DISSERTATION

DEVELOPING CRITICAL READING MATERIALS BASED ON CONTENT LANGUAGE INTEGRATED LEARNING (CLIL) PRINCIPLES ASSISTED WITH INTERACTIVE MULTIMEDIA AT THE ENGLISH LANGUAGE DEPARTMENT

Submitted as a Partial Fulfillment of the Requirements to the Doctoral Degree *in Ilmu Keguruan Bahasa* (IKB) Study Program

by
FITRAWATI
NIM: 19326002

Promotors:

Prof. Dr. Hermawati Syarif, M.Hum

Prof. Dr. M. Zaim, M. Hum

PROGRAM STUDI ILMU KEGURUAN BAHASA
FAKULTAS BAHASA DAN SENI
UNIVERSITAS NEGERI PADANG
2022

PERSETUJUAN AKHIR DISERTASI

Nama Mahasiswa : **Fitrawati**

NIM.   : 19326002/2019

N a m a	Tanda Tangan	Tanggal
Prof. Dr. Hermawati Syarif, M.Hum. Promotor		22/11-22
Prof. Dr. M. Zaim, M.Hum. Ko-Promotor		22/11/2022

Dekan Fakultas Bahasa dan Seni
Universitas Negeri Padang

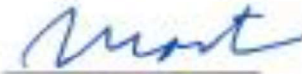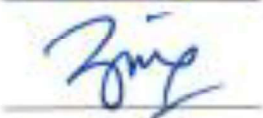Prof. Dr. Ermanto, S.Pd., M.Hum.
NIP 19690212.199403 1.004

Ketua Program Studi
Ilmu Keguruan Bahasa
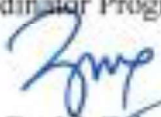
Prof. Dr. M. Zaim, M.Hum.
NIP 19610321.198602 1.001

PERSETUJUAN KOMISI
UJIAN DISERTASI ILMU KEGURUAN BAHASA

Mahasiswa :
Nama   : **Fitrawati**
NIM.   : 19326002/2019
Tanggal Ujian : 21 - 11 - 2022

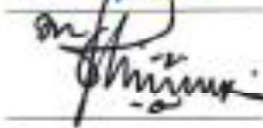| No	N a m a	Tanda Tangan
1.	Prof. Ganefri, Ph.D. *(Ketua/Penyelia)*	
2.	Prof. Dr. Ermanto, S.Pd., M.Hum. *(Ketua/Pemguji)*	
3.	Prof. Dr. M. Zaim, M.Hum. *(Skretaris/Penguji)*	
4.	Prof. Dr. Hermawati Syarif, M.Hum. *(Promotor/Penguji)*	
5.	Prof. Dr. M. Zaim, M.Hum. *(Ko-Promotor/Penguji)*	
6.	Prof. Dra. Yenni Rozimela, M.Ed., Ph.D. *(Penguji)*	
7.	Prof. Dr. Syahrul R, M.Pd. *(Penguji)*	
8.	Dr. Refnaldi, S.Pd., M.Litt. *(Penguji)*	
9.	Prof. Dr. Martin Kustati, M.Pd. *(Penguji)*	

Koordinator Program Studi,

Prof. Dr. M. Zaim, M.Hum.
NIP. 19610321 198602 1.001

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Saya yang menyatakan,

Fitrawati
19326002

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DEDICATION

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ABSTRAK

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Mata kuliah membaca kritis menuntut kompetensi membaca aktif mahasiswa. Prinsip-prinsip pembelajaran *Content Language Integrated Learning (CLIL)* dapat meningkatkan kemampuan berpikir kritis mahasiswa. Penelitian ini bertujuan untuk mengembangkan materi ajar *Critical Reading* berbasis prinsip-prinsip *CLIL* dan berbantuan multimedia interaktif. Pengembangan materi ini penting dilakukan karena materi ajar ini dapat meningkatkan kemampuan membaca kritis mahasiswa. Bahan ajar yang dikembangkan berbasis pembelajaran CLIL dan berorientasi pada kemampuan berpikir kritis mahasiswa. CLIL tidak hanya menekankan pada kemampuan berbahasa tetapi juga bagaimana konten pembelajaran dapat memberikan stimulus untuk berpikir dan memahami tujuan pembelajaran. Penelitian ini menggunakan metode *Research and Development (R&D)*. Prosedur pengembangan yang digunakan adalah *small scale mode*l oleh Borg & Gall (2003). Subjek uji coba penelitian adalah mahasiswa Departemen Bahasa dan Sastra Inggris yang sedang mengambil mata kuliah *Critical Reading*. Data dianalisa secara kuantitatif dan kualitatif. Penelitian ini terdiri dari enam tahapan, yaitu: (1) melakukan pengumpulan data awal, (2) merencanakan tujuan pembelajaran, (3) mengembangkan rancangan awal produk, (4) melakukan uji coba rancangan produk awal, (5) merevisi produk, dan (6) melakukan uji efektivitas materi ajar terhadap kemampuan membaca kritis mahasiswa. Hasil penelitian menunjukkan bahwa materi ajar *Critical Reading* yang digunakan saat ini di Departemen Bahasa dan Sastra Inggris belum layak digunakan sebagai materi ajar yang efektiv. Hasil penelitian juga menunjukkan bahwa materi ajar yang dikembangkan valid, praktis dan efektiv. Validitas materi ajar juga mencapai kategori sangat baik berdasarkan penilaian ahli dan validator. Kepraktisan materi ajar dikategorikan sangat baik menurut respon mahasiswa, observasi pelaksanaan, dan evaluasi dosen. Keefektivan materi ajar mencapai kategori sangat baik berdasarkan hasil tes membaca kritis mahasiswa. Karena produk ini sudah memenuhi kebutuhan dosen dan mahasiswa, maka disarankan kepada mahasiswa dan dosen untuk menggunakan materi ajar *Critical Reading* berbasis CLIL dan berbantuan multimedia interaktif dalam pembelajaran *Critical Reading* ke depannya. Implikasi dari penelitian ini adalah bahwa materi ajar ini sesuai dengan tuntutan pembelajaran online seperti model pembelajaran *blended learning* sehingga fitur-fitur multimedia interaktif bisa lebih dioptimalkan pemakaiannya.

Kata kunci: Membaca kritis, Pengembangan materi ajar, CLIL, Multimedia interaktif

ABSTRACT

Fitrawati (2022). Developing Critical Reading Material Based on Content Language Integrated Learning (CLIL) Principles Assisted with Interactive Multimedia at The English Language Department. Dissertation. Padang: *Program Studi Ilmu Keguruan Bahasa. Faculty of Languages and Arts. Universitas Negeri Padang*.

Critical reading course demands students' active reading competence. Content Language Integrated Learning (CLIL) principles can elevate students' critical thinking skills. Thus, this study aims to develop Critical Reading teaching materials based on the CLIL principles assisted with interactive multimedia. The development of this teaching material is important because this teaching material can improve students' critical reading skills. The teaching materials developed are based on CLIL learning and are oriented to students' critical thinking skills. CLIL not only emphasizes language skills but also how learning content can provide a stimulus to think and understand learning objectives. This study uses the Research and *Development (R&D) method.* The development procedure used is the *small-scale model* by Borg & Gall (2003). The subjects of the research were students of the Department of English Language and Literature who were taking a Critical Reading course. Data were analyzed quantitatively and qualitatively. This research consists of six stages, namely: (*1) research and information collecting, (2) planning learning objectives, (3) developing preliminary form of the product, (4) preliminary field testing, (5) main product revision, and (6) main field testing*. The results of the preliminary study indicate that the Critical Reading teaching materials currently used in the Department of English Language and Literature are not suitable for use as effective teaching materials. The results also show that the teaching materials developed are valid, practical and effective. The validity of the teaching materials also reached a very good category based on the assessment of experts and validators. The practicality of teaching materials is categorized as very good according to student responses, implementation, observations, and lecturer evaluations. The effectiveness of teaching materials reached the very good category based on student test results. Because this product has met the lecturers' and students' needs, it is recommended for students and lecturers to use CLIL-based Critical Reading teaching materials assisted with interactive multimedia in teaching and learning Critical Reading subject in the future. The implication of this research is that this teaching material is in accordance with the demands of online or blended learning so that the interactive multimedia features of the product can be optimized.

Keywords: Critical Reading, Material Development, CLIL, Interactive Multimedia

CHAPTER I
INTRODUCTION

A. Background of the Problem

Critical reading is the highest level of reading comprehension. Based on Crawley & Mountain's (1995) hierarchy of reading comprehension, critical reading occurs after literal and interpretative comprehensions. Critical readers can evaluate the writer's idea within the text (McWhorter, 1980). They usually place themselves toward the writer's idea based on their own experiences. They decide how to react to the text emotionally and intellectually. To be a critical reader needs the ability to realize that the ideas on the page are to teach, persuade, amuse, provoke, or advise readers. Moreover, it helps to base judgments on evidence (Knott, 2019). The reading activity helps the reader to discover and understand the author's arguments and helps to make assumptions and opinions based on what is read.

In Critical Reading class, there is a reading activity that involves an analysis process and evaluation of the text. The activity evaluates the quality of writing as a complex activity. It also demands that students to consider the quality of the contents and style of the text that is read based on criteria that can be accounted for. The critical readers have to read carefully, actively, analytically, and reflectively (Kurland, 2000). He mentions critical reading activity is marked by readers' readiness to think openly to the information in the text, then read it carefully, analyze it into parts to find text logic, reveal again arguments in the text, question argument, and finally judge argument quality or text quality as a whole. Critical reading is similar to close reading in that the evaluation process starts from reading, observing every idea, information, statement, or argument are put forward in the text. To sum up, in reading critically, readers actively recognize what is said by the text, and then analyze what is contained in the text to get a complete

understanding. They can reflect what is contained in the text by giving examples, argumentation, sympathy, and contrast to clarify an issue, and finally draw conclusions from the entire text.

Since the critical reading course demands students' critical reading competence, the English Department of Universitas Negeri Padang demands students to *employ critical and analytical thinking skills in solving problems in language teaching and other related fields* (*SAR AUNQA: Expected Learning Outcome (ELO)10;* (ELEP, 2019)). It means students have to read critically and argumentatively in various kinds of disciplines. Students majoring in English at UNP are required to master teaching subject contents such as: TEFL, curriculum design, assessment, and teaching media. In addition, they must also master the fields of English linguistics and literature. These two subjects will increase students' knowledge and skills in comprehending any reading selections and mastering English as the ultimate purpose.

Besides mastering the content subjects of English language teaching, Linguistics, and Literature, students majoring in English must also be proficient in *analyzing English linguistic and cultural features for the purposes of TESOL in a wide range of contexts* (*SAR AUNQA: Expected Learning Outcome (ELO)3,* (ELEP, 2019)). Teaching materials as curriculum content are a reflection of social and cultural changes that must be accommodated by the curriculum (Brady & Kennedy, 2007). To achieve this goal, there should be an effort to improve the quality of learning. One of the efforts is by developing teaching materials to improve the quality of learning. They are essential elements in the curriculum because teaching material is a wheel of the curriculum so that the learning process runs effectively and efficiently (Nunan, 1999). The teaching materials can be in the form of textbooks, student worksheets, recordings in the form of cassettes or videos, materials in the form of CDs, magazines, newspapers, or brochures that have been selected and intended for the students.

Specifically, at university level in Indonesia, students are expected to be able to develop and pose a higher level of reading skill. Critical reading is an inseparable aspect in their study life. Therefore, having a good critical reading skill should emphasize the critical reading class activity. From several of research, they are three major Critical Reading problems faced by the students in the class. The first problem is students' linguistic problems (vocabulary size and grammar) (Sen & Kuleli, 2015). These problems hinder students' comprehension. As stated by Sen & Kuleli (2015), that vocabulary size and depth were significantly correlated to reading performance. Second problem is content-related problem. This problem belongs to difficulty to understand the text and draw conclusion completely, difficulty to get all information from a whole text, get the main idea of the text, evaluate the arguments of the text, analyze the content, misinterpret the author purpose, find the implicit meaning of the text and difficulty to make relevant questions. The last problem is students' non-linguistic problems. Problems belong to this category are less of concentration, having no interest in a specific topic, cannot find the appropriate answer for his/her own questions, building the curiosity into the text, having less carefulness and sensitive to the text (Wallace, 2003).

From their preliminary research, Fitrawati & Syarif (2020) reveal, six major causes of problems in teaching Critical reading. First, students get misconceptions about the purpose of critical reading. Usually, students read because they have to, not because they want to. They have to do an assignment from the lecturers. In this case, the readers become passive. They read without retaining information and without determining why such information is crucial in a given course and to their education. Second, students have lack practice. Because many readers do not have a purpose when reading and just to complete a task, they do not take the reading activity seriously as their reading habit. Third, students think that the critical reading process is

too complicated. For college students, critical reading skills are very helpful not only for their studies but also for their future in the work field. It is important when college graduates are employed and expected to contribute meaningfully in the workplace, to select political candidates for public office, to make informed decisions about medical or consumer matters, or other important decisions. Unfortunately, many students are not aware of the importance of critical reading. They also think that it is too difficult to do and so complicated because they need to have a high concentrate when reading.

Fourth, there is no variation of reading materials for Critical reading class. This is based on the reality where teaching materials used for *Critical Reading courses* are the ones that are also used for other reading courses such as, *Advanced Reading courses and Extensive Reading courses*. There is no clear cut what reading contents and language skills these two courses should have. Even though these two courses contain genre-based content-oriented reading materials, sometimes, it is hard to differentiate the content for each of the courses. Based on the researcher's observation, the existing teaching materials are monotonous and boring because lecturers are using learning material that does not support students' understanding or comprehension in reading the text critically. Then, the lecturers are also using learning material that cannot improve the students' critical reading ability. Due to uninteresting teaching materials, the teaching process is still focused or centered on the lecturers.

The fifth cause of problem is the students' critical thinking skill is not yet activated by certain reading activities in textbook. Usually, the reading class activity will be opened by reading a passage from the textbook. Then, the teacher asks students to answer questions from the reading. If students do not understand, the teacher helps students provide clues to the answers to these questions. Reading activities like this do not provide opportunities for students to

interact with the texts they read. Interaction with the text will help students in activating critical thinking and argumentative thinking. This causes some students to get sleepy in class and complain about the number of questions or cases that must be resolved. Consequently, a good reading material should accommodate students' reading activity that can stimulate them to think critically and argumentatively.

The last, the existing Critical reading teaching materials are not in the form of a multimedia platform. Essentially, the use of teaching media also could be very helpful for the lecturers in teaching Critical reading. Sanjaya et al. (2017) who investigated the relationship between the use of instructional media and Junior High School students' interest and motivation in learning English, it is found that the students are interested in and motivated both intrinsically and extrinsically to learn when the lecturers use instructional media. Earlier, Dettori & Persico (2006) states reading teaching media are used for delivering the message, comprehending an idea, obtaining, and combining various skills. Also, the reading teaching media become one of the solutions to cope with students' different learning styles and attract students' interest (Sakat, et al., 2012). As a result, teaching English by using instructional media will be more interesting for the English learners and the learning outcomes can be achieved.

Some studies about implementation of interactive multimedia in teaching materials provoke that media can give good impact on students' interest in learning. There are several studies conducted related to the development of teaching materials and media. Research conducted by Fitrawati et al. (2014) to see the needs of students for teaching materials, it was found that students needed teaching materials presented in text, and audio. This followed with other research done by Fitrawati & Syarif (2018) research on the development of interactive E-Book learning media for Advanced Grammar Course. In 2013, Sugianto & Mulyadi (2013)

researched to develop interactive learning media based on digital media for science learning at the secondary school level. The resulting media is in the form of a flipbook and visual circular motion for Physics subjects. To conclude, Interactive teaching can be combined with various learning media such as video, audio, text, and graphics in a systematic manner that aims for interactive learning with students (Prastowo, 2012).

Those studies do not imply that the printed books used by the lecturers are poor in quality. On the contrary, books used so far, such as the books: *Structured Reading, Essential Reading, Guide to College Reading, and Reading Across Disciplines* are written by world authors and published by world-class publishers. The books also have soft copies on CD and there are already exercises that students can do online. However, the soft copy of the book has not fully used interactive multimedia. The soft copy material is in the form of text and images; in other words, there is no audio and video in the material yet. It is not interactive yet. As a result, students' interest in doing the exercises in the book is very low, the time to do the exercises in the classroom is not enough and students do not get enough feedback from the exercises they do. This can be seen from the learning process where students only do exercises assigned by the lecturer but do not have time to be examined or given feedbacks by the lecturer. Event worst, some students did not do the assigned exercises. Based on interviews with several students, no student has done the exercises on their initiative.

To overcome the problems in teaching and learning critical reading that have been mentioned previously, it is necessary to use a learning approach where students' critical reading competence and critical thinking are things that must be possessed to be able to face the challenges of this age (Glen, 2017). To facilitate the critical reading material, a learning

approach is needed, which also provides a focal point on the development of thinking. The approach used is CLIL (Content and Language Integrated Learning).

Content Language Integrated Learning **(CLIL),** a learning approach introduced to develop language teaching and learning (Ludbrook, 2007) becomes a new form of education on which learners are active participants in their learning development, the process of inquiry and other critical thinking skills are the means to develop problem-solving tasks, and teachers are facilitators to empower the learners (Coyle, 2008); (Hood, 2005); and (Marsh, 2003). This means that the convergence between both the language and the content aims to develop language skills in the target language as well as develop specific knowledge beyond concepts of the subjects. Furthermore, this approach takes the students to learn subjects or text (content) through language or vice versa, language learning (language) through subjects (content). Coyle (2008) explains that CLIL is a very appropriate approach to understanding the subject matter (content) that is taught simultaneously by deepening the language skills used in the learning. Language is not only an instructional medium in learning but also as the goal of learning (Setiyaningrum, 2010). Stukalina (2010) has the same opinion, that the CLIL approach is the right way to improve foreign language skills in addition to increasing the competence of the subject itself.

There have been number of studies revealing the implementation of the concept of CLIL in English language and teaching. Research results (i.e., Nurbaya & Rahayu, 2019; Hamidavi et al., 2016; de Zarobe & Zenotz, 2015) demostrate the CLIL princilples can be implemented in increasing students' critical thinking in EFL teaching. This approach does not only emphasize language skills (language) but also on how learning content can provide a stimulus to think and understand the purpose of learning. From these studies, it may potentially develop critical

reading material to the higher level of thinking which accommodates a foreign language learning with a dual focus on the subject and language.

Despite some studies revealing positive implications of doing CLIL principles adopted in developing critical reading material, it is still crucial to design the CLIL-based critical reading material, particularly in incorporating technology. Acknowledging the need for technologically proficient lecturers, lecturers across the nation now infuse some degree of technological competency into the preparation of critical reading materials (Pérez & Malagón, 2017; Gimeno-Sanz et al., 2014). This can be seen from the significant overall effects of selecting interactive multimedia by integrating technology in teaching English and other related subjects (see, for example, Prastowo, 2012; Sugianto et al., 2013; Rahmadani, Fitrawati, & Syarif, 2018). However, there are some challenges in implementing technology into teaching English as a foreign language (Aleksandrzak, 2011; Habibu et al., 2012; Alice, 2012).

While it is very common to find research on exploring the concept of CLIL in teaching English whether using descriptive, experimental design or case study in English language teaching in around the globe (for example, Harsono, 2017; Ludbrook, 2008; Šulistová, 2013; Banegas, 2016), this study applied Research and Development (R&D) to design and develop a learning material for Critical reading class in EFL, that would implement the concept of CLIL principles by using the interactive multimedia has not yet been found, particularly in Indonesian context. Thus, this research might fill the gap and contribute to existing research on material development.

Finally, further research is still needed to discuss the development of interactive multimedia-based teaching materials for critical reading learning based on CLIL principles.

Based on the description above, it is necessary to research as outlined in the title: **Developing Critical Reading Material Based on Content Language Integrated Learning (CLIL) Principles Assisted with Digital Interactive Multimedia.**

B.   Identification of the Research Problem

Based on the background of the problem, some issues can be investigated under the development of teaching materials. First, it can be investigated from the material development. Second, it also can be researched from the media point of view. The third, doing research and development in education, the researcher also can research teaching method and technique. To be specific, some problems are found in teaching Critical reading class as general:

1. The Critical reading subject was still taught conventionally. It means lecturers usually asked the students to read the text, and answered the questions from the text. Lecturers served as a source of knowledge while students served as receivers.

2. Reading instruction was not able to make students aware of the reading materials taught. Since lecturers explained the Critical Reading features in detail, students just received the information without realizing how the reading information was appeared and used. They read without retaining information and without determining why such information is crucial in a given course and to their education.

3. The instructional book used in teaching reading did not seem to present students with good input exposure either. The book used was designed in the discreet way or PPP (presentation, practice, production) model which presents reading skills for the first, practicing the reading skills, and producing language in lack of context.

4. Students' language component (like vocabulary) was not included in the reading materials since vocabulary mastery was the biggest part of comprehending reading the text.

5. Reading materials or sources used are still in the form of printed materials where they do not accommodate or integrate the use of ICT in providing the reading selections, texts, or reading exercises. There should be more reading texts or exercises which can be found online or in the form of software, E-Book, or reading sites and application.

C. Formulation of the Problem

The research problem can be formulated into: What is the appropriate Critical Reading teaching materials based on CLIL principles assisted with interactive multimedia for English department students?

D. Limitation of the Research Problem

The researcher limits her research only on the learning material aspects. Problems are limited to only developing Critical Reading materials based on CLIL principles assisted with interactive multimedia for English Department students.

E. Research Questions

As guidance, she formulates the research questions as follows:

1. What is the preliminary research and information of Critical Reading materials at the English Department of UNP?

2. What kind of Critical Reading materials based on CLIL principles assisted with interactive multimedia is suitable for students in Critical Reading class at the English Department of UNP?

3. What are the characteristics of valid Critical Reading materials based on CLIL principles assisted with interactive multimedia in the Critical Reading course for English Department students of UNP?

4. What are the characteristics of practical Critical Reading materials based on CLIL principles assisted with interactive multimedia in the Critical Reading course for English Department students of UNP?

5. What is the effectiveness of Critical Reading materials based on CLIL principles assisted with interactive multimedia in the Critical Reading course for English Department students of UNP?

F. Purpose of the Research

Specifically, the purposes of this research are to find out:

1. the preliminary research and information of Critical Reading materials at the English Department of UNP.

2. the kind of Critical Reading materials based on CLIL principles assisted with interactive multimedia which is suitable for students in Critical Reading class at English Department of UNP.

3. the valid characteristics of Critical Reading materials based on CLIL principles assisted with interactive multimedia in Critical Reading course for English Department students of UNP.

4. the practical characteristics of Critical Reading materials based on CLIL principles assisted with interactive multimedia in Critical Reading course for English Department students of UNP.

5. the effectiveness of Critical Reading materials based on CLIL principles assisted with interactive multimedia in Critical Reading course for English Department students of UNP.

G. Product Specification

The product developed is teaching material using interactive multimedia which is packaged in the form of an interactive E-Book using *Kotobee* software application. The type of software used in the development of this teaching material is *Katobee Author*, a software in the form of an interactive e-book using *Kotobee Author* software and exported to two formats for e-books, EPUB and KPUB (*Kotobee Author's* file format). The interactive multimedia can be read through *Kotobee Reader* that is available for web, desktop, and mobile. If the users want to open the interactive multimedia offline, they have to have the interactive e-book file on their devices. Furthermore, they can access the interactive e-book online by opening shared library in *Kotobee Reader* (for desktop and mobile devices) and visiting the website *Kotobee Shared Library* (for web). Hence, the interactive e-book can be accessed anywhere and anytime (portable).

The teaching material is developed based on CLIL principles, the syllabus *(RPS)*, lecturers, and students' need. The materials are in the form of text, audio, video, song and film, and online exercises. The materials are adopted and adapted from the internet as authentic learning resources by utilizing social media such as You tube, websites, and others. The material is designed to improve students' critical reading skills based on the CLIL principles. The topics cover 16 meetings (one semester). Each topic has the same syntax proposed by McWhorter & Sember (2014); McWhorter (2009) which consists of: (1) Making a connection of the reading, (2) Lesson content, (3) Building vocabulary, (4) Checking comprehension, (5) Thinking

Critically, (6) Exploring ideas through discussion and writing, (7) Beyond the classroom to the web, and (8) Lesson summary.

H. Importance of the Research

This research is believed to provide theoretical and practical benefits. Theoretically, this research result is useful for several of things:

1. It can strengthen the Critical Reading skills by stimulating students' critical thinking and reasoning skills.

2. It can strengthen the educational theory where the CLIL principles can be used as the basis of learning material development.

3. It can strengthen the educational theory where technology can be used for education and learning.

4. It can strengthen the educational theory where Critical Reading materials based on CLIL principles assisted with interactive multimedia is effective for improving student learning outcomes.

5. It can enrich knowledge about the use of interactive multimedia and its relation to the development of teaching materials.

In practical terms, this research can provide practical contributions for related parties, such as:

1. For students being enrolled in the English critical reading class, the use of the teaching materials develops students' critical thinking.

2. For lecturers of English critical reading, the result of the research helps them in the teaching process which deals with students' understanding of critical reading skills and how to teach the students to read critically.

3. For lecturers of the English Department UNP, this research result gives a positive influence like motivating and encouraging the lecturers to keep developing learning material. Therefore, the materials designed can keep up with the needs of the students.

4. For the further researcher, this research is the basic information for further related research.

I. Novelty and Originality

The novelty of the product is learning materials in a form of interactive e-book for Critical Reading class. The learning material is developed based on CLIL principles which emphasis *the content, cognition (critical thinking), communication and cultural* aspects. The Critical Reading materials in the form of e-book also highlights the Critical Reading skills such as making inference, generalization, distinguishing facts and opinion, determining author strategies and arguments.

The product is in the form of e-Book consisting of several learning activities. There are 8 learning stages which allow students to get interacted with the content of the book. They are: (1) Making a connection of the reading, (2) Lesson content, (3) Building vocabulary, (4) Checking comprehension, (5) Thinking Critically, (6) Exploring ideas through discussion and writing, (7) Beyond the classroom to the web, and (8) Lesson summary. Each of the activity serves different reading nuance and experience for the students. They will be guided step by step to understand what they read. Moreover, they are still guided to explore their critical thinking and analysis by discussing or writing their responses to the readings they have learned. Since this E-Book is developed based on CLIL principles, the reading materials are based on certain content subjects. The content subjects that become the reading material developed from this product are English

Education, Linguistics and Literature study. These three content subjects are the main subject contents that the students of the English Department should master.

The originality of the product can be seen from the content of the teaching material. This Critical Reading material is different from the current learning materials used by the lecturers. There are several ideas what make this product better than the current one. In the aspect of students' critical reading ability, this product provides wide range of reading selections from different types of contents to support students' knowledge in English. The texts are in Education, Linguistics, Literature and Culture studies. Moreover, the product is not only providing meaningful activities, but also setting of tasks. A set of tasks with a final outcome or goal to fulfill, and the concept of language is language as meaning, vocabulary and reading skills. When reading critically, this product allows students to activate students' background knowledge by making connections between student and the text before reading the existing text. In term of interactive multimedia, it is also equipped with interactive features such as: video, audio, images and self-assessment feature. Students can do all the exercises independently by sending answers for each exercise they do. Automatically, the system will save and provide answers to the exercises that have been done. In addition to these features, this product also has an independent study feature that allows students to study independently. Students are directed to open a reading learning site and practice reading independently on the provided site.

J. Research Roadmap

Below is the research roadmap which underlies the duration and track record of this current research from 2014 to 2022.

Figure 1. Research Roadmap

The research on developing learning material in English Department has been started from 2014 to 2021. There were 5 studies done by the researcher. Overall, this research roadmap is divided into 3 research groups. First, this research was initiated by a team (Fitrawati, Tiarina and Wahyuni) developed multimedia-based grammar 1 teaching materials in 2014. In this year, the researchers only focused on need analysis of grammar 1 learning material from teachers, students and stakeholders. Then, it was continued with the development of multimedia-based grammar 3 teaching materials in 2017. In this year, the researchers (Fitrawati, Tiarina, and Oktavia) did not only investigate the need analysis, but also developed objectives and initial drafts of grammar 3 teaching material products. Second, in 2018-2019, Fitrawati & Syarif investigated the development of interactive E-book for Advanced Grammar class. This research employed Kahoot E-book application as interactive media to teach grammar. This two-year research resulted the main product on interactive media for teaching grammar.

Last, as the preliminary research, Fitrawati & Syarif (2020) did research on reading by finding out barriers and strategies in reading in the English department in 2020. From the results of research on reading barriers and strategies, the researcher was interested in developing Critical

Reading teaching materials by applying CLIL principles in assisting students critical thinking while reading. As a novelty and consistency from previous research, the researcher integrated interactive multimedia as a media in the form of interactive e-book.

K. Operational Definition

For the clarity of terms related to the research development, the definitions are given below.

1. Teaching materials are materials that are adopted and adapted from books and the internet by utilizing social media such as YouTube and websites which are packaged on E-Book using a *Kotobee* application that can be used by students inside or outside the classroom.

2. Teaching material development is teaching material developed based on the results of the character and need analysis of the students of the Department of English Language and Literature, Universitas Negeri Padang. The skills and learning objectives are aimed to enrich, strengthen, and improve students' critical reading skills.

3. CLIL is a teaching approach where language is used for learning and teaching both content and language skills.

4. CLIL principles are the principles derived from CLIL teaching approach. They consist of Content, Cognition, Communication, and Culture. These principles are the base to develop Critical Reading materials.

5. Critical reading is one of the reading subjects in the English Department where it aims to promote the students' ability in doing an in-depth analysis of the text they read.