

USING CONCEPT MAPPING TO IMPROVE THE READING ABILITY

Candra Jaya and Mohammad Adnan Latief

STAI Ma'arief Metro Lampung and Universitas Negeri Malang

Abstract: The objective of the study is to develop the concept mapping strategy to improve the reading ability of the second semester students at College of Islamic Studies *Ma'arif* (STAI) Metro-Lampung. A classroom action research was conducted in two cycles each comprising planning, implementing, observing, and reflecting. Observation sheet, field notes, interview, and test were used during the observation of each cycle. The findings of the study revealed that the concept mapping strategy that involves the use of concept mapping format to be filled in based on the comprehension from a Reading text has successfully improved the Reading ability of the second semester students of the English Department at STAI Ma'arief Metro Lampung. The success is indicated by the students' improvement in reading scores and in the improvement of joyful learning interaction. The students enjoyed learning reading using concept mapping and found concept mapping helpful. All the students got above the passing score 60 in Cycle 2.

Key words: concept mapping, reading ability.

Abstrak: Penelitian ini bertujuan untuk mengembangkan strategi peta konsep dalam meningkatkan kemampuan membaca mahasiswa semester dua di Sekolah Tinggi Agama Islam (STAI) Metro-Lampung. Penelitian Tindakan Kelas ini dilaksanakan dalam dua siklus yang terdiri dari perencanaan, pelaksanaan, pengamatan dan refleksi. Tahap observasi di masing-masing siklus menggunakan *observation sheet*, *field notes*, *interview* dan tes. Hasil penelitian menunjukkan bahwa penggunaan peta konsep dengan format yang diisi berdasarkan pemahaman teks bacaan berhasil meningkatkan kemampuan membaca mahasiswa semester dua Jurusan Bahasa Inggris, STAI Ma'arief Metro Lampung. Indikasi keberhasilan dilihat dari peningkatan nilai mahasiswa dan interaksi selama proses pembelajaran. Mahasiswa menunjukkan minat dan berantusias selama proses pembelajaran menggunakan peta konsep. Semua siswa mendapat nilai di atas nilai minimum 60 di siklus ke dua.

Kata-kata kunci: peta konsep, kemampuan membaca.

Reading covers the process of identifying words from the visible letters and identifying words that have different meanings in different sentences (Street, 1993 cited in Hudson 2007:7). Grabe and Stoller (2002:13) propose that reading is an activity which involves the reader to search for information in the text through scanning for getting specific information and skimming for grasping general understanding from the text.

The objective of English instruction in the school system in Indonesia is to develop Indonesian students' reading skill related to English scientific texts. Furthermore, the aim of teaching reading in university is to develop the students' reading proficiency in English (Renandya, 2004 cited in Cahyono & Widiati, 2006:47—48).

Reading is one of the compulsory course programs in English Department at

College for Islamic studies *Ma'arif* (STAI Ma'arif) Metro–Lampung. The problem that appeared in reading classes in STAI Ma'arif Metro Lampung was related to their interest in reading. The lack of motivation is worsened by their difficulty in understanding English texts; they found it difficult to conclude the main topic and the supporting details from the reading texts; they found it difficult to grasp the outline of the information from the reading texts.

The preliminary study done by administering a test, distributing questionnaires, and conducting interview to the students revealed that one student got score 25, four students got scores 30, nine students got scores 35, seven students got scores 40, one student got score 50, and three students got scores 60. The result of interview and questionnaire showed that the students had difficulties in comprehending texts, in following reading classes through translation method, and in giving opinion about concept mapping.

Concept Mapping strategy was selected in teaching reading to improve the reading skill of the students. Concept mapping covers a graphic arrangement describing how the written works are linked with the major and minor ideas (Sinatra, et al. 1986:7). In concept mapping strategy, the learners learn the structural knowledge showing the interre-

lationship of the main concepts (Munthe, 2009:18). Therefore, concept mapping is the meaningful learning strategy when a new concept is inserted into a more inclusive one (Ausubel, 1986). Concept mapping uses four designs, namely; (a) consisting of major concept placed on the top and specific concepts placed beneath the general concept; (b) using arrows to show their relationship; (c) representing the description of the learners' understanding to the topic; (d) deriving from interconnection between the concepts (Munthe, 2009:19).

Four mapping formats outline the pattern for written discourse in concept mapping; (1) narrative mapping format; (2) descriptive mapping format; (3) comparative and contrast mapping format; and (4) classification mapping format (Sinatra et al. 1986:5—6). The classification mapping format is used in this study because the reading curriculum of the second semester deals with classification text pattern.

Classification mapping is the kind of mapping format which is suited for development with expository discourse. This configuration shows the relationships among concepts by displaying how classes or examples are related. The major concept would be the main topic (Pearson & Johnson, 1986). The mapping format for classification is presented in Figure 1.1.

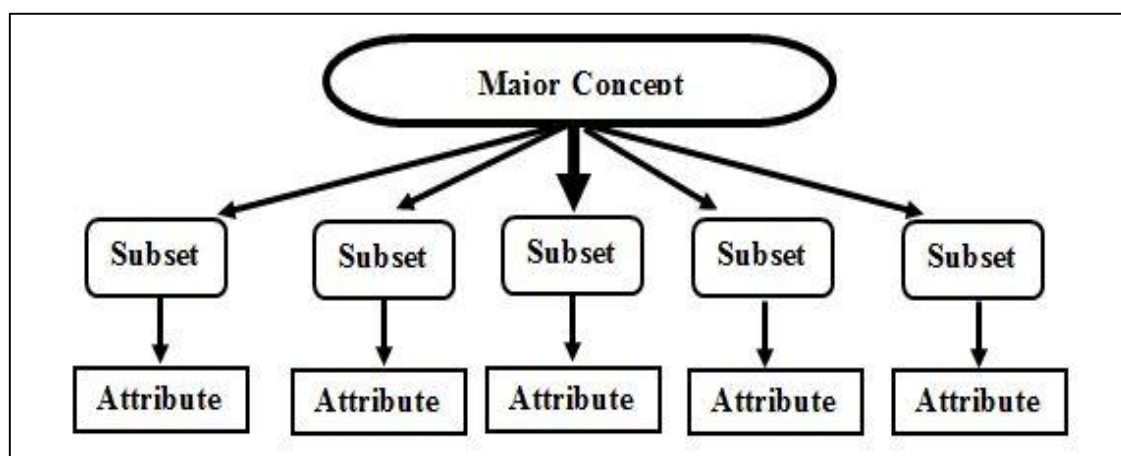


Figure 1.1 Skeleton of Classification Mapping Format (adapted from Sinatra, et al. 1986)

Three elements in the figure that outline the mapping format are (1) major concept node as the topic of the text, (2) subsets which link their relationships to

the topic, and (3) attributes which explain the specific type of each subset.

According to McWhorter (1986:103), classification text is a common way to explain something by dividing the topic into parts and explaining each part as well. Classification in textbook is used to explain a topic that will be grouped into several parts. Meanwhile, Jordan (1990:42) defines that classification text is the classification of something into a group in accord with a criterion or several criteria.

There are three reasons for using classification text in this study: (1) classification text is one of the reading materials in the second semester program, (2) classification text is used to classify the topic into two parts: one main part and several supporting parts (Jordan, 1990:42 & McWhorter, 1986:103) and (3) classification text is based on the mapping design (Pearson & Johnson, 1986). The example

of classification text in classification format in concept mapping is presented in the following example.

Horticulture, the study and cultivation of garden plants, is a large industry. Recently it has become a popular area of study. The horticulture field consists of four major divisions. First, there is pomology, the science and practice of growing and handling fruit trees. Then, there is olericulture, which concerned with growing and storing vegetables. A third field, floriculture, is the science of growing, storing, and designing flowering plants. The last category, ornamental and landscape horticulture, is concerned with using grasses, plants, and shrubs in landscaping.

(Adopted from Guide to College Reading, McWhorter, 1986:103)

The paragraph above has one topic and four supporting details. The mapping format of classification text above can be presented in Figure 1.2.

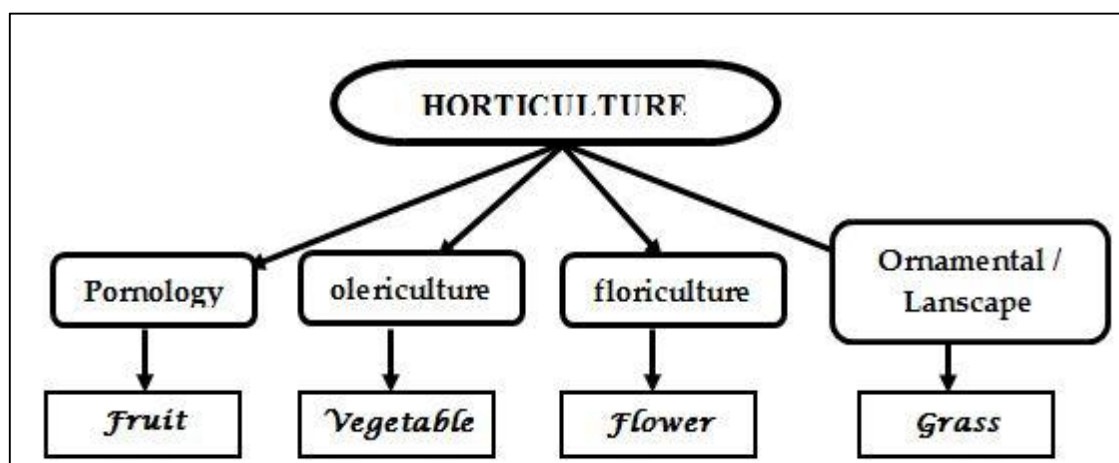


Figure 1.2 The Concept Mapping Strategy in Classification Text Pattern

Figure 1.2 comprises three elements covering the first node explaining “*horticulture*”, the second nodes providing facts or examples to support the first node, and the third nodes explaining each subset such as *fruit*, *vegetable*, *flower*, and *grass*.

Four studies on concept mapping related to writing skill have been conducted. Amal (2004) who investigated the implementation of concept mapping in teaching paragraph writing found that concept mapping could improve the students’ descriptive writing ability.

Wilujeng (2005) found that concept mapping could improve the students’ writing ability, prevent them from procrastinating, improve developmental essay, and aid the students to outline a writing article. Maloho (2008) showed that the implementation of concept mapping improved the eighth grade students’ writing at MTs PKB Manado. Sriemulyaningsih’s study (2010) on the implementation of graphic organizer showed that most students enjoyed using this technique to produce a piece of writing.

Two studies on concept mapping related to reading skill have been conducted. Sinatra et.al.'s study (1986:10—12) showed that the implementation of the four mapping concept mapping could improve the students' reading comprehension of freshmen at St. John's University, Jamaica, New York. Kusen (2011) found two uses of graphic organizer: it could improve the students' reading comprehension in paraphrasing, drawing the main idea and inference and could raise students' participation in class.

Concept mapping strategy was chosen to teach the second semester students to solve their reading problems and to increase their interest in learning reading. Their reading problems to be solved included the problem to determine the topic and the supporting details from the reading text and the problems to grasp the outline of the information from the reading text. Because of the problems, most students' reading achievements were below the score 60, the minimum passing criteria.

The strategy of classification mapping in teaching reading enables the students to conceptualize the construction of mapping model, enables the students to think through the content and to arrange the content conceptually in nodes and linking relationship to help the students' reading comprehension process, and helps the students develop organizational development by arranging nodes which contain information (Sinatra, et all. 1986:12).

The objective of the study is to develop concept mapping strategy to improve the reading ability of the second semester students of English department at College for Islamic Studies "Ma'arif" Metro-Lampung.

The results of this study are expected, theoretically, to provide meaningful contribution to the development of the theory of concept mapping for classification mapping format related to teaching reading by modifying it with the pattern of classification text proposed by McWhorter

(1986:103). Practically, this study provides meaningful contribution to English teachers for the improvement of the teaching reading using concept mapping for classification mapping format as teaching strategy. This study is also expected to be one of the references for other English researchers who wish to conduct similar study in the future.

METHOD

The study was conducted to solve the problem of teaching reading to the second semester students of English Department at College for Islamic Studies "Ma'arif" Metro-Lampung. The design of the study is (classroom) action research.

According to Kemmis & Mc Taggart (1982:22) action research refers to the development of the *self-reflective spiral*, which covers four stages: planning, acting or implementing, observing, and reflecting. In classroom action research the researcher acts as a teacher whose job is to increase the quality of teaching and as a researcher whose job is to develop innovative learning strategy (Latief, 2012:87). Planning refers to classroom learning strategy or learning scenario, acting refers to implementing the learning scenario to solve classroom problem, observing refers to data collection to see how well this learning strategy has solved the problem, while reflecting refers to the data analysis by comparing the criteria of success and the result of observation (Latief, 2012:48—152).

The planning in this research covers the concept mapping learning strategy. In this strategy, the teacher begins by explaining the model of concept mapping which consists of major classification, subset notes, and attribute nodes to the students using power point presentation or describing on a whiteboard, then dividing the class into subgroups. The students are asked to read the reading texts provided. A handout containing the concept mapping format with blank boxes is distributed to each group. While reading, the stu-

dents are asked to work in groups to fill in the node (in the handout) with the topic based on the reading text, to identify supporting information and to fill in the nodes (in the handout) with the supporting information, to identify the examples of supporting details and to fill in the nodes (in the handout) with the examples of supporting details, and to mention the names of the topic, supporting information, and the examples of supporting details. After the students have finished working on the concept mapping, they have to submit their mapping format. Then, one group of the students are asked to present their works of mapping format using power point presentation. The class and the teacher give feedback to the presentation.

Implementing stage was done by applying the teaching scenario that had been planned for each meeting. The instructional activities were conducted by the researcher and was assisted by the collaborator, one of the English teachers in STAI Ma'arif Metro. The collaborator observed the learning activities in each meeting. The implementation was conducted in two cycles covering three meetings in Cycle 1 and two meetings in Cycle 2. Five different reading text topics were used for the five meetings. For the first meeting in Cycle 1 (May 25, 2011) the reading text topic was *Hotel & Anthropology*, for the second meeting in Cycle 1 (June 1, 2011) the reading text topic was *Bullfighting & Machine*, for the third meeting in Cycle 1 (June 8, 2011) the reading text topic was *Motivation*, for the first meeting in Cycle 2 (June 15th, 2011) the reading text topic was *Motivation*, and for the second meeting in Cycle 2 (June 22nd, 2011) the reading text topic was *Discipline*. In each meeting the concept mapping strategy (as described in the planning) was applied.

Observing was done to collect data related to how well the learning strategy solved the problem. Two kinds of data collected were (1) the students' reading

scores collected using a reading test and questionnaire to students and (2) the classroom atmosphere collected using observation, interview, and field-notes.

Reflection was done to analyze data to determine how far the data collected showed the success of the strategy in solving the classroom problems by comparing the data with the criteria of success (Latief, 2012:153). The data consisted of the results of students' reading test (to assess the students' reading achievement), and observation, questionnaire, interview, and field-notes (to assess the classroom atmosphere). The results of the reading 2 instruction using the concept mapping strategy were expected to reach the test score, 60< and the joyful learning interaction among students and the teacher. When the results of data have achieved the expected target, the learning strategy has proved to solve the learning problem. But when the data has not successfully achieved the expected target, the learning strategy will be revised for the next cycle.

RESEARCH FINDINGS

The findings of the study are taken from the result of Reading Comprehension test, observation, field notes, interview, and questionnaire in Cycle 1 and Cycle 2.

From the first meeting of Cycle 1, the result from the students' reading test shows that 6 of the students got the scores 57, 10 of the students got scores 60, and 9 of the students got scores above 65. The result of the observation and field-notes shows good learning reading interaction among the students (while discussing important information to determine the topic and supporting details, to fill in the diagram of concept mapping and to share their ideas for determining important information from the given text) and interaction between students with their teacher (to confirm their works with their teacher).

The interview conducted after the second meeting of Cycle 1 shows that (1)

concept mapping is a quick concept to get topic, main idea, and supporting details, and (2) the students enjoy learning reading using concept mapping strategy. The finding was confirmed by the result of interview after the third meeting that students (1) find it easy to use concept mapping in understanding a text, and (2) feel comfortable and happy in learning reading using concept mapping.

Revisions were done on learning scenario and learning materials. In Cycle 1, the handouts of concept mapping (consisting of an empty concept mapping format) were distributed to the students after they finished reading the text. Meanwhile, in Cycle 2, the handouts of concept mapping were distributed to the students before they read the reading text. In Cycle 1, the reading exercises did not specifically ask the students to find the main idea and supporting details; meanwhile, in Cycle 2, the reading exercises were focused on finding the main idea and supporting details.

The findings from Cycle 2 reflect the students' achievement (14 students got the score 66, 7 students got scores 74, and 4 students got scores 83) in addition to the conducive academic atmosphere during the process of learning using concept mapping strategy. (See the appendix for the sample of students' work). The interaction among students in discussing reading material, in sharing their ideas about the text and between the students and their teacher to consult their works was getting more intensive. The classroom atmosphere makes the students fully concentrate on the reading activities and feel happy and comfortable in the process of learning reading. The students believe that concept mapping is effective in learning reading, helps the students get outline of the information of the reading texts, and so makes it easy for the students to comprehend a text. The questionnaire shows 47% of the students "*strongly agree*" and 53% of the students "*agree*" for the benefit of

using concept mapping strategy in learning reading.

The finding from Cycle 2 shows the success of the strategy in improving the students' academic achievement and in developing the expected conducive learning atmosphere.

DISCUSSION

This part discusses how the success of the strategy of concept mapping in improving the students' learning reading achievement and in creating joyful learning atmosphere relates to the existing theory of concept mapping.

The success of the concept mapping strategy in improving the students' learning interaction among them to discuss important information and the students' learning interaction to consult their works with their teacher confirms the research finding by Kusen (2011:103) who investigated the concept mapping implementation to raise the students' participation in learning reading. The success of the concept mapping strategy in helping students infer the information structure using concept mapping format confirms Sinatra et al.'s finding (1987:4) that concept mapping which covers graphic arrangement describing how the written works are linked with the major and the minor ideas is an effective semantic visualization.

The success of the implementation of the concept mapping strategy also confirms several other previous studies. The study by Munthe (2009:19) that concept mapping strategy which consists of major concept on the top and specific concept beneath the general concept presented by using arrows to show its relationship is very effective in improving students' reading comprehension. The study by Sriemulyaningsih (2010) reveals that concept mapping enables the students to feel the joy of learning. The study by Kusen (2011:87) found that concept mapping could improve the students' reading comprehension in finding main idea, paraphrasing, and inference. The study by

Sinatra et al. (1986) found that concept mapping enabled the students to synthesize experiential information and to reconstruct the nodes by filling the information with their own ideas based on the text.

The implementation of concept mapping strategy in learning reading in this present study has shown success in improving the students' learning achievement and in creating joyful learning atmosphere; the students feel comfortable in learning reading using concept mapping, the students have good learning reading interaction among them and with their teacher, concept mapping provides guidance for students to understand the text in learning reading, and concept can help students infer the outline of information to help improve the students' reading achievement.

CONCLUSIONS AND SUGGESTIONS

Conclusions

The conclusions answer the question how the concept mapping strategy can improve the students' reading ability of the second semester students at College of Islamics studies *Ma'arif* (STAI Ma'arif) Metro-Lampung.

The concept mapping strategy to improve the students' reading achievement begins with teacher's displaying the reading text and the diagram using power point presentation to explain to the students how to implement concept mapping strategy in learning reading. The teacher gives a model on how to guess which information from the reading text refers to major classification, subsets, and attributes from the diagram of concept mapping. The teacher then divides the class into subgroups. The students are asked to read the reading texts provided. A handout containing the concept mapping format with blank boxes is distributed to each group. While reading, the students are asked to work in groups to fill in the node (in the handout) with the topic based on

the reading text, to identify supporting information and to fill in the nodes (in the handout) with the supporting information, to identify the examples of supporting details and to fill in the nodes (in the handout) with the examples of supporting details, and to mention the names of the topic, supporting information, and the examples of supporting details. After the students have finished working on the concept mapping, they have to submit their mapping format. Then, one group of the students are asked to present their works of mapping format using power point presentation. The class and the teacher give feedback to the presentation.

The use of concept mapping has proved very effective in improving the students' reading comprehension skill and in developing conducive reading classroom atmosphere.

Suggestions

It is suggested that teachers use concept mapping as an alternative teaching strategy when teaching a reading text using classification text pattern, because it has proved effective in training the students' skill of finding topics, main ideas, and supporting details. It is also suggested that other researchers conduct another research about teaching reading with different models of concept mapping formats such as, narrative, descriptive, and comparative and contrast format or other English skills such as, writing, speaking, and listening.

REFERENCES

- Amal, R. 2004. *The Implementation of Concept Mapping in Improving the Second Year Students' Ability in Writing Descriptive Paragraphs*. Unpublished Master Thesis. Malang: State University of Malang.
- Ausubel. 1986. Using Semantic Mapping after Reading to Organize and Write Original Discourse. *Journal of Reading*, 30 (1): 6

- Cahyono, B.Y., & Widiati, U. 2006. The Teaching of EFL Reading in the Indonesian Context: the State of the Art. *TEFLIN Journal*: 17 (1) 50-51.
- Grabe, W., & Stoller, F.L. 2002 *Teaching and Researching Reading*. Harlow: Pearson Education
- Hudson, T. 2007. *Teaching Second Language Reading*. New York: Oxford University Press
- Jordan, R.R. 1990 *Academic Writing Course*. Quarry Bay: Thomas Nelson.
- Kemmis, T. & McTaggart, R. 1982. *The Action Research Planner* (3rd ed.) Victoria: Deaken University Press.
- Kusen, M. 2011. *Using Graphic Organizers to Improve Students' Reading Comprehension*. Cahyono, B.Y & Mukminatien, N. (Eds), Techniques and Strategies to Enhance English Language Learning (p. 92-93) Malang: State University of Malang Press.
- Latief, M.A. 2012. *Tanya Jawab Metode Penelitian Pembelajaran Bahasa* (2nd ed). Malang: Penerbit Universitas Negeri Malang.
- Maloho, K. 2008. *Improving Students' Writing Ability of the Eight Grade Students of PKB Manado through Concept Mapping*. Unpublished Master Thesis. Malang: Universitas Negeri Malang.
- McWhorter, T.K. 1986. *Guide to College Reading*. Boston: Little, Brown.
- Munthe, B. 2009. *Design Pembelajaran*. Yogyakarta: Pustaka Insani Madani.
- Pearson & Johnson. 1986. Using Semantic Mapping after Reading to Organize and Write Original Discourse. *Journal of Reading*, 30 (1): 6
- Sinatra, R., Gemake, J.S., & Morgan, N.W. 1986. Using Semantic Mapping after Reading to Organize and Write Original Discourse. *Journal of Reading*, 30 (1): 4—12.
- Srimulyaningsih, M.J.K. 2010. *Using Graphic Organizers to Improve Students' English Writing Skill in the Process of Communicating at the Fifth Grade Elementary School of Sekolah Citra Berkas Surabaya*. Unpublished Master Thesis. Malang: The State University of Malang.
- Wilujeng, S. 2005 *Improving the Students' Writing Skill through Mind Mapping*. Unpublished Thesis Malang: The University of Malang.

APPENDIX 1

The Sample of Students' work.

Handout 4

Short Text 2

There are many ways of communicating that does not utilize language. Cries of warning and aggression, of contentment and affection are forms of communication not limited to men. Or, on the human level, the dirty look, which may convey world of meaning does not involve language. Gestures, too, are forms of communication, although these seem always involved with culturally defined habits. The nod of the head means "yes" to American but a single nod in the Middle East is a clear "no". Plainly, there are many ways of conveying messages, of which language is but the major one for human beings.

(Adopted from Extensive Reading: Top-Down Reading, 2008:20)

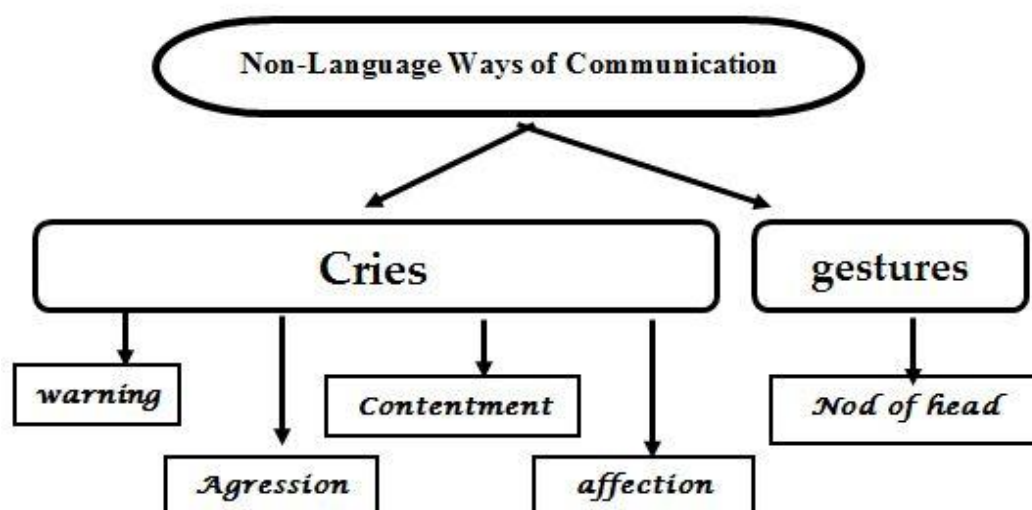


Figure 1.3 The Sample of students' work on Short Text 2 Handout 4