THE EFFECT OF MODELS OF READING AND STUDENTS’ ATTITUDE ON STUDENTS’ ACHIEVEMENT IN INFERENTIAL READING COMPREHENSION

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Abstract: The objectives of this study were to investigate whether (1) Achievement in Inferential Reading Comprehension which taught with Miscue Analysis is higher than Interactive Compensatory Model (2) Achievement in Inferential Reading Comprehension with Positive attitude is higher than students’ with negative attitudes and (3) Interaction between Models of reading and students’ attitudes on the students’ Achievement in Inferential reading comprehension. A quantitative research was carried in a combination with an experimental and descriptive research. Two hundred and forty students in semester 5 of 2007/2008 Academic Year were chosen as the sample by using random sampling technique, 90 students were divided into three groups of 30 (2 groups as experimental group and 1 group as control group). First, a pre-test was administered for all groups, then the first experimental group was treated by using Miscue Analysis, the second experimental group by using Interactive Compensatory Model, and the control group by using traditional method or conventional way. After 12 meetings, a post-test was conducted for all groups to evaluate the students’ achievement. Finally, the researcher conducted questionnaires and indepth interview to identify students’ attitude toward inferential reading comprehension. The data were analyzed by applying two-way ANOVA for the experimental research. It was also computed by using the SPSS and MINITAB Statistics Softwares. The result of testing the first hypothesis shows that $F_{\text{observed}}$ is greater than $F_{\text{table}}$ ($7.858 > 3.98$). It was found that Miscue Analysis is the most effective method. It can be seen from the highest one among the methods and strenghten by using Neuman Keuls formula. In conclusion, the Miscue Analysis and Interactive Compensatory Model significantly affected students’ inferential reading comprehension. Based on the questionnaires data, after converting the students’ questionnaires result into numerical data using Lykert-type scale, it was found that students’ had positive attitude toward reading in the “positive highly” category, in the value of 131 between 100-150. This analysis followed by comparing the results of questionnaires with students’ post-test results manually by using Pearson formula and by MINITAB analysis. It was found that there was positive correlation between students’ attitude and students’ inferential comprehension achievement. In other words, students’ attitude had strong relationship with students’ reading inferential comprehension achievement. It is to say that the more positive the students attitude, the better their inferential reading comprehension will be.

Keywords—Miscue Analysis, Interactive Compensatory Model, Inferential Reading Comprehension

I. INTRODUCTION

Reading is one of the basic communicative skills which considered as a very complex process. It is not only the process of eye movement on printed materials, but also
the process of understanding the text to obtain the information. Reading Comprehension refers to unobservable mental process. As a process, it is an internal mental process that cannot be observed or studied directly. Consequently, it is difficult to obtain precise information about the events that take place in mind when people comprehend a reading text. It is a process of making sense on written ideas through meaningful interpretation and interaction with a technique of language.

The ability to read well requires an application of a special knowledge to be the most stable and durable of the second language (Bernhardt: 1991). Learners may use their productive skills, yet still be able to comprehend texts with some degrees of proficiency. Reading, whether in the first or second language context, involves the reader, the text, and the interaction between the reader and the text. Although reading in (L1) shares numerous important basic elements with reading in a second or foreign language, the processes also differ greatly. While it is true that second language researches found (L2) reading processes have similarities, it is also important to recognize factors that influence the successes or the failures of reading comprehension. Reading comprehension is a process that mostly found as the difficult one for the students whose English as (L2).

In most cases, students can read the text without understand the meaning, especially the implicit ones. For such kind of text, the inferential skill is needed. Another problem that may cause failure in reading comprehension is because students fail to detect what problems they have, apart from vocabulary mastery. A part from this internal problem, students sometimes struggle in building their reading comprehension because of some external factors, such as their home environment, parents and family support, and their own attitude toward reading.

Based on the teachers’ experiences in teaching and learning practice, it was found that many students could read the words in a passage perfectly but was unable to answer questions that call for making inference or identifying the main idea of the text in second language (L2). This fact shows that students failed to master inferential comprehension. Inferential comprehension is a type of communication in which a reader has to infer or communicate in which a reader implied meaning from a reading material.

In spite of the internal comprehension which seems to be more difficult for the students, the teachers have to search for some kind of effective methods that will help them in solving the difficulties. For such reasons, Miscue Analysis and Interactive Compensatory Model of the Goodman’s and Stanovich’s Reading Process, can be selected as the alternatives which is proposed in this study.
Due to the problems of reading, it can be said that reading is a vital skill to be mastered by the students or other users of English. However, to be effective readers it might need many strategies and methods. Thus, it is not an easy task there are factors affecting one’s success, such as, the complexities of the process that might lead the reader to be an effective reader or to be a failure one. It might also come from students’ internal and external motivation, such as learning environment, home situation, teachers’ performances and also the methods itself.

This research is designed into two types of researches. It is focused on proposing two methods in increasing students’ inferential comprehension. The two methods will be compared with the conventional way in an experimental research design.

Due to the assumption that students have positive attitude toward learning the inferential comprehension through the methods, the researcher continues the investigation by applying a descriptive research as the secondary research to support the primary one, that is the experimental. It is done this way in order to improve the quality of the research, because as stated by Johnson & Christensen in Tsolidis (2004: 43) by combining two (or more) research methods with different strength and weakness in a research study, can make it less likely that you will make a mistake. In other words, if one combines two different researches with each of their weaknesses and strength, they can help to cover each to avoid overlapping or poorness of the research.

The reason to combine this research is based on the intention of describing a wider understanding toward the topic. In doing so, on one hand, the teachers are easy to help students in increasing their inferential reading comprehension, and on the other hand, by conducting another investigation about students’ attitude, it is hope that teachers and students, and also parents are aware of some factors that can improve and decrease the students’ interest in reading and easier to identify what problems might be a challenge to the students in increasing their reading inferential comprehension.

The problems of the study can be stated as follow:1) Do Miscue Analysis and Interactive Compensatory Model significantly affect the students’ mastery in inferential reading comprehension? 2) To what extent do students’ attitudes influence the students’ inferential reading comprehension? 3) Which of the two models is the most effective?

In carrying out this study, and in line with the problems of the study, the objectives of this research are: 1) to find out whether or not Miscue Analysis and Interactive Compensatory Model significantly affect the students’ inferential comprehension mastery. 2) to find out the extent of the students’ attitudes give influences to the students inferential
comprehension mastery. 3) to find out the most effective models in reading comprehension for the college students.

This study is limited only to the use of Miscue Analysis and Interactive Compensatory model in mastery the second taxonomic level of comprehension, namely inferential comprehension. There are four taxonomic levels of Comprehension, based on Barret (1974) as quoted by Heilman et al. (1981:242) namely: literal comprehension, inferential comprehension, evaluation, and appreciation.

This study is also limited to the use of nine specific tasks of inferential comprehension for practical reasons, they are: visualizing unstated supporting details, describing sequences which not specifically stated, inferring cause and effect relationships, inferring events and information which are not specifically described, inferring pronoun reference and drawing conclusion.

After completing this study, the significance which can be obtained by the teachers and the students are: 1) As provide alternative ways in solving students and teachers’ problems in learning and teaching reading comprehension, especially inferential comprehension skill. 2) As valuable inputs in teaching and learning English as processes. 3) As contribution for another teachers because both models can be assured to be promoted in the process of mastering inferential comprehension. 4) As information contribution for the texts that researchers give to an individual leaner and for one who is interested in learning how to teach inferential reading comprehension by using alternative models.

These study findings are expected to be useful for the theoretical and practical development, especially in the focus on improving the students’ learning achievement as an important qualification which is demanded to fill up the job vacancies in the work fields of English teachers to improve students’ reading comprehension by these alternative ways and also for further researchers who are interested in language use and teaching - learning research.

This study is also expected to provide information, which may have theoretical as well as practical values for English language teachers. Theoretically, the result of this study will add what has been found in the area of English teaching as a foreign language. Meanwhile, practically, it will give valuable information about English language teaching strategies in their efforts to make the decision which of the best method and approach in developing the students’ reading comprehension.
II. LITERATURE REVIEW

Miscue Analysis

Miscue Analysis (MA) was originally developed by Ken Goodman for the purpose of understanding the reading process. It is a diagnostic tool that helps teachers gain insight into the reading process. The term miscue was initiated by Ken Goodman to describe an observed response in the reading process that does not match to the expected response. Goodman uses the term "miscue", rather than "error" or "mistake" to avoid value implications. He states that the departures from the text are not necessarily a negative aspect of the reading process but rather “windows on the reading process”.

Miscue Analysis (MA) procedures include the collection and examination of a single and complete oral reading experience followed by a retelling. The procedures and standards are outlined in both the Goodman Taxonomy and the Reading Miscue Inventory (Goodman, Watson, & Burke, 2005).

Miscue is an unexpected call out of a word or piece of text. A miscue "says" something other than proper printed text. Some may label miss-calling as an error. However, the term error implies something negative. The fact that an unexpected response can be heard by the listener tells us that the listener is also transacting with the text. Miscue Analysis (MA) respects the choices made by readers and views miscue as "a window into the reader's mind." This window is an opportunity for both teachers and students.

Miscue Analysis (MA) focuses specifically on the "sign system" used by the reader. The three cue systems used in the miscue analysis are the same as those used to describe the work done by the reader in running the notes. Sign systems are labeled slightly different, as graphic phonetic systems (visual cues in a running record), syntactic systems (syntactic cues or structures in a running record), and semantic systems (meaning cues in a running record).

Miscue Analysis (MA) differs significantly from other laboratory-centered or experimental diagnostic and evaluative instruments in that miscue research studies reading in as natural a condition as possible, with readers orally reading authentic and complete stories they have not been exposed to before. In this way, miscue analysis provides a naturalistic viewpoint and the resulting analysis of reading proficiency is both qualitative and quantitative.

Miscue Analysis (MA) is a tool to look closely at the types of reading strategies used by readers. The types of miscues that readers make when reading from a text will give listeners clues about how familiar or unfamiliar readers are with finding content, and how
easy or difficult it is for them to find text to read. Reading tests don’t provide this kind of information because reading is more than just looking closely at each letter and word.

Miscue Analysis (MA) refers to the process of diagnosing children’s reading. It is based on the premise of analyzing the mistakes that children make during oral reading. When a child reads orally, the teacher learns a lot about whether the child understands what is being read by looking closely at the types of mistakes the child makes. By using the Miscue Analysis method, a teacher/parent will be much better able to help children who have difficulty.

Miscue Analysis (MA) is a process where one analyzes the strategies the reader uses when the reader gets stuck. It is what most educators use to support a struggling reader or a reader at risk. The best teachers of reading will use Miscue Analysis to determine the areas of weakness in a reader and then teach strategies for that area of weakness. For instance, as students read:

- Do they skip words when the words are unfamiliar?
- Do they look to the pictures for cues?
- Do they try to sound out the word?
- Do they use context to guide them?

Goodman (2005) who first coined the term 'Miscue Analysis' based on his approach to three 'cueing' systems underscores the reading process as:

- Graphics/phonics – the relationship of letters to the sound system
- Syntax – syntax/grammar system
- Semantics – system of meaning

Goodman (2005) is eager to get away from the notion that any deviation from the words in the text must be bad. Miscue patterns can indicate a reader's strengths and weaknesses. If we combine the miscues with what the learner can tell us about how they were made, then we can begin to understand what really happens when a text is read.

Miscue Analysis (MA) compares observation with expected responses as subject read a story or other written text orally. It provides a continuous basis of comparison between what the readers overtly do and what they are expected to do. A key assumption is that whatever the readers do is not random but is the result of the reading process, whether successfully used or not. So what the readers do results from limited but complex information source and interactive but limited alternatives for their use.

When readers produce responses, which match our expectation, we can only infer successful use of the reading process. When miscues are produced, however, comparing
the miss matches between expectation and observation can illuminate where the reader have deviated and what factor of input and process may have been involved.

**How Miscue Analysis Is Used**

Miscue Analysis (MA) is a student’s diagnosing reading process based on the premise of analyzing the errors that the student made during oral reading. When a student reads orally, the teacher will recognize whether the student makes sense of what is being read by looking closely at the types of errors the student made. By using the miscue analysis models, a teacher will be able to assist those students who experienced difficulties in reading. Miscue analysis can be regarded as an important reading test that can't give this type of information.

**Who is Miscue Analysis used for**

Miscue Analysis (MA) is used for students who are independent readers. Most studies conducted using miscue analysis use readers in grade three or above, but there is no formula for knowing exactly when a student is ready to engage in these assessments or interventions. The teacher suggests that a student is ready to participate when he or she can read foreign material without the support of the teacher. Of course errors can occur at an early stage, but without basic knowledge of reading, error analysis does not provide a window into the choices students make while reading.

Miscue Analysis (MA) takes a lot of time from the teachers. Because of this investment of time, a teacher may not select all of his students to use miscue analysis. Generally, this procedure is best reserved for struggling readers. Because there is a diagnostic quality to this assessment, miscue analysis is best used when a teacher is not sure exactly why a student is struggling with reading.

**The Six Types of Miscues**

Miscue Analysis (MA) is a powerful diagnostic process to use as a child reads aloud to you. There isn't a reading test available that will give you the information that miscue analysis will. There are usually 6 types of miscues (errors readers make) and if you analyze the reader's miscues, you'll have a better understanding of where the issues lie and ultimately a better understanding of how to support the reader.
Correction

The student will realize that he/she has made an error and repeated the section/word without prompting during oral reading.

Insertion

The student will insert a word or two that isn't exist on the page while the student is reading.

Omission

The student will leave out a word(s) during the oral reading.

Repetition

The student will repeat a word or portion of the text.

Reversal

The student will reverse the order of the print or the word. (Will say something like: of, for, and etc)

Substitution

The student will insert a different word instead of reading a specific word.

Some Rules for Using Miscue Analysis

There are some rules for using Miscue Analysis to be applied by a teacher. They are:

● Using the unfamiliar text (not something that the student knows from memory).
● Don’t use Miscue Analysis on beginner readers
● Give some choices to the students in selecting a reading text.
● Find a quiet place without interruption for the reader, it can be very useful for the teacher to record the student with an opportunity to listen to the passage more than once.
● Copy the selection words, phrases or sentences that the student will read, use this to record the miscue Analysis.
● Recording each miscue. (Use hyphens for skipped words, record each substitution (i.e., went for when), use ^ for insertion and record the word(s), circle omitted words, underline repeated words, you may also want to use // for repeating words.

Procedures of Evaluating Miscue Analysis in Reading Process

Correction

A reader should do self-correct. Don’t ever let the readers reading too fast to avoid
Dina Irmayanti Harahap, The Effect of Models… 145

miss-correcting to be accurate reading. It makes the reader often doesn't see himself as a 'good' reader.

2.11.5.2 Insertion

A reader should insert word detract from the word meaning. It means that the reader makes sense of the word but also insert the word. If the reader reads too fast and make the insertion like something used for finish this should be addressed.

2.11.5.3 Omission

A reader should determine the meaning of the passage whether it is affected or not by using words omission. If it is not, omissions can also be the result for not focusing or reading too fast. It might be the sight towards vocabulary is weaker. When words are omitted it means the words have weaker visual tracking.

2.11.5.4 Repetition

Sometimes a reader does lots of repetition of words in case of the text level is too difficult. This repetition happened because the readers feel uncertain about the words, so they make repetition of the words in order to the passage makes sense.

2.11.5.5 Reversal

A reader should be careful for altering meanings. Many reversals happened to young readers with high frequency words – of, for, and etc.

2.11.5.6 Substitutions

A reader sometimes used a substitution in order to make sense the passage or make the passage into logical substitution. It happened because they don't understand the word is being read.

2.12 Preparation for Miscue Analysis

2.12.1 Selecting the Text

Select a complete text that the student has never read before. Choose a text that is one level above than the independent reading level has been determined. By choosing the higher reading level, the teacher can observe about 25 miscues analysis. A complete selection should use and contain at least 500 words. The teacher should either choose a text
that has been downloaded from a reputable site with leveled texts (such as Reading A-Z) or use a classroom text that has a known level.

2.12.2 Preparing the typescript

The teacher needs a copy of what the student is reading. But, the copy that the teacher has will also be used for recording miscues, so the format will be looked like a different authentic piece held by the student. This document will be served as what is called the “typescript.”

If a text is downloaded from the web, so the teacher may simply copy and paste the text into a word processing document, then use the word processing application to numbering the sentences and adding double or triple spacing. It is also helpful if the side margins are made large on the typescript for notes on multiple attempts made by the reader. If a downloaded text is not available, the teacher should be typing the section to be read, then numbering the sentences and setting the margins as described above. In immediately, a teacher may copy the pages to be read in order to have something and create a typescript after the reading session has occurred. This particular action is not be recommended, but it may be needed when a teacher was pressed for time and a student is ready to reading at a level for which materials have not been prepared.

Interactive Compensatory Model

Interactive-compensatory model of reading was developed primarily to explain developmental and individual differences in the use of context to facilitate word recognition during reading. The work leading up to the model is summarized. One major implication derived from these studies and other recent research is that the Goodman-Smith psycholinguistic "guessing game" is an inaccurate conceptualization of individual differences in context use. When a context is adequately instantiated, less-skilled readers utilize context to facilitate word recognition just as much more than skilled readers.

Stanovich’s ‘Interactive-Compensatory Model’ of the reading process is now more widely accepted among reading researchers than Goodman’s model. Stanovich points out that reading involves a number of interactions with the text. One of the most important of these is the reader’s allocation of ‘processing capacity’ to the text. Fluent readers need less processing capacity for word recognition, freeing more capacity for comprehension. If there are problems with word recognition, more resources are allocated to that part of the reading process, at the expense of some capacity for comprehension.
For the reading theorists who recognized the importance of both the text and the reader in the reading process, an amalgamation of the two emerged the interactive approach. Reading here is the process of combining textual information with the information the reader brings to a text. The interactive model stresses both what is on the written page and what a reader brings to it using both top-down and bottom-up skills. It views reading as the interaction between reader and text.

Rumelhart (2000: 98) states that the Interactive Model is a linear model that passes information in only one direction and which does not allow information contained in higher stages to affect lower stage processing contains serious drawbacks.

Because, the need for interactive models that allow the information contained in higher processing stages to influence the analysis that occurs at lower stages, when errors in word recognition are made, word substitution will retain the same part of speech. Replaced words, which will make it difficult for the reader to understand (orthographic knowledge), semantic knowledge affects word perception. (Semantic knowledge), syntactic perception for a particular word depends on the context in which the word is embedded (syntactic knowledge), our interpretation of what we read depends on the context in which a segment of the text is embedded (lexical knowledge).

Stanovich (1999: 186) states: The Interactive Compensation Model is that top-down processing may be easier for poor readers who may be slow in word recognition but have knowledge of the topic of the text. Bottom-up processing may be easier for readers who are good at word recognition but don't know much about the topic of the text.

Stanovich's (1999) model states that each stage can communicate with the others and each reader can rely on better developed sources of knowledge when other sources are temporarily weak. To achieve precise fluency and accuracy, the developing reader should work to perfect bottom-up recognition skills and top-down interpretation strategies. A good reading (i.e. a smooth and accurate reading) can only result from the constant interaction between these processes.

The Interactive-compensatory model suggests that poor readers use contextual information to compensate for weak word recognition skills. The model has two major components: Contextual facilitation of word perception and Facilitation of comprehension. Contextual facilitation of word perception is not a usual part of skilled normal reading; in fact it would be a waste of cognitive capacity for good readers who read with easy and in an automatic fashion to even consider using this strategy. Contextual facilitation or facilitation of word perception is useful only to poor readers to compensate for their
difficulties in decoding. Good readers perceive words using Data Driven strategies, saving cognitive capacity for comprehension monitoring. As readers develop more data-driven strategies they use phonetic strategies to self-correct errors and often times would produce more “nonsense” response in attempt to gain phonetic correctness.

The purpose of the interactive compensatory learning model is to provide a framework for understanding and improving classroom learning. Although speculative, this model is consistent with a wide variety of empirical data. Figure 2.1 shows a schematic diagram of ICLM. The model includes five main components: cognitive ability, knowledge, strategy, metacognition, and motivation. Regulatory knowledge and skills such as strategy and metacognition are combined into one comprehensive module due to the close relationship between the three components included. Imagine three interrelated modules in the model: cognitive abilities, knowledge and regulation, and motivational beliefs. Each of these modules includes a number of subcomponents. For example, the motivational beliefs module includes self-efficacy and attribution beliefs. Each module contributes directly or indirectly to learning, and compensates for potential deficits in other components.

![Figure 1. Interactive Compensatory Learning Model (ICLM)](image)

The model postulates that cognitive abilities are linked to learning either directly or indirectly through knowledge and regulation. Strategy and metacognition usually develop together and are closely related. Knowledge and regulation are related to motivation. Cognitive ability is not related to motivation. Knowledge, regulation and motivation are
each directly related to learning. In the next section of this paper, we provide a more explicit rationale for the proposed structural relationship between the components.

Components within the Interactive Compensatory Learning Model (ICLM)

Cognitive Ability

There are many considerable debates that appeared about cognitive ability. For present purposes, the researcher focuses on three families of theories related to cognitive abilities. These include psychometric, modular, and componential theories, respectively.

Psychometric theories emerged early in the study of human abilities. These theories usually postulate one or two general components of intelligence. Writing at the turn of the century, Spearmen proposed one general type of intelligence he referred to as g (i.e., a general intelligence factor). Spearman and many other early theorists assumed that general intelligence was heritable differences among people. Spearman believed that general intelligence was instrumental in all intellectual endeavors across all possible domains.

Recent psychometric theory has distinguished between two types of general intelligence, Cattell (1987). One type is usually referred to as fluid general intelligence, and refers to abstract reasoning abilities that are unaffected by training and education. Examples of fluid general intelligence include abstract analogical and spatial reasoning, number series, and concept formation tasks. The second type of intelligence is known as crystallized general intelligence, which refers to knowledge and skills learned in formal settings. Examples include mathematical knowledge and reasoning skills, reading ability, vocabulary knowledge, and most types of domain knowledge.

Modular intelligence theories usually propose several different types of intelligence that function independently of each other. Gardner’s (1983) theory of multiple intelligences provides a good example. In its initial form, Gardner proposed seven types of intelligence that are considered physiologically and intellectually different from the other six intelligences. The seven intelligences include mathematical, verbal, spatial, kinesthetic, musical, interpersonal, and intrapersonal skills. Gardner argues that every type of intelligence can be trained in educational settings. Also, each intelligence should be trained separately because programs that promote one type of intelligence (for example, math) may have little or no impact on the other intelligences.

Component theory usually defines several cognitive components that interact systematically to organize intellectually. Sternberg’s (1988) component model is an example. Sternberg postulated three main components. An important component of
knowing the knowledge, knowledge, such as metacognition, and performance skills required to complete tasks such as reading and writing. The contextual component supports a person to adapt to his immediate environment. The experiential component determines the extent to which intelligence is changed and through experience. The experiential component changes intelligence in part by introducing other skilled individual learners who can work as mentors and provide explicit feedback that improves intellectual performance.

**Strategies**

Strategy refers to the mental tactics used to make cognitive tasks easier to understand or perform. Experts place a high premium on strategic knowledge for one important reason: even a simple repertoire of strategies can significantly improve learning and performance, Pressley & Wharton-McDonald (1997). In addition, strategy instruction increases positive motivational beliefs and can compensate for a lack of intellectual ability or knowledge.

Research on strategy instruction has been an important part of educational research for two decades. Implementing and evaluating a strategy instruction program is very expensive and time consuming. However, several recent reviews have shown that strategic intervention programs can be a very effective way to improve learning and self-regulation (Hattie, Briggs and Purdie, 1996; Rosenshine, Meister and Chapman, 1996). These reviews generally support the following claims:

- The instruction strategy is sufficient to be highly successful, regardless of the instructional strategy or method. Students usually benefit from instruction.
- Instruction strategies appear to be most the beneficial for younger students, as well as low achievers of all ages. One reason may be that younger, lower-achieving students have fewer strategies and therefore have more room for improvement.
- Programs that combine several interrelated strategies are more effective than single-strategy programs (Hattie et al., 1996). One reason may be that no single strategy is sufficient to bring about substantial change in learning. A repertoire of four or five strategies, however, may be quite effective in this regard.
- Strategy instruction programs that emphasize the role of conditional knowledge are very effective. One explanation is that conditional knowledge allows students to determine when and where to use newly acquired strategies.
Newly acquired strategies are not immediately transferred to new tasks or unknown domains. Teachers who incorporate strategy instruction into their classrooms must teach specifically for transfer using strategies in a variety of settings.

**Metacognition**

Metacognition refers to the knowledge and regulatory skills that people have about their own learning (Alexander, Carr & Schwanflugel, 1995; Schraw & Moshman, 1995). Since the term was first coined in the early 1970s, metacognition has been viewed as an important component of skilled learning because it allows students to control a number of other cognitive skills. Metacognition is like the "mission control" of the cognitive system in that it allows students to coordinate the use of broad knowledge and many separate strategies to achieve a single goal.

One of the clearest descriptions of metacognition is that of Ann Brown. According to Brown (1987), metacognition includes two related dimensions: knowledge of cognition, and regulation of cognition. Cognitive knowledge is usually assumed to include three components (Brown, 1987; Jacobs & Paris, 1987). *Declarative knowledge* refers to knowledge about ourselves as learners and what factors affect our performance. For example, most adult learners know the limitations of their memory system and can plan tasks based on this knowledge. *Procedural knowledge* refers to knowledge of strategy. For example, older students have a basic repertoire of useful strategies, such as taking notes, slowing down important information, skimming unimportant information, using mnemonics, summarizing main ideas, and periodic self-testing. *Conditional knowledge* refers to knowing when or why to use.

**Motivation**

Motivation is used here refers to a number of beliefs and attitudes that influence learning. It is now clear that students do not use existing knowledge and strategies effectively if they do not believe that they will improve learning. A number of authors have recently distinguished between the willingness and learning skills components, which would refer to motivational beliefs that increase engagement and persistence, and the skills component including the knowledge and strategies required to complete a task.

**The Reasons for Using Interactive Compensatory Model (ICML)**

The Interactive Compensation Model provides a framework for understanding the relationship between cognitive abilities, knowledge, strategies, metacognition, motivation and learning. It is an empirically based model that provides a comprehensive learning
approach. It includes all the major components known to influence learning. Moreover, it provides a tentative basis for evaluating the relationships among these components.

The model helps teachers better understand the strength of the relationship between each component. It provides a basis for understanding and exploiting compensatory relationships among components, as well. This allows us to think about learning at a broader and systemic level that helps teachers deliver well-integrated teaching.

**Student’s Attitude toward Reading**

As literacy education continues to be a prominent topic in research and educational forums, the importance of an elementary student’s attitude toward reading becomes more obvious. Young student’s attitudes toward reading include their feelings about reading, readiness for reading, and beliefs about reading (Gettys & Fowler, 1996). The validation of reading ability is in its use rather than its mere possession. Thus reading attitude is an important aspect of the reading process for teachers to consider when planning for instruction.

A number of research studies about the impact of students’ reading attitude have been documented increasing. Moore-Hart & Karabenick (2000) presented a paper on a volunteer tutoring program for culturally diverse students using AmeriCorps volunteer and certified teachers. This study involved a culturally and socio-economically diverse group of elementary students, with the majority being African American children and below the poverty level. The result that one-to-one tutoring was extremely effective and that certified teachers as tutors have a greater effect than do professional.

An earlier study by Anderson (1984) revealed improved attitudes of children toward reading after a semester-long tutoring program. The tutors worked daily with individual third and fourth grade students. The tutor read sets of high interest books to the student and then listened to their student read aloud. The results documented more positive attitude toward reading, higher interest in achievement across content areas, and increased library usage.

Fitzgibbon’s study (1997) uses the *Elementary Reading Attitude Scale* to measure changes attitude regarding both recreational and academic reading activities. This study focused on the belief that “attitudes are acquired through experiences, can be observed through behaviors, and persist over time”. The study revealed that environmental pressures affect reading attitude acquisition. Bad experiences in reading generally lead to negative
attitudes whereas positive experiences can result in more positive attitudes towards reading and school.

From this study, it can be concluded that the intention of telling the world that attitude is a crucial factor to be aware is agreeable. The writer also has a strong believe that attitude is an important factor to be investigated in a part of teaching or delivering the literacy skills for students. In general, student’s learning behavior is formulated into the objectives of teaching. Gagne and Briggs (1974: 23-24) state that students’ learning result behavior can be categorized into five, verbal information, intellectual skills, cognitive strategy, motorist skill and attitudes.

In this case, attitude is a representation of accepting or rejecting value. This attitude is an internal ability that has its role in making decision and to do action. If one has attitude toward something clearly, automatically will be able to choose confidently among probability for her/his own benefits. In contrast, if one has unsure attitude it will lead him to uncertain for what is he is doing in the future.

Therefore, in this research the addition of students’ attitude investigation is considered as one of crucial factors to suggest the awareness for teachers, parents and those who interests in developing students’ attitude toward reading simultaneously with their reading performances.

III. RESEARCH METHODOLOGY

This study covers a combination of two quantitative researches. First, Experimental Research and second, Descriptive Research. Gay (1986:541-553) states that experimental research is a research in which at least one independent variable is manipulated, other relevant variables are controlled. Wellington (2000: 31-32) states that the purpose of the experimental research is to determine cause and effect relationship. It enables us to identify causal relationship because it allows us to observe under controlled conditions and the effects systematically changing one or more variables. Gay (1986: 198) also states: A descriptive research involves collecting data in order to test hypotheses or to answer question concerning the current status of the subject of the study. In addition that descriptive data are usually collected through a questionnaire, surveys, interviews or observation.

The combination between experimental and descriptive research is expected at the findings where the researcher could find a wider and deeper understanding about the topic.
The combination of the research is aimed at covering each other weaknesses and strength. In other words, both of them will support each other to increase the quality of the research.

Ary (1979: 295) states that descriptive as a research to obtain information concerning the current phenomena that can be classified as descriptive research, such as case studies, survey, developmental studies and correlation studies.

In this research, descriptive research is classified as correlation study because it applied to examine the correlation between student’s attitude and student’s achievement. A correlation study enables to ascertain the extent to which variation in one variable are associated with variations in another.

Regarding this research, the correlation study is applied in order to explore rather than theory testing. In this topic, the correlation exploration is aimed at investigating the relationship between student’s achievement as the result of student’s improvement in learning through the new methods, and the students’ attitude as another variable.

For the experimental research, the Simple Factorial Design will be used. The design was generally regarded as the most sophisticated research method for testing hypotheses and over viewing the process of the methods. These designs were assigned to the experimental and control groups by random methods and were given a pretest on the dependent variable.

The treatment was introduced only to the experimental subjects for a specific time, after which the groups were measured on the dependent variable. The average difference between the pretest and posttest have been found for each group and then these average difference score were compared in order to ascertain whether or not the experimental treatment produced a greater change than the control situation.

The significance of the difference in average changes (found when the average change for the control group was subtracted from the average change for the experimental group) was determined by an appropriate statistical test, such as F-test.

This design began with a question concerning the relationship between two or more variables. At the same time the researcher is advancing one or more hypotheses stating the nature of the expected relationship. The experiment was the even planned and carried out by the researcher to gather evidences relevant to the hypotheses. Ary (1979: 225 – 226) states: In its simplest form an experimental has three characteristic: (1) an independent variable is manipulated; (2) all other variables except the independent variable held constant variable is observed … The independent variable is manipulated or changed by
the experimenter. The variable upon which the effects of the changes are observed is called the dependent variables, which is observed but not manipulated by the experimenter.

The experimental research data were collected from an experiment and a set of questioner and interviews were applied to the some of the students in experimental groups in order to collect the data of the Descriptive research. The experimental group 1 was the group who received treatment by using *miscue analysis* and Experimental group 2 was the group who received treatment by using *interactive compensatory model*. The treatments were applied for about 12 meetings. The control group was not received any treatment. This group was taught as usual by their English teacher. Further, the questionnaire and interview have been conducted for some of the experimental groups. This step was done in order to find whether or not the students’ achievement affected by other factors apart from the new methods.

In other explanation, Ary (1979:255) states that if this study interested in the effect of the independent variables, which might affect the dependent variables, such as attribute variable, than it should be investigated as same as another variables. It can be illustrated as in Table 1.

<table>
<thead>
<tr>
<th>Attribute Variable (attitude)</th>
<th>Experimental variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscue Analysis</td>
<td>Interactive Compensatory Model</td>
</tr>
</tbody>
</table>

**IV. RESULT AND DISCUSSION**

The result of the students’ scores in inferential reading comprehension through the Miscue Analysis, Interactive Compensatory Model and Conventional methods are shown in Table 2.

**Table 2. Post-Test Scores of Experimental Groups and Control Group**

<table>
<thead>
<tr>
<th>Students</th>
<th>Miscue Analysis</th>
<th>Interactive compensatory Model</th>
<th>Conventional Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>37</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>38</td>
<td>29</td>
</tr>
</tbody>
</table>
Discriptive statistical analysis presented in Table 1. shows that the total number of scores of Miscue Analysis (Experimental group 1 = EGI) is 978, while for the interactive compensatory model (Experimental Group 2 = EG2) is 929, and the Control Group (CG) is

<table>
<thead>
<tr>
<th>Total Number</th>
<th>978</th>
<th>929</th>
<th>821</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>32.6</td>
<td>30.9667</td>
<td>27.3667</td>
</tr>
<tr>
<td>Mode</td>
<td>34</td>
<td>30</td>
<td>21.25</td>
</tr>
<tr>
<td>Median</td>
<td>33.5</td>
<td>30</td>
<td>26.5</td>
</tr>
<tr>
<td>Min. Score</td>
<td>21</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>Max Score</td>
<td>42</td>
<td>41</td>
<td>40</td>
</tr>
</tbody>
</table>

Total Number^2 956484  863041  674041
The mean of the scores are vary. Experimental Group 1 (EG1) is 32.6000, Experimental Group 2 (EG2) is 30.9667, and Control Group (CG) is 27.3667. The Minimum Score of all groups are 21 for Experimental Group 1 (EG1), 23 for Experimental Group 2 (EG2) and 20 for Control Group (CG). In contrast, the maximum score of Experimental Group 1 (EG1) is 42, Experimental Group 2 (EG2) is 41 and Control Group (CG) is 40. The last information from the table is the total number of Experimental Group 1 (EG1) = 956484, Experimental Group 2 (EG2) = 863041, and Control Group (CG) = 674041.

From Figures 4.1- 4.3 it can be seen that the maximum scores of Experimental Group 1 (EG1) is achieved by the student number 24 while the minimum scores was achieved by the student number 5. In Experimental Group 2 (EG2), the student number 16 achieved the maximum score while the student number 17 achieved the minimum score. In Control Group (CG), the student number 14 achieved the maximum score and the student number 6 achieved the minimum score.

![Figure 2. The Scores of EG 1](image-url)
Testing the Hypothesis 1

The testing of the statistical hypothesis of the experimental research is summarized in Table 3, which contains the result of the Analysis of Variance. This table shows the source of variation, the sum of squares, the degrees of freedom, the mean scores, and $F_{\text{observed}}$. All the information in the table is obtained by using the SPSS and MINITAB data analysis (see Appendixes 13 – 14).
Table 3. Analysis of Variance

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1</td>
<td>82688.7111</td>
<td>82688.7111</td>
<td>7.8582</td>
<td>0.01</td>
</tr>
<tr>
<td>Between Group</td>
<td>2</td>
<td>430.1489</td>
<td>215.0745</td>
<td>3.98</td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>87</td>
<td>2381.1400</td>
<td>27.3694</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The information presented in Table 3 above shows that the critical value of the $F_{observed}$ at the 0.01 significance level, with 3 degrees of freedom between (dfB) and 87 degrees of freedom within groups (dfW) is 7.8582, while the F table is 3.98. It means that the hypothesis (Ho) of this study is rejected and the alternative hypothesis (Ha) is accepted. It can be said the methods significantly effect on students’ inferential reading comprehension.

From the above analysis, it can be proved that both methods (Miscue Analysis and Interactive Compensatory Model) significantly effect on students’ inferential reading comprehension. The following analysis aimed at portraying the most effective method that can be investigated by using the NEWMAN-KEULS formula.

The first procedure is to list those means of each group. Then calculate the standard deviation by using the following formula:

$$S_{yi} = \sqrt{\frac{MMS}{NI}}$$

$$S_{yi} = \sqrt{\frac{215.0745}{30}}$$

$$S_{yi} = \sqrt{7.2692}$$

$$S_{yi} = 2.7$$

The second procedures is to decide the significance value of the students ($\alpha = 0.05$) with $v = k$ for MMS and $p = 2.3.4...k$. is resulted at:

$$P = \begin{pmatrix} 2 & 3 \end{pmatrix}$$

$$2.85 \quad 3.48$$

The third procedures is to compare the differentiation of each mean (from the biggest to the smallest ) with the RST. The differentiation of the biggest mean to the smallest mean with RST for $p = (k-1)$ and so on.
Table 4. Newman Keuls Test

<table>
<thead>
<tr>
<th>Test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 againsts 2</td>
<td>7.70 &gt; 0.63</td>
</tr>
<tr>
<td>2 againsts 3</td>
<td>9.40 &gt; 0.63</td>
</tr>
<tr>
<td>2 againsts 3</td>
<td>9.40 &gt; 2.85</td>
</tr>
</tbody>
</table>

From the NEWMAN-KEULS analysis in Table 4, it can be concluded that the methods significantly different (7.07; 8.77 and 6.55). In other words, it can be said that the first method (Miscue Analysis) was the most effective method which followed by the second method (Interactive Compensatory Model), then the third method (Conventional Method).

Accordingly, the following chart shows that the most effective method among others is Miscue Analysis that can be seen from the line with markers that is shown as the value of each data in Figure 4.

Figure 5 shows that the mean value of Miscue Analysis is 32.6000 with the total number is 956484, while the mean of Interactive Compensatory Model is 30.9667 with the total number is 863041. The conventional mean value is 27.3667 with the total number is 674041. it can be said that the most effective method in teaching inferential reading comprehension is Miscue Analysis (see Appendixes 15–16).
Testing the Hypothesis 2

The questionnaire was designed into a set of questions that consists of 20 items. These items were distributed into different categories to assess students’ personal attitude, toward reading at home and school, attitude toward learning using Miscue Analysis and Interactive Compensatory Model.

The analyses of students questionnaire and interview can be described in the following explanation.

1. The students’ attitude toward reading comprehension were influenced by personal attitude, at home and school circumstances, class experiences and the experiences of learning using new methods.

2. Almost all the students in the experimental groups prefer new methods which were treated to them for several reasons, such as teacher’s performance in teaching reading comprehension basically in the stress-free condition and it was easier to follow the lesson using new methods.

3. Some of the students felt that reading seemed not familiar to their family circumstances, however, their attitude were aroused in the school area or vice versa. Furthermore, it is impressive that the position of a person around the students who motivated or supported them in reading comprehension gave great influences in their reading comprehension.

4. The students’ reading skills also contribute big influences in mastering the inferential comprehension through the new methods. The more skilled the students, the more easier they learn inferential comprehension through Miscue Analysis and Interactive Compensatory Model in the classroom, however, it did not mean that the methods were not suitable for those unskilled students.

Table 5. Questionnaire and Interview Items Distribution

<table>
<thead>
<tr>
<th></th>
<th>Personal circumstances</th>
<th>Home and School Circumstances</th>
<th>Class Experiences toward inferential Reading Comprehension and new methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire</td>
<td>1,2,3,4,5</td>
<td>6,7,8,9</td>
<td>10,11,12,13,14,15,16,17,18,19,20</td>
</tr>
<tr>
<td>Methods</td>
<td>Closed</td>
<td>Closed</td>
<td>Closed</td>
</tr>
<tr>
<td>Interview</td>
<td>1</td>
<td>2,3,5</td>
<td>4</td>
</tr>
<tr>
<td>Methods</td>
<td>Open</td>
<td>Open</td>
<td>Open</td>
</tr>
</tbody>
</table>

Table 5 shows that the students questionnaire results (see Appendices 6), it was found that the most frequently answer appeared was “Kadang-kadang” (Sometimes). It
means that the most frequent value appeared was 3 (three) with the total frequency of the appearance was 131 times. The position of 131 value belongs to the range between 100 to 150, which actually indicated as “the highest attitude toward the inferential comprehension” (see Appendix 18). In other words, students actually had quite high attitude toward reading and learning inferential reading comprehension by using new methods. However, as it is said that the student questionnaire value is 131, it is argued that this result only in the middle position of the value 100 – 150. It is assumed that some of the students still have negative attitude toward reading in general, and reading inferential comprehension specifically. Hence, it is assumed that the negative value might be come from their external motivation such as what have been concluded from their answer that they were not familiar with reading habits at home or at school, and they read because there is someone else asking them to, or they just read because they like to read at that time (mood based).

Furthermore, when it was found out whether or not the students attitude have positive correlation with students achievement (by using questionnaire and Post-test result as the variables) so it was found that the $r$ is 0.24. After finding $r$ value then the writer tested it with conducting a hypothesis test and it resulted at $1.09 > 0.378$. It means that $P_{\text{observed}}$ is greater than $P_{\text{table}}$ (see Appendixes 19 and 23).

**Discussion**

On the basis of the previous data analysis and in line with the testing of the hypotheses, the research findings consist of two parts. Firstly, the research findings as the answer of the first problem and secondly, the research finding as the answer of the second and the third problems. The findings are:

1. Teaching inferential reading comprehension through the application of Miscue Analysis and Interactive Compensatory Model significantly affected on students’ inferential comprehension. As it has been shown in Table 4.2, the results of variance of the mean scores of the Post-test from the three groups indicated that $F_{\text{observed}}$ is greater than $F_{\text{table}}$ ($7.8582 > 3.98$).

2. The most significant effective method is Miscue Analysis, which can be seen from the data in Figure 4.4 that the mean of each group were 32.6000 for Miscue Analysis, 30.9667 for Interactive Compensatory Model, 27.3667 for the Conventional Method and also from the Newman Keuls Analysis.
3. The students’ attitude toward reading comprehension can be categorized as “highly positive attitude toward reading”. From the range of value it is found that the students attitude is reflected from the frequent appeared answer (“sometimes”) as 131 times. It was the middle range position between (100 – 150). It is assumed that the students still have negative attitudes toward reading. It can be interpreted as they are not familiar with reading habits at home or at school, and they read not because of they want to, unless there is someone who asked them to. In addition, by using Pearson Correlation Coefficient formula it was found that the students questionnaire results had positive correlation with students post-test results. It is to say that, there is a strong relationship between students’ attitude and students’ inferential reading comprehension.

REFERENCES


