
AN ANALYSIS OF FLEMING’S THEORY ON VARK (VISUAL, AURAL, READ/WRITE, AND KINESTHETIC) LEARNING STYLE IN COLLEGE STUDENTS***Riza Weganofa****Universitas PGRI Kanjuruhan Malang*[*rizaweganofa@unikama.ac.id*](mailto:rizaweganofa@unikama.ac.id)***Ayu Liskinasih****Universitas PGRI Kanjuruhan Malang*[*ayuliskinasih@unikama.ac.id*](mailto:ayuliskinasih@unikama.ac.id)***Siane Herawati****Universitas PGRI Kanjuruhan Malang*[*Siane.herawati@unikama.ac.id*](mailto:Siane.herawati@unikama.ac.id)***Indah Rustiani****Universitas PGRI Kanjuruhan Malang*[*Indahrustiani1@gmail.com*](mailto:Indahrustiani1@gmail.com)**ABSTRACT**

This study was aimed at investigating the kinds of learning style used by college students in learning English vocabulary. The researchers categorized the kinds of learning style based on Fleming’s theory into Visual (V), Aural (A), Read/Write (R), and Kinesthetic (K). Further, they used questionnaire and interview to collect the data from forty participants. The instruments were applied right after the participants finished their vocabulary course. The result of questionnaire shown that students used Kinesthetic (K) learning style for learning English in general. Meanwhile the result of the interview shown that learning style used by college students for learning English vocabulary was read/write (R) type. It can be concluded that most students used different learning styles for different purposes. The learning style can change over time according to the conditions that students need. Based on the stages of cognitive development, it can be said that college students included to adulthood which means they use abstract thought when they learnt something. They should have been able to understand the vocabulary by using visual learning style, since kinesthetic style is more suitable for children between 2 and 7 years of age than for adults. This indicates that between student’s beliefs and teacher’s beliefs are incompatible.

Keywords: Fleming’s Theory, VARK Learning Style, Vocabulary.

INTRODUCTION

(Nurdini, H., & Marlina, 2018) stated that students need to master four language skills to be able to use English. These language skills have integrated one another, without forgetting the essential role of language components. As a matter of fact, vocabulary as one of language components has a great influence on the development of skills. Vocabulary is needed by students in order to master English. (Lynne, 2001) explained that vocabulary is fundamental to use the foreign language as a discourse, since vocabulary is both learned from participating in discourse and is essential to practicing in it. It means, vocabulary is a basic part to master a foreign language as mastering it enables students to comprehend both spoken and written language input.

The way students learn or absorb information differs from one another. All the way that students used for study called by learning style. The term 'learning style' has been used to describe an individual's natural, habitual, and preferred way of absorbing, processing, and retaining new information and skills (Reid, 1995). According to (DePorter et al., 2007) learning style is a combination of how they absorb and then organize and process the information. Further, (Fleming & Baume, 2006) believe that learning style is, rather, a description of a process, or of preferences. Any inventory that encourages a learner to think about the way that he or she learns is a useful step towards understanding, and hence improving, learning.

Psychologically according to (Razali et al., 2002) learning style is the way the student concentrate, and their method in processing and obtaining information, knowledge, or experience. Whereas (Mok, 2003) defines learning style as learning approaches as preferred by student. Meanwhile, (Drago & Wagner, 2004) identify learning style as differences that exists between individuals over each learning methods. Achievements in educational field depend much on the ability to adapt lesson based on everyone's aspects. Based on all definition that has been given, it can be summarized that learning styles are individual learning technique that needs to absorb information or understanding a lesson.

Learning style has been studied by several researcher in Indonesian context with various findings. First, (Mozaffari et al., 2020) in their study found that there was no significant relationship between learning styles and academic achievement in the two groups of strong and weak students. Next, (Fatimah, 2018) in her thesis found out that the most preferred style is Aural and Read/Write (AR) preference. Third, (Setiyani, 2019) in her thesis showed that the total of visual learners are 60% (15 from 25 students), and the auditory learners are 16% (4 from 25 students), and the kinesthetic learners are 24% (6 from 25 students). Last, (Bilkisti & Retnaningsih, 2019) in her thesis pointed out that most of students in IPA and IPS Class used their VARK learning style appropriately with Fleming's Theory while they are learning English.

Based on the information above, VARK is the most popular learning style that many researchers used as a study. So, the researcher conducted this research because she wants to know the most dominant learning style of college students that use in learning English vocabulary. This research applies a descriptive-qualitative design.

METHOD

The researcher uses descriptive qualitative design because this research collects the data in the form of words rather than numbers. According (Sugiyono, 2009), qualitative research method is research that used to investigate, find, describe, and explain the quality or characteristics of social influence that cannot be explained, measured or described through a quantitative approach.

The result of this study focused on analysis the students learning style in learning vocabulary. (Creswell, 2009) stated that research design focuses on data collection, analysis, and writing that suitable for this research. In this research, the researcher analyzes and describes the students learning style in learning vocabulary. This study used human instrument as the main instrument and employed a questionnaire and interview to support the main instrument.

The questionnaire aimed to know the students learning style for learning in general. The researcher used open ended questionnaire. It consists of 16 questions and the question focused on the types of student's learning style. It was adapted from the VARK home page

(<https://vark-learn.com>) VARK questionnaire version 8.01. Meanwhile, the interview aimed to get deeper information about students learning style for learning English Vocabulary. The participants of this interview are all the students that have answered the questionnaire by giving the same questions to explore their learning style that they used on learning vocabulary. The participants voluntarily involved in this study and they completed the vocabulary course. They were asked to recall their learning process during the course.

RESULTS AND DISCUSSION

Based on the questionnaire, students have various types of learning style. It can be shown in the choices of the questionnaire such as, answer (a) is for V (visual) type, answer (b) is for A (Aural) type, answer (c) is for R (read/write) type, and answer (d) is for K (kinesthetic) type. The result of the questionnaire is as follow:

The first statement from the questionnaire stated, "I would like to visit a shop recommended by my friend. I would ... ". The result shown that the students who chose answer (a) or visual type were 17 students (42.5%), then answer (b) or aural type was the most chosen by students were 19 students (47.5%), for answer (c) or read/write type there were only 1 student (2.5%), and for answer (d) or kinesthetic type there were 3 students (42.5%).

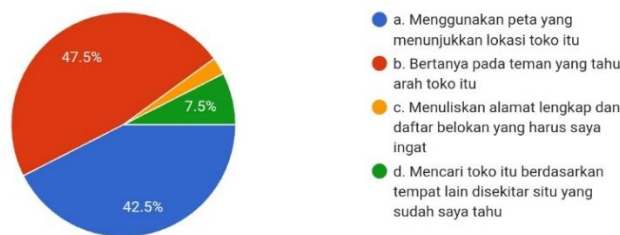


Figure 1. Pie Chart of Questionnaire Number 1

The second statement of questionnaire stated, “An internet site has a video on how to make a particular graph. There are people on the site who are talk, there is a video that explain the steps, and there are some diagrams. I most understand the content of this site in a way:”. The result shown that students mostly chose answer (a) or visual type as there were 15 students (37.5%), then who chose answer (b) or aural type were 5 students (12.5%), for answer (c) or read/write type there were 8 students (20%), and for answer (d) or kinesthetic type there were 12 students (30%).

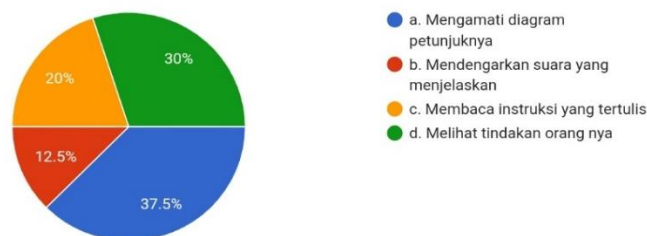


Figure 2. Pie Chart of Questionnaire Number 2

The third statement of questionnaire stated, “I would like to learn more about the tour I was planning. I would:”. The result shown that the students who chose answer (a) or visual type were 8 students (20%), then who chose answer (b) or aural type were 3 students (7.5%),

for answer (c) or read/write type there were 7 students (17.5%), and answer (d) or kinesthetic type was the most chosen by students there were 22 students (55%).

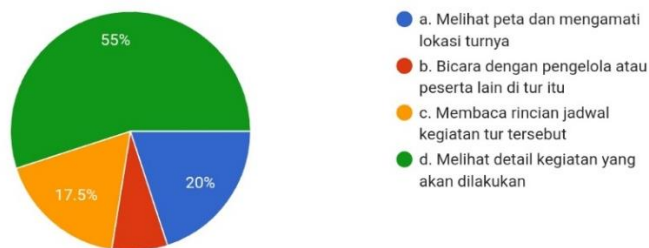


Figure 3. Pie Chart of Questionnaire Number 3

The question number four which stated, “In choosing career or education, what matters to me is?”. The result shown that the students who chose answer (a) or visual type was only 1 student (2.5%), then who chose answer (b) or aural type were 5 students (12.5%), for answer (c) or read/write type there were 4 students (10%), and the most chosen option were answer (d) or kinesthetic type there were 30 students (75%).



Figure 4. Pie Chart of Questionnaire Number 4

The diagram of the four question in the questionnaire is shown in table 1

Table 1. Questions number 1 - 4

| No. | Question | a | b | c | d |
|-----|---|---------------|---------------|--------------|--------------|
| 1. | I would like to visit a shop recommended by my friend. I would | 17 (42.5%) | 19 (47.5%) | 1 (2.5%) | 3 (42.5%) |
| 2. | An internet site has a video on how to make a particular graph. There are people on the site who are talk, there is a video that explain the steps, and there are some diagrams. I most understand the content of this site in a way: | 15 (37.5%) | 5 (12.5%) | 8 (20%) | 12 (30%) |
| 3. | I would like to learn more about the tour I was planning. I would: | 8 (20%) | 3 (7.5%) | 7 (17.5%) | 22 (55%) |
| 4. | In choosing career or education, what matters to me is? | 1 (2.5%) | 5 (12.5%) | 4 (10%) | 30 (75%) |

a: visual type, b:aural type, c:read/write type, and d:kinesthetic type

The statement number five stated, “When I studied, I...”. The result shown that the students who chose answer (a) or visual type were 4 students (10%), then who chose answer

(b) or aural type were 5 students (12.5%), for answer (c) or read/write type there were 9 students (22.5%), and the most chosen option were answer (d) or kinesthetic type there were 22 students (55%).

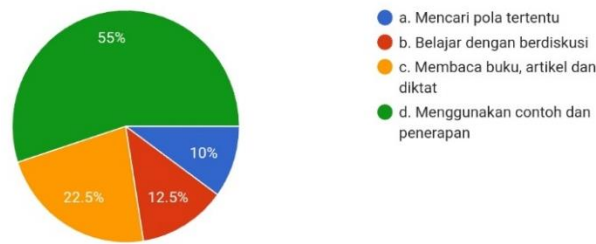


Figure 5. Pie Chart of Questionnaire Number 5

The statement number six which stated “I would like to save more money and consider some way. I would ...”. The result shown that the students who chose answer (a) or visual type were 4 students (10%), then who chose answer (b) or aural type were only 1 student (2.5%), for answer (c) or read/write type there were 2 students (5%), and the most chosen option were answer (d) or kinesthetic type with 33 students (82.5%).

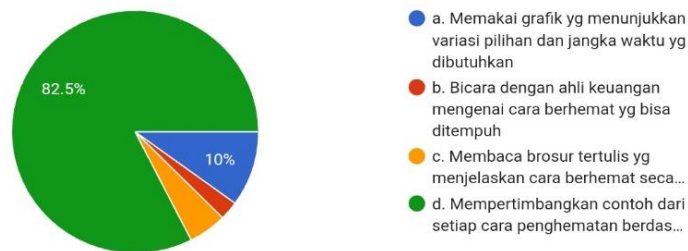


Figure 6. Pie Chart of Questionnaire Number 6

The statement number seven which stated, “I would like to learn a new kind of card game. I would ...”. The result shown that the students who chose answer (a) or visual type were 4 students (10%), then who chose answer (b) or aural type were 9 students (22.5%), for answer (c) or read/write type there were 7 students (17.5%), and the most chosen option were answer (d) or kinesthetic type with 20 students (50%).

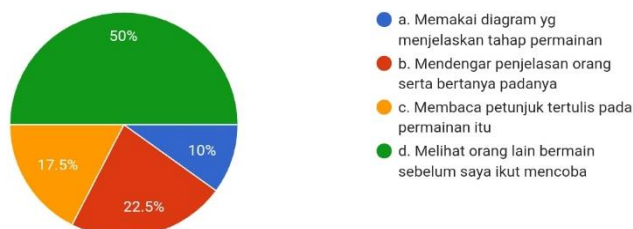


Figure 7. Pie Chart of Questionnaire Number 7

The statement number eight which stated, “I have a heart problem. I prefer doctor that ...”. The result shown that the students who chose answer (a) or visual type were 4 students (10%), then answer (b) or aural type was the most chosen option there were 17 students

(42.5%), for answer (c) or read/write type there were 6 students (15%), and who chose answer (d) or kinesthetic type were 13 students (32.5%).

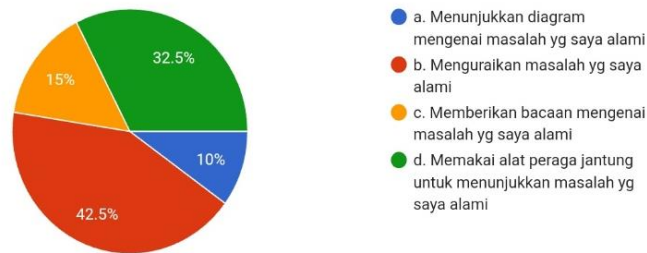


Figure 8. Pie Chart of Questionnaire Number 8

The diagram of the four question in the questionnaire above is shown in table 2

Table 2. Questions number 5 - 8

| No. | Question | a | b | c | d |
|-----|---|------------|---------------|--------------|---------------|
| 5.. | When I studied, I | 4 (10%) | 5 (12.5%) | 9 (22.5%) | 22 (55%) |
| 6. | I would like to save more money and consider some way. I would: | 4 (10%) | 1 (2.5%) | 2 (5%) | 33 (82.5%) |
| 7. | I would like to learn a new kind of card game. I would: | 4 (10%) | 9 (22.5%) | 7 (17.5%) | 20 (50%) |
| 8. | I have a heart problem. I prefer doctor that: | 4 (10%) | 17 (42.5%) | 6 (15%) | 13 (32.5%) |

a: visual type, b:aural type, c:read/write type, and d:kinesthetic type

The statement number nine stated, “I would like to learn a new program on the computer. I would ...”. The result shown that the students who chose answer (a) or visual type were 4 students (10%), then answer (b) or aural type was the most chosen option there were 15 students (37.5%), for answer (c) or read/write type there were 10 students (25%), and who chose answer (d) or kinesthetic type were 11 students (27.5%).



Figure 9. Pie Chart of Questionnaire Number 9

The statement number ten stated, “When I learned something on the internet, I liked ...”. The result shown that the students who chose answer (a) or visual type were 5 students (12.5%), then who chose answer (b) or aural type were 2 students (5%), for answer (c) or read/write type there were 9 students (22.5%), and the most chosen option were answer (d) or kinesthetic type there were 24 students (60%).

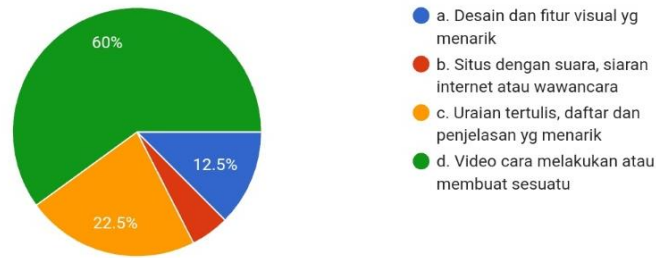


Figure 10. Pie Chart of Questionnaire Number 10

The statement number eleven which stated, “I would like to study a new work project. I will ask ...”. The result shown that the students who chose answer (a) or visual type were 12 students (30%), then who chose answer (b) or aural type were 4 students (10%), for answer (c) or read/write type there were 9 students (22.5%), and the most chosen option were answer (d) or kinesthetic type with 15 students (37.5%).

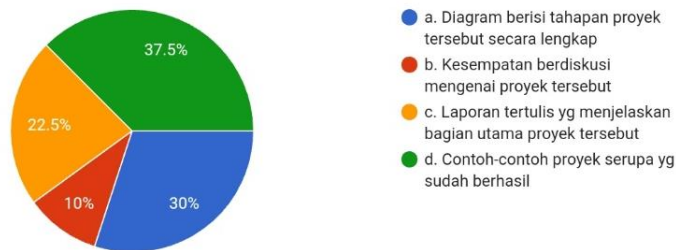


Figure 11. Pie Chart of Questionnaire Number 11

The statement number twelve which stated, “I would like to learn how to take better picture. I would ...”. The result shown that the students who chose answer (a) or visual type were 2 students (5%), then answer (b) or aural type was the most chosen option there were 21 students (52.5%), for answer (c) or read/write type there were 5 students (12.5%), and who chose answer (d) or kinesthetic type were 12 students (30%).



Figure 12. Pie Chart of Questionnaire Number 12

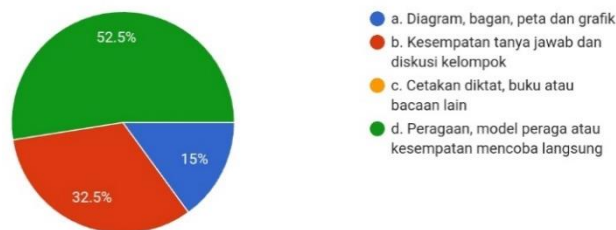
The diagram of the four question in the questionnaire above is shown in table 3

Table 3. Questions number 9 - 12

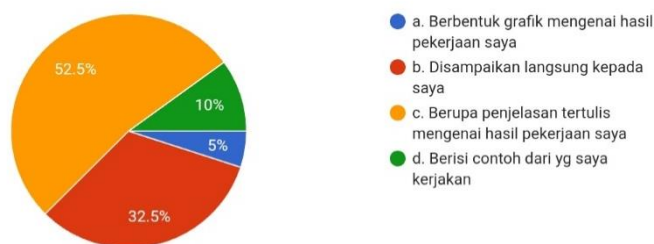
| No. | Question | a | b | c | d |
|-----|---|--------------|---------------|--------------|---------------|
| 9. | I would like to learn a new program on the computer. I would: | 4 (10%) | 15 (37.5%) | 10 (25%) | 11 (27.5%) |
| 10. | When I learned something on the internet, i liked: | 5 (12.5%) | 2 (5%) | 9 (22.5%) | 24 (60%) |
| 11. | I would like to study a new work project. I will ask: | 12 (30%) | 4 (10%) | 9 (22.5%) | 15 (37.5%) |
| 12. | I would like to learn how to take better picture. I would: | 2 (5%) | 21 (52.5%) | 5 (12.5%) | 12 (30%) |

a: visual type, b:aural type, c:read/write type, and d:kinesthetic type

The statement number thirteen which stated, “I prefer the speaker in the presentation that uses”. The result shown that the students who chose answer (a) or visual type were 6 students (15%), then there is no student who chose answer (b) or aural type (0%), for answer (c) or read/write type there were 13 students (12.5%), and the most chosen option were answer (d) or kinesthetic type with 21 students (52.5%).


Figure 13. Pie Chart of Questionnaire Number 13

The statement number fourteen which stated, “I have finished an exam and I want someone else’s feedback. I was expecting that feedback:”. The result shown that the students who chose answer (a) or visual type were 2 students (5%), then answer (b) or aural type there were 13 students (12.5%), answer (c) or read/write type was the most chosen option there were 21 students (52.5%), and who chose answer (d) or kinesthetic type were 4 students (10%).


Figure 14. Pie Chart of Questionnaire Number 14

The statement number fifteen which stated, “I am interested in a house or an apartment. Before visiting I would like:”. The result shown that the students who chose answer (a) or visual type were 11 students (27.5%), then answer (b) or aural type there were 7 students (17.5%), for answer (c) or read/write type there were 7 students (17.5%), and answer (d) or kinesthetic type was the most chosen option with 15 students (37.5%).

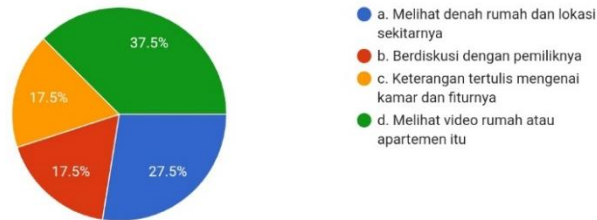


Figure 15. Pie Chart of Questionnaire Number 15

The statement number sixteen which stated, “I would like to assemble an unfinished wooden table set. I most understand if:”. The result shown that the students who chose answer (a) or visual type were 7 students (17.5%), then answer (b) or aural type there were only 1 student (2.5%), for answer (c) or read/write type there were 7 students (17.5%), and who chose answer (d) or kinesthetic type were 25 students (62.5%).

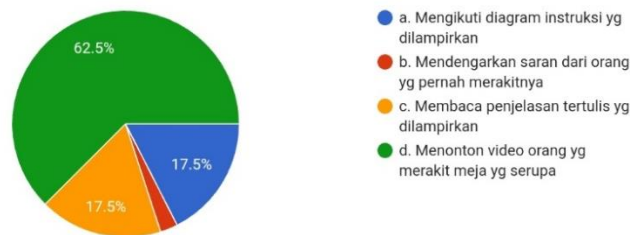


Figure 16. Pie Chart of Questionnaire Number 16

The diagram of the four question in the questionnaire above is shown in table 4

Table 4. Questions number 13 - 16

| No. | Question | a | b | c | d |
|------|--|---------------|---------------|---------------|---------------|
| 13.. | I prefer the speaker in the presentation that uses | 6 (15%) | 13 (32.5%) | 0 (0%) | 21 (52.5%) |
| 14. | I have finished an exam and I want someone else’s feedback. I was expecting that feedback: | 2 (5%) | 13 (32.5%) | 21 (52.5%) | 4 (10%) |
| 15. | I am interested in a house or an apartment. Before visiting I would like: | 11 (27.5%) | 7 (17.5%) | 7 (17.5%) | 15 (37.5%) |
| 16. | I would like to assemble an unfinished wooden table set. I most understand if: | 7 (17.5%) | 1 (2.5%) | 7 (17.5%) | 25 (62.5%) |

a: visual type, b:aural type, c:read/write type, and d:kinesthetic type

Based on all percentage and description of the questionnaire above, the researcher found out that 3 students (7.5%) used visual type, 4 students (10%) used aural type, 3 students

(7.5%) used read/write type, and 30 students (75%) used kinesthetic type, and it can be summarized that most of the college students especially 2019 intakes students of English Education Study Program at Universitas PGRI Kanjuruhan Malang used K type or kinesthetic learning style when they are absorbing information or learning in general. It can be seen on the figure 17 below

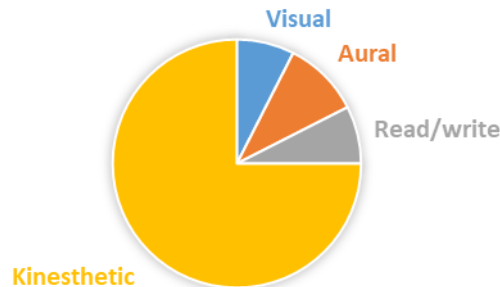


Figure 17. Pie Chart of Students Learning Style

On the other hand, the researcher also did an interview to gain deeper information about students learning style especially for learning English vocabulary. There were seven questions of interview, four questions asked about type of students learning style when they are learning vocabulary, one question asked about students challenges when they are learning vocabulary, one question asked about how students solve their problem when they are learning vocabulary, and one last question asked about what type of teaching strategy that students liked for learning vocabulary and the reason.

The first until fourth questions were asked about type of students learning style when they are learning vocabulary. The first question was for they who are tend to be a read/write (R) type learner. The question was "*Do you like to take notes in a written book when learning English vocabulary and then read them again?*". The result of the interview shown that 20 students (50%) always take a note when they learning English vocabulary. They said that taking a note help them to memorize the new vocabulary that they learned and they can reread the note if they are forgot the vocabulary. On the other side, another 20 students said that taking a note is wasted of time because they only write it on their books but never read it again because they felt it was boring.

The second question was for they who are tend to be an aural (A) type learner. The question was "*Do you learn English vocabulary (vocabulary) by listening to music or radio?*". The result of the interview shown that only 2 students (5%) who are learn English vocabulary by listening to music. They said that was easier to memorized vocabulary by listening to music every day, they also said that by listening to music make them easier to have a good pronunciation. On the other hand, 38 of the students (95%) of the students said that they felt very difficult to memorized vocabulary by music because they do not know the correct spelling or the correct writing of the vocabulary.

The third question was for they who are tend to be a kinesthetic (K) type learner. The question was "*Do you prefer to discuss with your friends to increase your English vocabulary?*". The result of the interview shown that 14 students (35%) liked to learn English vocabulary by doing a discussion with their friends. They said that doing a discussion make them easier to remember the vocabulary because they practice it every day when they met their

friends. The other side, 26 students said that they do not liked discussed with their friends because they felt that their pronunciation was bad and it made them do not confident.

The forth question was for they who are tend to be a visual (V) type learner. The question was "*Do you find it easier to understand and remember English vocabulary if you see objects (pictures, things or people) in real terms?*". The result of the interview shown that 4 students (10%) said that they felt easier to understand and remember the vocabulary when they saw or touch the object of the vocabulary in real term. Somehow, 36 students said it was impossible to learned vocabulary by saw or touch the object, because not all the vocabulary can be found in the form of real term.

The percentage of the four question above is shown in table 5

Table 5. Percentage of student’s learning style in learning English vocabulary.

| No. | Question | Type of learning style | Total |
|-----|---|------------------------|-------------|
| 1. | <i>Do you like to take notes in a written book when learning English vocabulary and then read them again?</i> | Read/write (R) type | 20 (50%) |
| 2. | <i>Do you learn English vocabulary (vocabulary) by listening to music or radio?</i> | Aural (A) type | 2 (5%) |
| 3. | <i>Do you prefer to discuss with your friends to increase your English vocabulary?</i> | Kinesthetic (K) type | 14 (35%) |
| 4. | <i>Do you find it easier to understand and remember English vocabulary if you see objects (pictures, things or people) in real terms?</i> | Visual (V) type | 4 (10%) |

The fifth question was about student’s challenges when they are learning vocabulary. The question was "*What problems do you face if the vocabulary teaching model doesn't suit your learning style?*". The result of the interview shown that 15 students said that they felt difficult if the teaching model does not suit with their learning style, 20 students felt difficult to memorize the vocabulary that they learned and 5 students said that they easy to get bored during class.

Table 6. Percentage of problems faced by students.

| No. | Problems faced by students | Total of responses |
|-----|---|--------------------|
| 1. | <i>Difficult to understand the material being presented</i> | 15 (37.5%) |
| 2. | <i>Difficult to remember or memorize the vocabulary</i> | 20 (50%) |
| 3. | <i>Easy to get bored during class</i> | 5 (12.5%) |

The sixth question was about how students solved their problem when they are learning vocabulary. The question was "*How do you solve the problems you face when learning vocabulary?*". The result of the interview shown that all of the participant has different way to solve the problem. Read/write (R) type learner said that they would like to take a note if they felt the vocabulary that they learned was difficult so they can reread the note anytime they want. Aural (A) type learner said that they would like to asked the teacher to repeated the vocabulary and practice it after classes. Kinesthetic (K) type learner said they would like to asked teacher to repeated the lesson, then discussed with their friends and practice it

continuously at home. Meanwhile, Visual (V) type learner said that they would like to take a note with colorful pen or mark the vocabulary with sticker and then reread the note at home.

Table 7. Percentage of how students solved their problem in learning English vocabulary.

| No. | Type of learning style | Total | How students solved their problem |
|-----|------------------------|----------|---|
| 1. | Read/write (R) type | 20 (50%) | Take a note and reread the note anytime they want. |
| 2. | Aural (A) type | 2 (5%) | Asked the teacher to repeated the vocabulary and practice it after classes. |
| 3. | Kinesthetic (K) type | 14 (35%) | Asked teacher to repeated the lesson, then discussed with their friends and practice it continuously at home. |
| 4. | Visual (V) type | 4 (10%) | Take a note with colorful pen or mark the vocabulary with sticker and then reread the note at home. |

The last question was about what type of teaching strategy that students liked for learning vocabulary and the reason. The question was "*What kind of vocabulary teaching model do you like and why?*". The result of the interview shown that visual type students said that they liked teaching model by using colorful card, because they felt that these strategy was very fun to be applied. Read/write type students said that they like teaching strategy by watching a video with English subtitle, because they can write the new vocabulary that they found on the video. Kinesthetic type students like to discussing or working in group, because it makes them easier to remember when they discussed and practice with their friends at class. Meanwhile, aural type students said they liked teaching strategy by using conversation audio of native speaker, because they can learn new vocabulary and spell the vocabulary correctly.

Table 8. Percentage of teaching strategy that students' liked.

| No. | Type of learning style | Total | Teaching strategy | Reasons |
|-----|------------------------|----------|---|---|
| 1. | Read/write (R) type | 20 (50%) | Watching a video with English subtitle. | They can write the new vocabulary that they found on the video. |
| 2. | Aural (A) type | 2 (5%) | Conversation audio of native speaker | Hey can learn new vocabulary and spell the vocabulary correctly |
| 3. | Kinesthetic (K) type | 14 (35%) | Discussing or working in group. | Makes them easier to remember when they discussed and practice with their friends at class. |
| 4. | Visual (V) type | 4 (10%) | Using colorful card. | They felt that these strategy was very fun to be applied. |

According to (Piaget, 2003) theory, there are four stages of cognitive development. That are:

Table 9. piaget theory of cognitive development

| STAGE | AGE | GOAL |
|-------|-----|------|
| | | |

| | | |
|----------------------|--------------------------|-------------------|
| Sensorimotor | Birth to 18-24 months | Object permanence |
| Preoperational | 2 to 7 years old | Symbolic thought |
| Concrete operational | 7 to 11 years old | Logical thought |
| Formal operational | Adolescence to adulthood | Abstract thought |

Based on four stages of cognitive development above it can be said that college students included to adulthood and it means the use abstract thought when they learnt something. Whereas, the result of the questionnaire shown that from 40 participants there were 30 students who chose kinesthetic as their learning style. They should have been able to understanding the material by using visual learning style, since kinesthetic style is more suitable for children between 2 and 7 years of age than for adults. This indicates that between student's beliefs and teacher's beliefs are incompatible.

CONCLUSION

From the result of the questionnaire, the researcher found out that 3 students (7.5%) used visual type, 4 students (10%) used aural type, 3 students (7.5%) used read/write type, and 30 students (75%) used kinesthetic type, and it can be summarized that the college students used K type or kinesthetic learning style when they are absorbing information or learning in general. On the other side, the result of the interview shown that learning style that used by college students for learning English vocabulary was read/write (R) type. Based on the result of this study and the stages of cognitive development there are incompatible between student's belief and teacher's belief

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