelling story has a power to improve student's speaking skill.

Picture series can be used in retelling story to make students more actives and enjoy the activities. Harmer [9] believes one of the most appropriate uses of picture is for presenting and checking meaning. According to Matulka [10] good picture series in a story bind the reader to the pictures and makes the meaning of the pictures. Story and pictures are work together to encourage story forward.

Literature Review

The Definition of Speaking

“Speaking is like ability to express a sequence of ideas fluently. Process off speaking it must be at least two people between speaker and listener. In speaking process, the speaker must be able to share what he or she wants clearly, so that the listener can understand what the speaker communicate Lado [11] “

“According to Byrne [12] Oral communication is speaking. It is happen between speaker and listener, receptive skill and involve productive of understanding, Through speaking someone can communicate or express what she or he wants it. Rivers [13] says that someone can express her or his mind, reaction and motion to each other or influence and situation others is by speaking. Aspect of speaking is speaker must attend the aspect, to understandable the listener. “

Speaking Assessment

“Nunan [14] state that speaking requiring someone to be linguistically competence in term of well articulating the sound, enough vocabulary, and mastering or grammatical components structural. To speak also needs functional capability which means answering questions completely and logically. Another capability is strategic competence in which the speaker is able to use repairing strategies when conversation breaks down. And the last one is sociolinguistic or cultural competence. It claims the speakers to use the language appropriately to the context. “

In evaluating students' speaking scores, the researcher used speaking task by Harris [15]. Based on the speaking assessment, there are five elements, namely:

"pronunciation, fluency (these ease and speed of the flow of the speech), grammar, vocabulary, and comprehension (an understanding of what both the tester and the test are talking about or the ability to respond as well as to initiate it). Defined the five components of testing speaking skill as Figure 1.

(Figure 1 is here)

Teaching Speaking Skill

Teaching speaking to students is no easy for the teacher. According to Brown [16] Teaching are guiding and facilitating the learning, enabling the learner to learn, setting the condition for learning. Speaking means students are able to speak a language, Nunan [17] state that teaching speaking to students are:

1. to produce speech sounds and sound patterns
2. se the intonation and the rhythm
3. use word and sentence stress
4. select appropriate word and sentences
5. organize their thought in a logical sequence and meaningful
6. use language as a expressing values and judgments
7. use the language quickly and confidently

Picture Series

Picture is one of media that used in teaching learning process. They can be used to teach all language skills such as listening, reading, writing and speaking. Picture series are have several function, sudjana [18] :

Picture series are often used to attract students stimulate or attention in teaching learning process.

Picture series also used to describe practical activities when the words are inadequately.

1. To stimulate interest.
2. To explain something that is hard to describe in words.
3. To give variation.
4. The students may not interested or enjoy in learning process if the teacher doesn't give variety in teaching learning process.

Using Picture Series in Teaching Speaking

Picture series can be used as a teaching media. The teacher has to be able to choose an appropriate picture and make the teaching learning speaking more effective.

For example the researcher use picture series from fable of the lion and the mouse in the class and then ask the students to retell narrative story from picture series.

Retelling Story

"Retelling Story is a strategy used to determine how well students comprehended a specific story. It can be used as an effective tool in improving comprehension as well as assessing it Lerner [19]. "

"Retelling story uses the presenter's ability to convey a story with style, intonation, and tools that appeal to the listener's interest. Storytelling is often used in teaching and learning processes mainly at the beginner or children's level. This technique is useful to practice the ability to listen pleasantly. Who want to convey retelling story must have good public speaking skills, understand the character of the listener, imitated voices, good at managing the tone and intonation as well as the skill of using assistive devices. Said to be successful using storytelling techniques, if the listener is able to capture the storyline and feel entertained. Well, the moral message in the story is also obtained. Said to be successful when the listener is able to capture the storyline and feel entertained. In addition, the moral message in the story is also obtained. "

The example of retelling story from fable from article:

The Rabbit and The Turtle

(Orientation) One day a rabbit was boasting about how fast he could run. He was laughing at the turtle for being so slow. Much to the rabbit's surprise, the turtle challenged him to a race. The rabbit thought this was a good joke and accepted the challenge. The fox was to be the umpire of the race.

(Complication) As the race began, the rabbit raced way ahead of the turtle, just like everyone thought. The rabbit got to the halfway point and could not see the turtle anywhere. He was hot and tired and decided to stop and take a short nap. Even if the turtle passed him, he would be able to race to the finish line ahead of him. All this time the turtle kept walking step by step by step. He never quit no matter how hot or tired he got. He just kept going.

(Resolution) However, the rabbit slept longer than he had thought and woke up. He could not see the turtle anywhere! He went at full-speed to the finish line but found the turtle there waiting for him. The rabbit is shocked that recognize the winner is the turtle.

Retelling Story Using Picture Series in Teaching Speaking

Retelling story method has been known as one of the teaching activities in second or foreign language. According to Miller and Pennycuff [20] retelling story in the classroom is one way to improve oral language.

Story telling is describes as a related story to one or more listeners through voice and gesture National Council of Teachers of English [21] cited from Miller and Pennycuff [22]. In addition, retelling story depend so much on words: it offers a main and steady source of language experience for the students Wright [23]. Furthermore, it helps them learn to tell stories or events in details and in order. In addition, stories themselves can be considered as language wealth to be used as figure of language for students at different levels and ages.

Here, the researcher is interested in applying retelling story as a technique in teaching speaking and picture series as a media. Retelling story technique has been known as one of the teaching activities in second or foreign language. It can imply students to understand the material easily. By retelling story, it can help the students to produce words which have been told by the teacher. Picture series is one of the media that the researcher uses to improve students' speaking skill. By using this media, the students will be able to deepen the vocabulary and memorize the words that will be produced.

Narrative Text

Narrative is kind of genre which has social function to amuse, entertain and to deal with actual or vicarious experience in different ways. Narrative deals with problematic events which lead to a crisis or a turning point of some kind, which in turn finds a resolution Gerrot and Wignel [24]. the aim of narrative is to entertain and to amuse the listeners and readers with the real experience or fancy.

“The simple generic structure that is taught in Senior High Scholl is divided into the following three elements, namely orientation, complication, and the last even resolution cited in Competency Based Curriculum [25]. Orientation, in the introduction or orientation the writer or narrator explains where the story happened. In this level, the writer usually produces the atmosphere that can make the readers persuaded to follow the story. In other words, it also has a function as the stimulus to the readers the narrator’s literature. By reading the introduction of the text, readers will understand first the contents of the text before they read it. “

“The second, Complication, in this part, the crisis arises. It is the climax of the narrative. In the middle of story, generally, the narrator shows the complication. Complication makes the story more interesting because the main character is prevented to rich his or her wants. In this part, the narrator brings up the issues occurred in the story. The third, Complications are the description of real life and they tell the readers that every issue or problem can be solved. The last is Resolution or the last event. After spilling many issues in the climax of the narrative, the narrator than narrates to the readers the resolution of the issues or the problems. “

Types of Narrative Texts

From article kinds of narrative text

The following are some types of narrative text, namely:

1. Personal experience (Stories in the form of personal experience)
2. Fairy stories (Stories that are fantastic or full of magic)
3. Fables (stories about animals that are usually portrayed to behave like humans)
4. Legends
5. Myth
6. Romance
7. Mysteries
8. Science fiction
9. Horror stories
10. Adventure stories
11. Historical narratives
12. Slice of life

““This research deals with the effect on students’ speaking skill by using retelling story through picture series in

communicating English language since it is often consider as one of difficult skills to be mastered by the students. In conducting the research, the writer use pre-experimental design as the research methodology. This research mainly deals with a score that to find out whether there is an effect on students' speaking or not. The researcher compares the result of the test by *pretest-posttest design*, since this research tends to find out the effect on students' speaking ability by comparing the results between pretest and posttest. "

Methods

The researcher used statistical formula in assessing the data in experimental class. The kinds of data are pretest and posttest. As mentioned earlier, in experimental class the researcher gives treatment by using fable pictures in retelling story. The class was given the test by retell story from fable pictures. The aim of the test is measure the students' speaking ability before and after treatment.

The data from pretest was aimed to measure the students' speaking skill before they got the treatments. In pretest, students were asked to use picture series. The topic was retell story from fable picture that given by the researcher. So, students were asks to retell story in front of the class. The whole scoring of the students' pretest score are presented as Table 1:

NUMBER	NAME	PRETEST
1	ACK	60
2	AZA	84
3	ADA	64
4	BAP	73
5	CNR	82
6	CFZ	70
7	FZ	79
8	FAPZ	79
9	FAPK	70
10	FA	69
11	GAH	73
12	GD	80
13	LMP	72
14	MFS	71
15	MF	72
16	MNB	63
17	MRBF	61
18	NAR	62
19	NAA	72
20	NK	69
21	RV	86
22	RM	75
23	RSN	75
24	RHZ	86
25	SK	84
26	SFA	60
27	SA	70
28	VS	67
LOWER SCORE	60	
HIGHER SCORE	86	

Table 1. Scoring of the students' pretest score

Result and Discussion

The researcher conducted posttest to find out whether there was improvement of the students' speaking skill or

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not. The students were also asked to use picture series by retell story from fable picture. So, the result of students' posttest score is presented as Table 2:

NUMBER	NAME	POSTTEST
1	ACK	69
2	AZA	90
3	ADA	70
4	BAP	80
5	CNR	86
6	CFZ	77
7	FZ	76
8	FAPZ	79
9	FAPK	78
10	FA	75
11	GAH	78
12	GD	86
13	LMP	79
14	MFS	76
15	MF	79
16	MNB	68
17	MRBF	65
18	NAR	68
19	NAA	77
20	NK	74
21	RV	90
22	RM	82
23	RSN	81
24	RHZ	94
25	SK	90
26	SFA	67
27	SA	75
28	VS	69

Table 2. Students' posttest score

After giving the pretest, treatments, and posttest to the experimental class, the researcher got the result from pretest and posttest scores as Table 3.

NUMBER	NAME	PRETEST	POSTTEST	d (PRE-POST)	d 2
1	ACK	60	69	-9	81
2	AZA	84	90	-6	36
3	ADA	64	70	-6	36
4	BAP	73	80	-7	49
5	CNR	82	86	-4	16
6	CFZ	70	77	-7	49
7	FZ	79	76	3	9
8	FAPZ	79	79	0	0
9	FAPK	70	78	-8	64
10	FA	69	75	-6	36
11	GAH	73	78	-5	25
12	GD	80	86	-6	36
13	LMP	72	79	-7	49
14	MFS	71	76	-5	25
15	MF	72	79	-7	49

16	MNB	63	68	-5	25
17	MRBF	61	65	-4	16
18	NAR	62	68	-6	36
19	NAA	72	77	-5	25
20	NK	69	74	-5	25
21	RV	86	90	-4	16
22	RM	75	82	-7	49
23	RSN	75	81	-6	36
24	RHZ	86	94	-8	64
25	SK	84	90	-6	36
26	SFA	60	67	-7	49
27	SA	70	75	-5	25
28	VS	67	69	-2	4
TOTAL SCORE		2028	2178	-150	966
MEAN SCORE		72,43	77,79	-5,36	34,50

Table 3. Scores in pretest and posttest

Before analyzing the data using *t*-test, the researcher did the following steps:

This research focused on five criteria of speaking assessment, the researcher used speaking task by Harris (1969) to see the effect that mentioned in rubric which proposed by. The data from pretest and posttest were analyzed by using *t* formula in standard of significant 5%.

Sudjana (1992) the procedures to find out the *t* score as follows:

= The mean of difference value between pre-test and post-test in sample (

= The mean difference value between pre-test and post-test in population

= Standar deviation of *d* (The difference value between pre-test and post-test)

= Total data

1. The t-score with formula
2. Determining standard deviation of *d*

= Variance of *d* (The difference value between pre-test and post-test)

= Standar deviation of *d* (The difference value between pre-test and post-test)

= The difference value between pre-test and post-test on observation

1) Determining Standart deviation of *d* (The difference value between pretest and posttest)

Standard deviation of d

2) Finding *T* score:

$T_{score} = -11,65$ The aim of this study is to investigate the effects of picture series on students' speaking ability. The researcher collected the data to answer the research question successfully. The explanation for the research question as follow: What is significant difference on the students' speaking ability after implementing retelling story through picture series? It can be clarified according to the data gained from the pre-test and post-test. It was supported by the fact that the students' speaking score before and after the implementation of picture series was different where the students' speaking score before implementing picture series was **72,43** and after implementing it was **77,79**.

Conclusion

Based on the result of data analysis, it is proven that the students speaking score is better after implementing picture series. As the result, picture series gave positive effects on students' speaking ability. It showed by the improvement of students' speaking score. Hence, picture series is the suitable media that can be used by the

teacher in teaching speaking.

There are internal factor and external factor that affect student's low ability in vocabulary. Some of the problems they lacked in vocabulary and did not have self-confident. Therefore, the teacher should have a good technique to improve the speaking skill and can build students confident in learning process. To solve the problem the teacher should use media during learning process to get attractiveness of students.

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