

# Developing Competency Based Reading Materials for English Laboratory at Tertiary Education

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## **Abstract**

This research report is aimed at developing competency based reading materials for English laboratory after it is proved that in preliminary research using 212 respondents from semester two to six and the reading teachers, it's turned out that they need them. Further more, the English Department has not found the right developing competency based Reading Materials for Laboratory English Subject (LRS) which are interesting and motivating yet. Here with, the writer suggests good materials (valid, reliable and economical) to be used in LRS given to enhance students' achievement in Reading. These materials have been tried out by the researcher four times and revised twice by experts in language and technology. From statistical point of view of T test, using the results of gain scores of pre-post test, it proved that the software and CD products which used native speakers' sound with various kinds of questions are good and are able to enhance students' reading achievement. The result of the T test also confirmed that students' achievement enhance 12% from the pre- test's achievement.

**Keywords:** *competency based reading materials; LRS; good materials; reading achievement*

## **1. Introduction**

We accept as true that one of the ways to have success in a teaching-learning Laboratory Reading Subject (LRS) other than a competency teacher is having good materials which suit to the curriculum as a source of learning. These good materials have to be accepted and understood for teaching-learning LRS in an English laboratory. The essence of LRS is that students keep reading in an English laboratory which means students have to interact with sources of learning for LRS which are used to gain the objectives of Reading particularly LRS. In this English Department this reading subject consists of Reading Class (two credits) and Laboratory Reading Subject (one credit). Throughout this research the writer only discusses the LRS. Every class of Reading subject has students with different competencies. Thus, there might be a good source of learning to facilitate the teaching-learning to be effective above all activities in the students' competence. To fulfill this need, a plan of learning might be paid attention to individuals. An interactive source of learning as so-called Competency-Based-Reading materials for LRS which are developed to give the learning materials an entertaining and enjoyable touch become an alternative to cope the problems encountered. Students can be free to use the reading learning materials in a laboratory based on their interests, levels and needs. Furthermore, numerous research studies and class experiments in the use of English reading laboratory shows the form of Learning software/CD interactive carries more advantages and developments than disadvantages. LRS materials can diminish the students' boredom in becoming competency readers. Further CD LRS edutainment in a computer which is completed with foreigner's sound, and an answer key gives more credits in an individual learning of reading comprehension competency which raises the motivation of students to learn more. In this way, students are then having the freedom to learn according to their own needs and capacity of interests.

Outside the university, science and technology (IPTEK) are disseminated through English, and recently English has used technology to increase English learner's competency. The latter area especially in materials development by using multimedia technology is still very wide to explore; especially in developing countries like Indonesia in which English is a first foreign language. The advancement of technology can be used to develop the students' competency of English in all four skills: listening, speaking, reading and writing. However, among them, reading skill is argued to be the key

to the development of other skills, especially in the context of English as a first foreign language which is able to develop students' knowledge by reading a lot. On account of the problems stated above, it is noteworthy to present the competency based reading materials' development to the students for English Laboratory by using appropriate CD interactive sources in order to make them easier to have a better understanding toward the lesson is still very wide to explore; especially in developing countries like Indonesia in which English is used as the first foreign language. In the long term, it is expected that the users of these materials can improve English Department students' skills in English, especially in reading comprehension since: the Laboratory Reading exercises presented in one of the English Departments in Surabaya (where this research was conducted) do not practically immerge in operating the combination of knowledge and computer (IPTEK) yet. (actually, this is against the Indonesian's Education Ministerial Regulation number 16 in the year of 2007 on Standard for Teacher's Academic Qualification and Competency).

Overcoming the problems above, this research purpose is, to develop competency-based-reading materials for English Laboratory Reading Subject in English Department in the form of Learning software/CD interactive, with the purpose that students have competencies of: answering questions related to the genre text, answering questions related to the passage (main ideas and supporting details which concern with cognitive competency), making drama or questions (affective competency); summary related to the passage given and operating computer (psychomotoric competency). Thus, the development of competency based reading materials in the form of learning software/CD interactive for English Laboratory Reading Subject is expected. There might also be a teacher training for the third semester Reading lecturer of using the new developing competency based reading materials. The teachers' manuals and trainings give lecturers better perspective of teaching reading by employing various strategies. As an alternative source for teaching LRS, this learning software will frankly be more fascinating to complete the existed printed learning resources due to the fact that: It is completed with colors, native English sounds, direct feedbacks to show whether or not the student' answer is correct, complimentary words as "Good job", "Excellent" and "Try Again" to motivate students to learn, various types of questions for reading and pictures using Flash programmed. The design used in this Learning software/CD interactive is the Linear Design which is based on the theory of Tomlinson (2004), where students walk through from one task to another with some complimentary words presented for students to be motivated to work; to construct responds spontaneously by typing the answer on the computer based on the passages given. By doing this, each student might be a good individual reader. Walker, Debra, Kiefer, Kate and Reid (2013) state that when the student reads something he/she may construct knowledge differently based on his/her background knowledge he/she has before.

Hopefully, by using this Learning software/CD interactive for LRS which combines science and computer (IPTEK) using Flash programmed, the graduates of English Departments, especially this university will have a high degree of professional expertise in Reading. This learning software/CD interactive is in line with the Indonesian's Education Ministerial Regulation number 16 in the year of 2007 on Standard for Teacher's Academic Qualification and Competency. The researcher only designed the materials for, recount, straight line narration, climatic narration and descriptive, other generic structures won't be discussed since it is in line with the curriculum 2010 of that university. There are three theories used in this research. They are: Competency Based Reading Material, Reading, Media and also the relation of the three theories of this research.

## 2. The Theory

### 2.1 Competency Based Reading Material

Richards, (2001, p.157-159) stated that competency-based curriculum signifies the basic shift from the previous one which is topical or content-based. The development then focuses on the idea that the materials are not as an end but a means to develop students' competency in reading comprehension. However, the competency is not only related to the cognitive competency, but also affective, and psychomotoric competencies.

Furthermore, Grabe, William, Stollers and Fredricka (2002) define reading competency as mastering the ideas and contents of the reading passage through analyzing, evaluating and combining the ideas in the passage with their prior knowledge. They argue that the indicators show that students who have good reading-comprehension, are students who are able to detect the generic structure of each passage, to answer questions of the text (cognitive competency), to creating questions, and dramatizing the text (affective competency) and to summarize the text and practically emerge herself in operating computer with reading software (Psychometric competency). This competency is in line with the areas of which should be developed based on the 2010 national curriculum. Closely related to competency- based reading materials in CBLT (Competency-Based Language Teaching) is the "task-based syllabus". The syllabus is organized around tasks that students complete in the target language. The basic principle is that students can acquire

necessary skills when they are "learning by doing." González-Lloret, (2003) states there are four main steps necessary to develop the task-based syllabus: (1). Conduct task-based needs analysis to identify target tasks. (2). Classify the target tasks into task types. (3). Develop pedagogic tasks from the task types. And (4). Select and sequence the pedagogic tasks to form a task-based syllabus. If the task-based syllabus uses computer technology as a media, the learning process will be more student-centered rather than teacher-centered. The Reading materials in the form of learning soft-ware and CD interactive are aimed at developing student-centered learning for LRS. By incorporating computers with their reading laboratory/language/multimedia laboratory which facilities students to do tasks interactively because they have provided with immediate feedbacks. The task-based paradigm is derived from practice in ESP, in which English is taught in a certain context of profession. This leads us to the paradigm of genre-based reading materials. Genre can be defined as "distinctive category of discourse of any type, spoken or written" (Swales,1990, p.33). A certain reading passage, for example, can be easily constructed and analyzed since they follow the 'convention' of a certain group of people. The materials selection and development also considerate the genre-based materials in addition to its autenticity and level of difficulty. Since the materials' development focus on Reading II, the genres used are narrative, (which consists:"climatic and straight line narrations"), recount, and descriptive".

The materials development is also equiped with different strategies of teaching reading based on research conducted by Surjosuseno and Johnson (2002). The strategies are (a) using various types of questions, (a) using exposition strategy, and (b) analytical strategy. By employing the strategies, teachers are expected to act as a facilitator and motivator of students' learning.

In curriculum 2010 which focuses on the graduates' competency, the orientation of education does not only deal with the process but also the result. In order to achieve the good result, teachers play significant roles. Pranowo (2003) suggests that teachers should: a) function as facilitator, motivator and mediator in students' learning. b) give material which is case-based so that students are motivated to solve the problems in acquiring the competency; c) give students opportunity to solve problems from different alternatives; d) interact with students in dialectical way so that it can stimulate students' growth of motivation, interest, creativity, exploration and innovation; e) provide conducive atmosphere so that students are encouraged tasks and share ideas; f) direct students to technology-based education especially in using the internet; g) develop education which can humanize, develop democracy, and develop pluralism, nationalism and option for the society interest.

## 2.2 Reading

Walker, Debra, Kiefer, Kate and Reid (2013) state that reading is an active, constructive making process. A reader does not play a passive role only by decoding message that implied in the text but he/she also connects the reader and the text. A reader might actively make and construct meaning based on the visual cues on the text and the previous knowledge that stored in reader's mind; therefore, "what a text-mean" can differ from reader to reader.

Reading is also multi-level process where reader integrates data from text including its smallest and most discrete features as well as its largest, most abstract features. And those data are integrated with the linguistic and world information stored in mind. The information stored in mind is used to predict what a text is about. That is why reading is a hypothesis making process. Meanwhile, the Reader samples the text to confirm and revise the hypothesis (Berk, 2001).

Reading has four different skills which are very useful to help students to comprehend the text. They are scanning, skimming, comprehensive reading and critical reading. Scanning means the reader does the work of reading with the purpose he might find the informatin needed in the material. Thus, scanning helps the reader find quickly the specific information from the text by rapidly skips over a number of unwanted words. In this case the reader does not attempt to understand the complete lines of thought the writer wishes to communicate. Meanwhile, skimming is reading selectively to get a general idea of what the passage about. So in skimming the reader reads the passage more details than scanning. In comprehensive reading, the reader might have enough background knowledge of grammar and vocabulary since he reads slowly and carefully to get the information in the text thoroughly. Further, in critical reading which is very popular now, the reader always tries to comprehend the text as what the writer thinks when he writes the text. After the reader understands the details information, the reader separates facts from opinions, interpretes the opinions stated in the text and at last the reader draws a conclusion and gives comment. In reading the reader's process includes decoding symbols, interpreting the meaning and applying the ideas which are derived from the symbols. There are three models of reading processes, they are bottom up model, top-down model and interactive model. Bottom up model believes that reading is basically a process of decoding/translating the printed symbols in a text which is started from letters combining them to form words, then combining words into phrases, clauses and sentences

of the text. From sentences the reader realizes the content of the text presented. In top down process the reader is encouraged to make prediction based on her background knowledge, higher order of thinking, and hypotheses of the text. In top down process, reading is really a guessing game, which involves an interaction between thought and language. The last model is interactive model where the reader uses the top down model and bottom up model simultaneously. Basically, in interactive model, reading comprehension depends on the graphic symbols and the reader's competences/skills. The reader combines all the data he gets from the text with his background knowledge he has had before and draws the conclusion. Thus, reading in this research refers to the competence of the reader to understand the text by making appropriate connections to the things the reader has known or possessed. This is due to the fact that background knowledge can help the reader very much to extract more information from the text to enhance his information of the text.

### *2.3 The Use of Media in Teaching English*

Media are needed in teaching any subjects since they have many purposes as well as to assist the application of teaching techniques. Thus, the main purpose of using media in teaching is that the message being communicated by the teacher can be absorbed as much as possible by the students. Murcia (1991: 454) adds that undeniably, media help us to motivate students by bringing a slice of real life into the classroom and presenting language in its more complete communicative situation. Using media in teaching a foreign language can make contribution to the language learning process in a number of different ways such as: they can brighten up the classroom and bring more variety and interest into language lessons, help to provide the situations which light up the meaning of the utterances used, and help the teacher to improve his own grasp of the foreign language and to prepare more effective lessons.

Realizing the importance of media for teaching-learning process, language teachers seem to universally agree that media can and do enhance language teaching. Furthermore, Murcia, (1991: 454) pointed out that media assist teachers in their jobs, bring the outside world into the classroom, and make the task of language learning a more meaningful and exciting one. All in all new technological discoveries bring new aids into the classroom while the teacher must learn to use these effectively.

### *2.4 The Relation of the Three Theories*

The relation of the three theories for this research shows that Reading is an active, constructive making process, deriving meaning and interpreting the text. The reader's background knowledge, purpose, perspective, and skills are brought to the text. It is the authors' task to make the interacting meaningful by addressing the correct/appropriate audience. Yet, it is the readers' task to make the interaction meaningful by purposely employing knowledge and skills by combining science and technology, each member student becomes a stronger individual in his own right. Each Student might be the doer of learning the activities since each student him/herself might operate the computer in absorbing the new knowledge. Each student constructs his/her own version or understanding of knowledge of the passage given in a computer so that each student is responsible to do his/her task and engaged in active learning and constructs knowledge differently based on each student's background knowledge. Each student sees the world differently, so each of them sees the passage with their own perspectives. Learning environment supports various interpretations of the reality in the world, knowledge, meaning construction and contact rich and experience-based activities. Here, students need to interact with their friends, peers, teachers and families to get complete understanding of the knowledge. Learning activities might provide students the opportunity to share their ideas. Thus, after the students finish doing their tasks using CD and computer as media, the teacher might give them opportunity to share their ideas with their friends while the teacher becomes their facilitator in engaging students' ideas with the new knowledge. The teacher's task here is motivating students by giving rewards every time they do correctly using CD interactive as a media, that is the reason why the reading materials development given is in the form of learning software/CD interactive edutainment as a media with rewards for English Laboratory Reading Subject.

## **3. Methodology**

This research presented two things: The procedure of the material development, and the product development from the try out. The procedure of the material development concerned with: the designing the material development; the preliminary of the material development; the revising the material development and developing syllabus for competency-based reading materials; meanwhile, the product development from the try out concerns with; Research design, hypothesis, research instrument which consists of the instrument test, questionnaires for students and teachers, teachers' interview, the researcher's observation, and the treatments. Further the product development follows the data collection of the research, and the analysis of the data design of the product development.

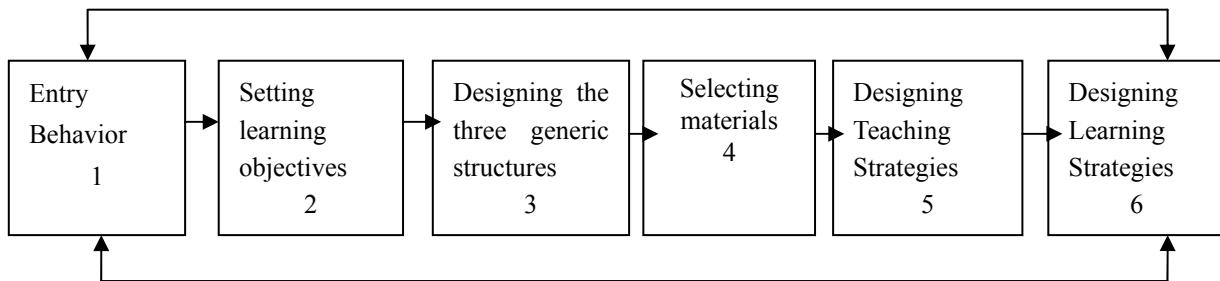
### 3.1 Procedure of the Material Development

There are four procedures of the material development; designing the material development, preliminary of the material development, revising the material development and developing the syllabus.

#### 3.1.1 Designing the Material Development

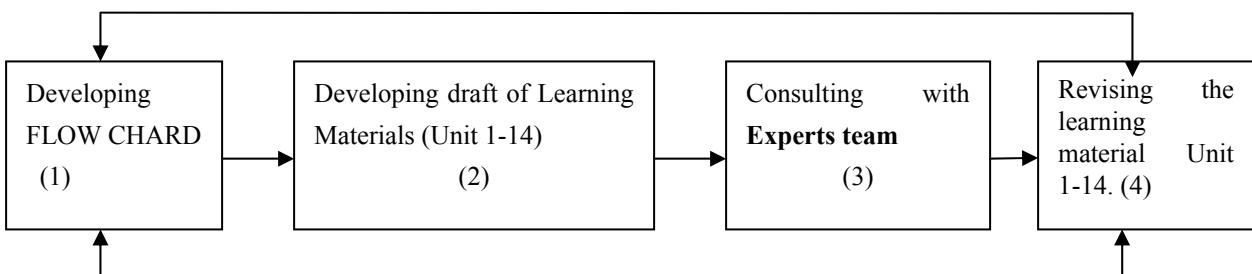
There are six steps, entry behavior, setting learning objectives, designing the three generic structures, selecting materials, designing teaching strategies, and designing learning strategies.

Below is the figure of the first procedure: designing of the material development.



1. The entry behavior had been determined by the mastery of language of about 6000 vocabulary level of difficulties.
2. Learning objectives were set up based on the 2010 curriculum on the standards of graduates' competency; it described about the standard competency, basic competency, learning experience and indicators, specific learning objectives, learning strategies, the rubrics and schedule (see 3.1.4).
3. Fourteen Units were set up, based on the need analysis and learning objectives, the survey and a Library-study. There are 3 genres (narration, recount and descriptive). Narration with the generic structures of orientation, complication and resolution. Meanwhile, the recount passage has generic structures; orientation, events and reorientation. Descriptive passage has two kinds of generic structure, they are identification and description.
4. The researcher also considered the genre of the passage. Three generic skills: recount, description, and narration which consist of 2 kinds of narrations: straight line, and climatic narrations. There are 8-10 tasks in each unit. Students may get back/continue learning with the program at anytime it suits them.
5. The design of teaching was set based on exposition and analytical strategies constructed by Surjoseno and Johnson (2002) for immersion education.
6. Models of learning were constructed so that students did the tasks on all areas of learning; e.g. cognitive, affective or psychomotor activities. Below was the second procedure.

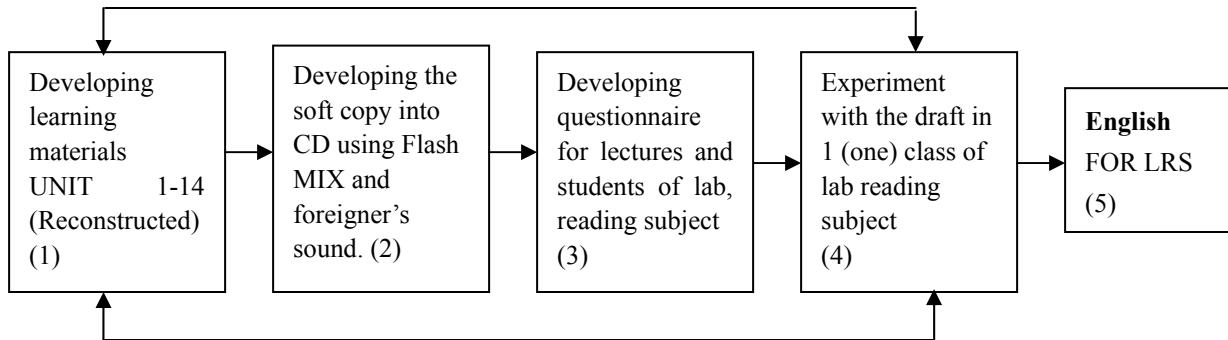
#### 3.1.2 Preliminary of the Material Development



- 1) Developing Flow Chard → Flow chard was a fixed design so that the users could achieve the goals of learning.
- 2) Developing draft of Learning Materials → Based on the design that had been set up on the first step, the process of developing the draft of learning materials (Unit 1-14) was started.

- 3) Consulting with expert team → The draft was consulted to the experts team of the reading material development to ensure whether or not the reading materials presented in the learning software and CD interactive were in tune with the correct procedure of developing materials in the form of Learning software/CD interactive.
- 4) Revising the draft of the source of the learning materials, further more the third procedure in **Revising the material development** was described below:

### 3.1.3 Revising the Material Development



1. Developing learning materials → Based on the suggestions from the experts team, the revised draft from unit 1-14 were reconstructed
2. Developing the soft copy into CD using Flash Mix and Foreigner's sound → The soft copy of the draft was reconstructed again into software and CD interactive using Flash MIX. with foreigner's sound.
3. Developing questionnaires for lecturers and students of LRS → One of the materials for LRS was used as a test instrument. It was comprised into 20 (twenty) questions in the form of multiple choice. This test instrument was given to the user of the software before and after they used it for four times (for treatment).
4. The material developments were applied at the real reading lab in one of the universities in Surabaya.
5. English for LRS as the product of the material development (not yet a statistically good material)

Even though the product had been completed, a try out might be engaged to gain a good product. The try out was carried out to evaluate the development of the competency based reading materials which was in the form of Learning software/CD interactive, to be a foundation in revising a software many times as suggested by experts in language and technology.

### 3.1.4 Developing the Syllabus

The researcher finalized thematerial developments by creating a syllabus to make the reading teachers easier to use the material developments. The syllabus contained:

- a. standard competency which was a short description of the objectives of teaching LRS in English for semester II.
- b. basic competency which was the explanation of the competencies that students acquire by using this material development.
- c. learning experience of each unit which contains 8-10 tasks activities that students carried out during teaching and learning process in each meeting.
- d. learning indicator which explained the students' competency experiences/perform as indications that students mastered the material.
- e. specific learning objectives which were the description of the competency that students acquired for each unit presented by using the material development.
- f. learning strategies contained various ways of teaching which were used in teaching unit 1-14. They were available in teacher's manual.
- g. rubric which described about how the teacher evaluated students using the material development.
- h. the schedule which explained the sessions/meetings, activity, topic, sub-topic and source of the material

development was available in the syllabus in the teacher's manual. From the constructed syllabus, the writer constructed the generic structures and genre based which were developed from this outline, the researcher constructed specific learning objectives which were derived from the standard competency, basic competency, learning experiences, indicators and also learning strategies, assessments and scoring systems.

### **3.2 The Product Development**

The product development of competency- based reading concerned with four aspects: research design which described the hypothesis, population, and sample, the reading instrument which pointed out the instrument test that contain the validity, reliability (item analysis, item difficulty, and item discrimination), and economical characteristic. Further, other instruments used were questionnaires, interview and observation. Meanwhile, the treatments described about the procedure of the data collection and analysis. Following was the data analysis and the interpretation of the findings. At last conclusion and suggestions were presented in part 4 and 5.

#### **3.2.1 Research Design**

The design of this research was quantitative research using quasi-experimental with pre-post test. It was categorized as a quantitative research as it was based on testing a theory, measured with numbers, and analyzed using statistical techniques; the goal of which is to determine whether the predictive generalizations of a theory holds true. The type of study was a quasi-experimental, since the researcher only used the real situation of the classrooms without arranging them. The researcher did not randomize the samples but used the existing classes as they were. Pre and post test was presented before and after the treatment.

##### **3.2.1.1 Hypothesis**

The researcher formulating the following statistical hypotheses:

$H_a$ : there was a significant difference in the reading achievement of students in pre-post tests with two mean groups.  
To prove that  $H_a$  was correct, the researcher used  $H_0$ .

$H_0$ : there was no significant difference in the reading achievement of students in pre-post tests with two mean groups.  
Then, the researcher also decided the level of significance of this research. It was 5%.(0.05),  $\rightarrow p > 0.05$ .

##### **3.2.1.2 Population and Sample**

The population was all students in FKIP in one of the universities in Surabaya. The sample was one class of faculty of teacher training (FKIP) in one of the the universities in Surabaya who enrolled Reading II in the year of 2010/2011.

##### **3.2.1.3 Research Instrument**

The instrument of this research was applicable for measuring the dependent variable (the students's achievement after the experiment). There were various instruments used in this research: the instrument test, the questionnairs for 212 students and teachers (to know the students'need analysis), the interview for the students, the interview for the teachers, the researcher as non-participant observer and the observation from the researcher.

#### **3.2.2 The Instrument Test**

To determine whether the instrument test used by the writer was appropriate or good, the writer investigated the validity, reliability and the level of difficulties of the instrument test. **The validity of the instrument test** measures what a test measured and how it measures. Content validity was used since it was used to determine students' achievement. Thus, the instrument test was considered valid since the test items which consisted of 20 objective types test were accomplished the curriculum, objectives of the syllabus, students' achievement, the contents of the lesson, the curriculum used and the purpose of the lesson.

**Reliability of the instrument test.**It refers to how consistent they are from one measurement to another. The writer used Kuder Richerson formula 21 and found out the Reliability was 0. 70 meant that the instrument test was able to achieve high degree of reliability. Concerning the difficulty level the writer used Fry Readability. Based on the fry readability, the level of difficulty of the average number of sentences per unit is 13. The writer took 3 units so each passage had  $13 + 13 + 13 = 39$  sentences:  $3 = 13$  sentences. The average number of syllables per 100 words of the 3 units  $= (493 + 588 + 643) : 3 = 574.7$  words. Thus, the readability/level of difficulties of the passages was 6000 words. It suits to the passages used in the entry behaviour. The result of the item analysis based on Cohen, L., Manion, L., and Morrison, K. (2000:326) stated that

If = N Correct .

N Total

There are 15 items were moderate, 3 items were difficult and 2 items was easy. Meanwhile the Item Discrimination indicate: 13 items were satisfactory, 5 items were good and 2 items were poor.

### 3.2.2.1 Questionnaires for the Students and Teachers

There were 5 statements for 212 respondents from the second to six semester and 5 different statements presented to the two reading teachers in one of the faculties of teacher training in surabaya. They have to answer with strongly agree, agree, disagree or strongly disagree. Here are the statements to know the students' need for this research.

#### A. For the students

you are familiar with the learning software and CD Reading interactive for studying “LRS in English Laboratory before. 2. You have good perceptions of using English laboratory with computers as a media in teaching-learning “Laboratory Reading Subject”. 3. You are eager to have new materials for English Laboratory, by employing the advancement of computer. 4. you expect to have new materials using English laboratory with computers as a media in teaching-learning LRS other than the available printed materials. 5. You expect to immerse yourself in a virtual reality using computer software in an English Laboratory other than in a class .

#### B. For the teachers

The students have less interest when they have LRS 2. There is only one kind of book for “Reading Class” and “Laboratory Reading” subjects or in other word the researcher could state other statement that there is no variation of learning resources for teaching LRS!. 3. The interesting and motivating learning materials still inadequate, especially for individual learning material for LRS. 4. The topics given suit to the curriculum 2010 used at that time. 5. There was no available computer software for learning LRS yet.

### 3.2.2.2 Teachers' Interview

Were there any available software for teaching LRS at your faculty?. Do you think it required to develop new materials for teaching-learning LRS?. Do you think your students were happy when they studied with the new materials which based on knowledge and technology?. Do you think students wanted to immerse themselves in virtual reality when they studied in LRS using the new materials ?. Tell me about your students having 4 hours teaching Reading using the printed materials? What do you think about the students might be in using the new materials?.

### 3.2.2.3 The Researcher's Observation

In the observation, the researcher realized that students were not getting bored to stay in class for four hours/ per week with the new material. On the contrary using the previous/old materials some of them were asking to go to the toilets and returned after 15 minutes or more or they sat restlessly in class. The researcher was functioned as an observer in class, other lecturer who was teaching for four times during the treatments. Each meeting was 60 minutes.

### 3.2.3 Treatments

**Before the treatment** was carried out, the researcher introduced good instruments, explained how to use it, but the researcher did not explain that the researcher made use of students for her research. This was done because the researcher wanted them to do as natural as possible. The researcher provided the instrument with the answer sheets. The instrument/material was really eye-catching for the students since most of them had never had such tasks based before. The second semester students, who took Reading II subject in the academic year of 2010/2011, were curious to use the new materials. They listened attentively and tried to do the instrument seriously for sixty minutes. After sixty minutes using the instrument, the researcher collected their answer sheets. The Reading Lab. Students consist of 18 students; they were used as subjects of this research.

**For the treatment**, the researcher only examined the learning-teaching activities of English for four sessions of 60 minutes and discussed how to use the new materials in a computer lab. in English Department of one of the universities in Surabaya, Indonesia, as the samples under her research project. The researcher did not have the right to select other teacher. Only Reading II class was discussed in this research project, other reading classes were not discussed. The treatments were fully conducted by one expert of reading teacher who had been teaching reading for more than 25 years at one of the universities in Surabaya- Indonesia. The treatment was carried out four times @ 60 minutes. Each treatment was conducted using the ways below. (see the following Table)

**Table 1:** Treatments for the Subjects

<b>Activities</b>	<b>Students</b>	<b>Lecturer</b>
Pre-Reading Activities (5 minutes )	<ul style="list-style-type: none"> <li>-Listened to the teacher's explanation of the purpose of giving LRS.</li> <li>-Tried to adapt the IPTEK and apply it in the reading lab.</li> <li>-Answered the triggering questions using computer.</li> </ul>	<ul style="list-style-type: none"> <li>-Explained the purpose of giving LRS.in Language Lab. (usually it is given in the classroom using the hard copy material as the Reading class".)</li> <li>-Explained how to combine knowledge with technology</li> <li>-Gave the triggering questions</li> </ul>
Whilst-Reading Activities.	<ul style="list-style-type: none"> <li>- Did the exercises themselves as individual learning. They checked their answers by listening to the native speaker's answer sound in the software/CD interactive.</li> <li>-Did the tasks seriously and asked the teacher whenever it was necessary.</li> </ul>	<ul style="list-style-type: none"> <li>-Asked students to do one unit which consisted Task 2-7.</li> <li>- Here, the teacher was only functioned as a facilitator and motivator.</li> <li>-Walked around the class and helped them, incase students found difficulties (functioned as a facilitator and motivator).</li> </ul>
Post-Reading Activities	<ul style="list-style-type: none"> <li>-Did the tasks and checked the answers with the answer keys provided in the flash software individually.</li> </ul>	<ul style="list-style-type: none"> <li>-Asked students to do Tasks 8-10 themselves and investigated their answers with the answer keys provided in the flash learning software.</li> </ul>

**After four times treatments**, the researcher gave the instrument test as a post-test to the students. The gain scores were evaluated using 'T test'. The result of the T-test showed that these products were worthwhile for the students. After students had finished doing the post test, students were also asked to answer questionnaires. The results of the questionnaire also proved that 100% of the students were satisfied with this competency- based reading material development. It eliminated students' boredom who always stayed in the classroom for four hours/per week having Reading class particularly LRS. 83.3% (15 students out of 18) students stated that they loved to have the learning software. The rubric was also given for each part so that students could evaluate their achievement in LRS.

### 3.2.4 The Data Collection of This Research

*The Data Collection was using the following steps:*

1. The researcher was doing the preliminary research to 212 students from semester two- six-class students and two reading teachers by giving questionnaire, interview and observation to fulfill the need analysis of the data.
2. The researcher made sure that the instrument test for pre-post test was good (valid, reliable and practical/economical), as stated before the treatment.
3. The researcher then used the instrument as a pre-test before the treatment.
4. The researcher gave treatments for four times by giving unit 1 to 4 to the second semester students who enrolled Reading II in the year of 2010/2011.
5. After the treatment the researcher gave the good instrument test to the Reading II students who enrolled Reading II in the year of 2010/2011 as a post test.
6. To know that the product was useful or not the researcher calculated the gain scores of the pre and post test. The analysis of the statistical calculation using t test, pointed out that there was a significant difference between the pre-post tests.
7. The test scores were analyzed using a statistical calculation. Since this study compared two means, the statistical tool used in this study was the t test. The following steps were taken:
  - a. Formulating the following statistical hypotheses:
  - b. Determining the level of significance of the test. The researcher decides the level of significance was 5%. (0.05),  $p < 0.05$ , or  $p > 0.05$
  - c. Determining the criteria to accept or to reject  $H_0$ .

$H_0$  was accepted if  $\sigma_0 < \sigma_{\text{critical}}$ ;  $H_0$  was rejected if  $\sigma_0 > \sigma_{\text{critical}}$

Where:  $\sigma_0$  = the calculated  $\sigma$ ;  $\sigma_{\text{critical}}$  = the critical value of  $\sigma_0$ .

d. Drawing conclusion to accept or to reject the  $H_0$ . From the data the researcher could conclude that  $H_0$  was rejected and  $H_a$  was accepted at a 5% level significant. There was a significant difference between the pre-post group. The students in post test group had higher achievement than the pre-test.

e. In pre-test. See the following T test calculation from computer statistics using SPSS.

### 3.2.5 The Analysis of the Data

1. The subjects' responses from the questionnaires were tallied and the percentages were counted.
2. The data from the recorded interview were transcribed. Then, the researcher compared the results of interview with the questionnaires.
3. The results of observation from the observers were compared with other instruments.
4. The results of the students' marks (the amounts of the students' correct points) after using the software interactive of material development were compared with the students' correct points before the try out; the questionnaire and interview.
5. The data from those four instruments were compared to support and to strengthen one another.
6. Those data of the need analysis from 2012 students were merged into two. They would be positive response and negative response. Positive response was taken from 'strongly agree' and 'agree' answers, while 'disagree' and 'strongly disagree' answers belonged to negative response. For the percentage, the researcher gave 100% for the one who selected strongly agree, 75% for the one who selected agree, 50% for the one who selected disagree and 25% for strongly disagree.
7. The obtained data were then interpreted. When the percentage of positive response was more than 60 percents, positive impression on that the development of competency based reading materials for English laboratory was obtained. On the other hand, when the percentage of negative response was less than 60 percents, negative impression on the development of competency based reading materials for English laboratory was obtained.

The researcher finally drew a conclusion based on the findings of the questionnaire, interview, students' marks and observation.

## 4. The Results of the Procedure and the Product Development

This part discussed about the result of the procedure and the product of the competency based reading materials for RLS. The results of the procedure consists of the result of the procedure of competency based reading materials for RLS and the results of the need analysis from the students and the reading teachers. Meanwhile, the product development consists of the analysis of the product development by expert, the discussion from the product development, the discussion of the need analysis from students' questionnaires, the discussion of the need analysis from the reading teacher's interview and questionnaires, the discussion of the need analysis of the researcher's observation, the discussion of the competency-based reading product development, and the discussion of the product development try out.

### 4.1 The Results of the Procedure of the Competency Based Reading Material for RLS

#### 4.1.1 The Result of the Procedure of the Competency Based Reading Materials for RLS

The procedure of the competency based reading material based on Tomlinson (2004). The procedure or process began with the results of the need analysis from the students and the reading teachers. The design of the process is used in this Learning software/CD interactive is the Linear Design which is based on the theory of Tomlinson (2004), where students walk through from one task to another with some complimentary words presented for students to be motivated to work; the theory of constructivism states students have to construct responds spontaneously by typing the answer on the computer based on the passages given. This product of developing competency based Reading materials was packed into fourteen units with specific generic structures. See the table below.

**Table 2:** The Genre Based of the Reading Materials

Genre	Unit	Amount
Recount	I-IV	4 passages
Climatic Narration	V-VII	3 Passages
Straight-line Narration	VIII-X	3 Passages
Descriptive	XI-XIV	4 Passages

#### 4.1.2 The Results of the Need Analysis from the Students and the Reading Teachers

The researcher observed and gave two kinds of questionnaires. One kind of questionnaires was distributed to the students. It concerned with the need analysis from 212 students to know whether they really need the development of the material or not. The other kind was given to the reading teachers. For the reading teachers, the writer gave them different questionnaires from the students since the researcher wanted to know the students' interest, the materials available, their expectations for the new materials, and the expected topics for the new materials. The results of the students' and reading teachers' questionnaires pointed out below: (See the two tables below).

**Table 3:** The Results of the Needs Analysis from 212 Students

No.	Statements	Strongly agree	Agree	Disagree	Strongly disagree	Percentage
1.	Students were not familiar with the learning software and CD Reading interactive for studying "LRS in English Laboratory before".	200 students	-	12 students	-	97.17 %
2.	Students had good perceptions of using English laboratory with computers as a media in teaching-learning "Laboratory Reading" Subject.	180 students	20 students	12 students		94.81 %
3.	Students were eager to have new materials for English Laboratory, by employing the advancement of computer	176 students	25 students	10 students	1 student	94.34 %
4.	Students expected to have new materials using English laboratory with computers as a media in teaching-learning LRS, other than printed materials.	169 students	32 students	6 students	5 students	93.04 %
5.	Students expected to immerse themselves in a virtual reality using computer software in an English Laboratory other than in a class.	144 students	56 students	12 students	-	90.57 %

**Table 4:** The Result of the "Need Analysis" from the Reading Teachers

No.	QUESTIONS	Percentage
1.	The students had less interest when they had "Laboratory Reading" subject.	70%
2.	There was only one book for "Reading Class" and "Laboratory Reading" subjects or in other word the researcher could say that there was no variation of learning resources for interactive learning.	100%
3.	Interesting and motivating learning materials were still inadequate, especially for individual learning material.	100%
4.	The topic given should suit to the curriculum used at that time.	100%
5.	There was no available computer software for learning "Laboratory Reading" subject.	100%

#### *4.2 The Result of The Analysis of Product of The Competency Based Reading Materials For RLS*

The results of the analysis by expert is broken down into three: The analysis of the product development by experts, the analysis of the product development try out and the analysis of the *treatment*.

##### 4.2.1 The Analysis of the Product Development by Expert

The analysis of the process designing the materials' development began with the analysis of designing the material by experts and Fry readability. The product was verified by experts; linguist, computer technology. By experts; linguist, computer technology, and also by reading teachers to get a good Learning software/CD interactive. It was revised twice based on experts' suggestions in language and technology. Furthermore, the content of the flash interactive software was investigated by a foreigner, Marshall Garrett. He is expert in language and technology in US. The researcher also asked him to record his voice using a natural speed so that students could practice Reading along with his voice using natural speed. The researcher believes, later on students can read faster since they are used to hearing natural speed when they have already learned reading in laboratory for Reading I-IV. The product was evaluated four times, by the linguist and technologies. The linguist detached the language used in unit 1-14. The language was relevant for the second semester students based on the latest curriculum applied in that faculty. Based on the Fry readability, the Readability of the Passage is stated below:

The average number of sentences per unit is 13. E.g., Three units =  $13 + 13 + 13$  sentences = 39 sentences  $\div 3 = 13$ . The average number of syllables per 100 words of the 3 units =  $(493 + 588 + 643) \div 3 = 574.7$  syllables. Thus, the readability of the book is approximately 6000 words. After the project was completely finished, the researcher asked the pleasure of the experts to investigate the product again. The evaluations from the experts (foreign linguist, instructional technology and the Reading teachers) were conducted to evaluate the product of the learning interactive software, the result was stated below:

**Table 5:** The Analysis of the Product by Experts

No.	The analysis of the product by experts	Percent -tage
1.	The material suited to the goal in curriculum 2010.	90%
2.	That the instruction was clear for each task.	80%
3.	The pictures were good enough for students to predict the topic which would be given to students.	90%
4.	The respondents were also confirmed that the language used was suited to the students level (6000 words level of difficulties).	80%
5.	The voice recording was clear.	70%
6.	The speed reading was natural,	100%
7.	The software was motivating and interactive.	90%
8.	The time allocation for one unit was appropriate for students to do the exercises and to check it together with the lecturer.	90%
9.	The assessments of the product were suitable for students since an answer sheet was well prepared and provided for each unit before students did the exercise using a computer device.	95%
10.	The rubric was not bad since each number had more or less the same level of difficulty so each number should be evaluated with the same value.	75%
11.	The design of the learning software was eye catching,	90%
12.	The organization of navigation buttons ('Go, Returnand Home') were quite clear and perfect.	95%
13.	The font size of the software was good enough.	70%
14.	The colors of the Reading software were interesting for the readers.	100%

#### 4.2.2 Discussion from the Product Development

This discussion concerns with the discussion of the need analysis from students' questionnaires, the discussion of the need analysis from the reading teacher's interview, questionnaires and the discussion of the need analysis of the researcher's observation and the discussion of competency-based-reading product development.

##### 4.2.2.1 The Discussion of the Need Analysis from Students' Questionnaires

From the results of the needs analysis of students' questionnaires, the researcher concluded that most students were eager to have new materials held in English laboratory to suit the name of the subjects; "laboratory Reading Subject":

- Students wanted to have Learning software/CD interactive which they had never obtained before.
- Students had good perception of using the English Laboratory by employing the advancement of computer to face the globalization era.
- Students expected to immerse themselves in a virtual reality using computer software in an English Laboratory other than in a class-room.
- Students wanted to have new materials to be used in English laboratory so that students were able to enhance competency-based reading materials which were able to develop their reading achievement.

##### 4.2.2.2 The Discussion of the Need Analysis from the Reading Teacher's Interview and Questionnaires

From the needs analysis of the reading teachers' interview and questionnaire, it turned out that the reading teachers realized that it required developing new materials based on knowledge and technology since the subjects/students wanted to immerse themselves in virtual reality when they studied in LRS. Further, the reading teachers explained in their interview that students in their classes felt bored of learning in classes using the same printed materials. The Reading teachers also claimed that new materials for Laboratory Reading Subject in language laboratory might create joyful English learning for students besides they would be trained to be independent persons who would be useful for their future to face globalization era. There was no available computer software for learning "Laboratory reading subject yet, so it was necessary to create one which suited to the new curriculum available.

##### 4.2.2.3 The Discussion of the Need Analysis of the Researcher's Observation

In the observation, the researcher realized that students were not getting bored to stay in class for four hours/per week with the new material. On the contrary using the previous/old materials some of them were asking to go to the toilets and returned after 15 minutes or more or they sat restlessly in class.

In short the result of the triangulation for need analysis between the researcher's observation and the two kinds of questionnaires and interview above proved that new Learning software/CD interactive material for "Laboratory Reading Subject" was badly needed in globalization era where science and technology should be combined. Using these ways, students would enhance their reading achievement. This could also be proved through statistical analysis where students gained 12 % of the reading achievement after the treatments. In pre test, the average mark of the students were only 48.9444 while after the treatment their marks were increasing drastically. The average marks of the post test were 60.9444.

The Learning software/CD interactive, followed by teachers' book were the product of this research. These had been revised twice based on experts' suggestions. The experts are Mr. Marshall Garrett, a linguist and technologist from America. He was expert in language and technology. The other one is Mr. Alkana, who is an expert in computer software.

The researcher asked the linguist to record his voice using a natural speed so that students could practice Reading along with foreigner's voice using natural speed. The researcher believes, that later on students can read fluently since they used to hearing natural speed when they had learned reading in laboratory for 4 semesters in one of the universities in Surabaya especially after the students have joined in Reading I, II, III and IV.

##### 4.2.2.4 The Discussion of Competency-Based-Reading Product Development

According to the foreign linguist and to the Reading teacher, it was confirmed that the learning software and CD material suited the goal in curriculum 2010, since the genre-based and some of the passages were taken from the compulsory passages in curriculum 2010. Further, the instruction was clear for each task. The pictures were good enough for students to predict the topic which would be given to students.

The experts also confirmed that the language used was suitable for the students level (about 6000-word level of difficulty). The sound recording was clear enough to detect the content of the passages given, only some distortion

existed and this could not be avoided since the headphone was not good enough for recording. Further, respondents agreed that the voice recording was clear, and the speed reading was natural, that was the reason why the experts also suggested that the reading passages should be played twice before students began to do various exercises. The experts mentioned that the software was motivating and interactive.

The time allocation for one unit was appropriate for students to do the exercises; this situation could be seen from the try out, it turned out that most students finished on time (60 minutes). The rest 60 minutes could be used for discussion and checking the students' work. The respondents pointed out that the assessment given in the learning software was suitable for students since an answer sheet was well prepared and provided for each problem sheet or unit before students did the exercise using a computer devise.

The rubric was not bad since each number had more or less the same level of difficulty so each number should be evaluated with the same mark; the respondents stated that the organization of navigation buttons ('Go', 'Return' and 'Home') were quite clear and perfect.

The experts also confirmed that the designs of the learning software were eye-catching; and the font size of the software was good enough, but sometimes some parts were still smaller even though students could still read it clearly. The researcher could not change it since the room was not enough.

At last the experts stated that, as a whole, the colors of the learning software, CD interactive and the teacher's book were all interesting and motivating as well for the readers. They confirmed that the results of the product were well created for the language as well as the flash technology, it is appropriate to be used for learning-teaching software for "Laboratory reading subject in English language laboratory.

#### 4.2.2.5 The Discussion of the Product Development Try Out

From the analysis of the instrument, it turned out that the instrument test was really a good instrument, practical, valid, reliable and economical before the treatment. The instrument test was used before the treatment as a pre test and after the treatment as a post test. The treatment was carried out four times since the researcher did not teach Reading II and it was difficult to have more times for try out. The researcher only had 4 times and 2 hours for pre- and post-tests.

**Pre-test:** Here the researcher functions as a non-participant. The researcher distributed a pre test and answer sheets before giving the treatments. First, the teacher explained the purpose of the lesson and how to run the learning software which combined science and technology (IPTEK). The students looked happily and interestingly observed the new colorful material and worked in a Language laboratory. The tasks were really motivating them to study. They were doing tasks and evaluating their own work happily. It was fun for them to do the tasks which followed by colorful pictures and used the advancement of "IPTEK". They knew the feedback right away after they answered each number since the rubric was presented for each number that they had been carried out. Students were able to evaluate themselves after they observed the feedback, but they were not allowed to change the answer after the feedback was approached. Most of the students expected to have such fun occasion every week, when they had LRS. The results of the pre-test conducted were: 45, 53, 58, 49, 45, 52, 48, 51, 38, 46, 50, 53, 50, 47, 46, 50, 53, and 47. The means score was low 48.94444.

**Post test:** The Post test was given after the treatments. The post-test was carried out with the same ways as in pre-test above. The results of the post-test conducted were 66, 60, 64, 61, 66, 63, 62, 62, 59, 62, 62, 54, 60, 54, 58, 61, 61, and 62. The means score was 60.94444

The result of the pre-post test using T test showed that there was a significant difference between the two means; the post-test had higher marks than the pre-test. Thus, students of the post-test have higher achievement than students in pre-test. The post test students gained 12% higher than the pre-test. This means that Competency-Based Reading Lab Learning software/CD interactive are useful for students since they can motivate students to achieve higher achievement in learning Reading in language laboratory.

**Table 6:** The Calculation of Pre-post Tests

<b>T-Test: Paired Two Sample for Means</b>		<i>Post</i>	<i>Pre</i>	
Mean		60.94444	48.94444	The probability is 0.0009368932
Variance		10.64379	19.11438	
Observations		18	18	
Pearson Correlation		0.008019		
Hypothesized Mean Difference		0		
Df		17		
t Stat		9.368932		Ug: Means a gain score
P(T<=t) one-tail		2E-08	Ho : $\mu_g = 0$	
t Critical one-tail		1.739607	Ho : $\mu_g \neq 0$	The result of score in
P(T<=t) two-tail		3.99E-08		post test is > Pre-test
t Critical two-tail		2.109816		

**Thus, the probability is 9368932 E-08 or =0.0009368932 means there is a significant difference between the pre-post tests. The result of the scores in post test is higher than in the pre- test; means that the students' achievements enhance 12% by using the competency based reading material development.**

## 5. The Suggestions

These suggestions were broken down into two; the suggestion for disseminating of the product and the suggestion for further Research Development. From the statistical analysis, it had already been proved that the use of this learning software and CD interactive was able to increase the students' reading achievement, so this Learning software/CD interactive are prominent. The researcher believes that this learning software could be applicable as an alternative source of learning LRS. The development of Competency-Based-Reading in Language Laboratory had been created successfully to:

- Ravage students who encountered boredom in learning Reading Subject particularly in a class-room.
- Facilitate students who had no material variation in learning Reading Lab and Reading Class.
- Complete students who did not immerse in science and technology at the sametime to face globalization era.
- Complete students who did not immerse in science and technology at the same time to face globalization era.
- Support and motivate self learning with interesting and motivating designs for learning materials of Reading Subject which were still inadequate, and did not support their individual learning as well.
- Add the unavailable competency-based Reading Computer software for teaching Reading Subject especially for teaching Laboratory Reading Subject that was organized for being interesting, motivating, and being an easy learning source to learn by self-studying in the language laboratory.

### 5.1 The Suggestion for Disseminating the Product

The Competency-Based Reading Materials for Language Laboratory might be spread to other tertiary public and private universities as the main source of Reading Laboratory for the second semester students. It can also be used as an alternative source of Reading Class where computers are in front of the students. It is also suggested that the university that applies this learning software, utilizes computer language laboratory which supports teaching and learning skills. Since the gadget of learning software is still rare and difficult to find and create so it is also suggested that students will look after this software for self study. It is also suggested that students know how to operate computers and flash before using this Learning software/CD interactive. Students may also save this software in their flash disk for them to have self learning and study at home. Hopefully, they can answer questions related to genre texts, answer questions related to passages given, either questions related to main idea, supporting details and making summary related to the passage given. Besides, those which have been mentioned above, students can also have the benefits of reading speed as fast as foreigners and pronounce the words marvelously as natives. They can hopefully speak and write fluently as well.

## References

- Berk, L. E. (2001). *Infants, Children, and Adolescents*. Toronto: Allyn and Bacon.
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research Method in Education*. New York: Routledge Falmer.  
<http://dx.doi.org/10.4324/9780203224342>
- Depdiknas. (2004). *Kurikulum 2004. Pedoman Umum Pengembangan Sillabus Berbasis Kompetensi SMA*. Jakarta: Departement Pendidikan Nasional.
- Depdiknas. (2007). *Peraturan Menteri Pendidikan Nasional Republic Indonesia No.16 Tahun 2007*. Jakarta: Department Pendidikan Nasional.
- Depdiknas. (2004). *Pedoman Umum Pengembangan Bahan Ajar Sekolah Menengah Atas*. Jakarta: Departement Pendidikan Nasional.
- Fisher, Dennis, F., & Charles W. P. (1981). *Comprehension and the Competency Reader*. New York: Praeger Publisher.
- Gillies, AD., B.D. Sinclair & S.J. Swindenby. (1996). *Computer Package for Building Concepts and Understanding*. New Concept Approaches XX: 362-368.
- González-Lloret, M. (2003). *Language Learning & Technology*. Vol. 7, No. 1, January 2003, pp. 86-104. Retrieved on October 2, 2006, from <http://iteslj.org/>
- Grabe, W., & Stoller, F. L. (2002). *Teaching and Researching Reading*. London: Longman.
- Helena, A. (2005). *Competency, Process and Assessment Standards: Towards Autonomy in ELT. Seminar on syllabus and SAP*. Surabaya: Univ. WM.
- Kaplan, E. (2002). *Constructivism as a Theory*. Retrieved on 20 June 2006 from [http://online.sfsu.edu/~foreman/itec800/finalprojects/eitan\\_kaplan/pages/classroom](http://online.sfsu.edu/~foreman/itec800/finalprojects/eitan_kaplan/pages/classroom)
- Murcia, Marianne Celce (Ed.). (1991). *Teaching English as a Second or Foreign Language*. Boston: Heinle and Heinle Publishers.
- Pranowo. (2003). Kurikulum Berbasis Kompetensi Sebagai Jembatan Menuju Masa Depan. *Jurnal Magister Sciencie*, 14, 62-76.
- Richards, J. (2001). *Approaches and Methods in Language Teaching*. New York: Cambridge University Press.  
<http://dx.doi.org/10.1017/CBO9780511667305>
- Surjosuseno, Tjahjaning Tingastuti. (2000). *Towards Improving the Teaching of Critical Reading Skills in English as a Foreign Language Tertiary Classes in Indonesia: An Analysis of a Reading Curriculum*. Unpublished Doctoral Degree Dissertation, Rockhampton: Faculty of Education and Creative Art.
- Surjosuseno, Tjahjaning T., & Johnson, Robert. (2002). Issues on Teaching Strategies for Immersion Education. *Jurnal Ilmu Pendidikan*, 9(3), 179-187.
- Surjosuseno, Tjahjaning Tingastuti & Watts, Vivienne. (2000). Using Bloom's Taxonomy to Teach Critical Reading in English as a Foreign Language Classes. *Queensland Journal of Education Research*, 15(2), 227-244.
- Swales, J. M. (1990). *Genre Analysis*. Cambridge: Cambridge University Press.
- Tomlinson, B. (2004). *Developing Materials for Language Teaching*. New York: Amazon Press.
- Walker, D., Kiefer, K., & Reid, S. (2013). *Cognitive Reading Theory*. Retrieved on 19 June 2013 from <http://writing.colostate.edu/guides/reading/critread/pop3a.cfm>