

**DEVELOPING AN ASSESSMENT-BASED E-LEARNING PLATFORM TO PROMOTE  
STUDENTS' READING COMPREHENSION**

**(A Thesis)**

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2022**

## ABSTRACT

### DEVELOPING AN ASSESSMENT-BASED E-LEARNING PLATFORM TO PROMOTE STUDENTS' READING COMPREHENSION

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The research aims to develop an Assessment-based E-Learning platform on English language teaching, especially on reading skills. The current research originated from the concept of assessment which is closely related to teaching and technological developments.

This research is a research and development using the DDDE Model adopted from *Ivers and Barron*. The study answers three research questions: (1) Why the development of assessment-based e-learning platform is needed in promoting students' reading comprehension. (2) How is the feasibility of assessment-based e-learning platform developed to promote students' reading comprehension, and (3) What are the teachers and students' responses toward assessment-based e-learning platform in promoting students' reading comprehension. The research sample is 70 students and 4 teachers in two different schools in East Lampung, namely SMKS Islam YPI 2 Way Jepara and SMK Negeri 1 Labuhan Maringgai. The researcher used three data collection tools: Questionnaire, Interview and Test. Two Parametric Test, *Pearson Product Moment* and *Paired Sample Test* are used to analyze data of Students' Pre-Test and Post-Test scores.

The results of this study show that (1) The students need a reading learning material that is close to their lives (familiar contents), the diverse of their purposes and the need of integrating ICT in the assessment of reading comprehension as well as enhancing technology awareness as vocational students. (2) The results of experts' judgments on course materials revealed average score 87.14%, and the judgments from the experts of learning management systems showed average score 86.33%, meaning that the learning materials, reading test as well as the organization of platform are very feasible. (3) The findings of the survey indicated a favorable response as a result of using the platform. Moreover, the students' reading comprehension in two genres, namely Narrative and Descriptive are reportedly increased by comparing the Pre-Test and Post-Test scores.

In context of English Language Teaching and Vocational Schools, the development of the Assessment-based E-Learning Platform has two different spaces, as E-Learning and E-Assessment are possible to improve students' reading comprehension. The platform brings many useful things and also improves the digital literacy among students as well as the English teachers.

**Keywords: Reading Comprehension, Assessment, Learning Management System, Moodle**

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*Nyanuar Algiovan*

**A Thesis**

Submitted in a partial fulfilment of  
the requirements for S-2 Degree  
in

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Language and Arts Education Department  
of Teacher Training and Education Faculty



**MASTER IN ENGLISH LANGUAGE TEACHING STUDY PROGRAM  
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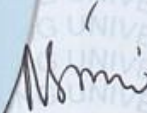
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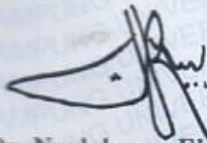
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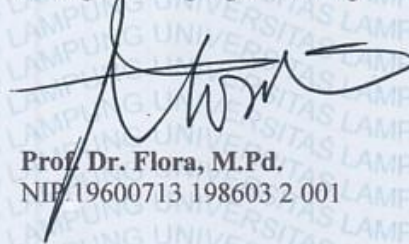
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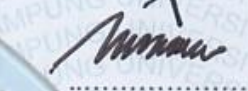
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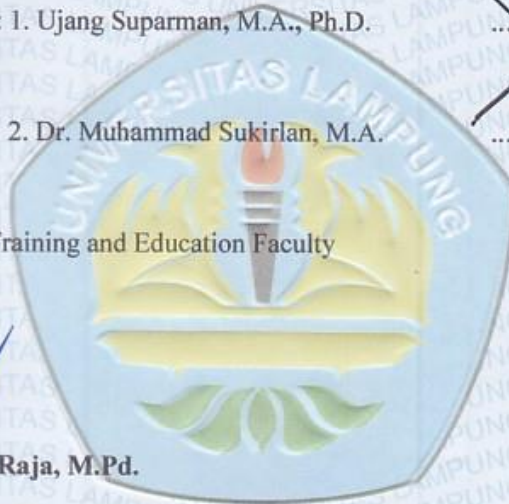


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## **CURRICULUM VITAE**

The writer was born in Rajabasa Baru, January 26, 1994 as the first son in a farmer family. His classmates called him Nyanuar. He was enrolled to SD Negeri 1 Sadar Sriwijaya in 2000. After finishing the elementary stage for six-years, he continued to SMP Kosgoro 2 Bandar Sribhawono and graduated in 2009. The secondary stage of his education was spent in SMKS Islam YPI 2 Way Jeparo Metro then he finished in 2012.

Then, he continued his education at State College for Islamic Studies (Now IAIN Metro) for eight-semester in English Education Study Program. During pursuing his education there, he actively participated in some organizations and research program. In 2020, he decided to take Master of English Study Program at the biggest University in Lampung, University of Lampung.

He was able to connect with prominent lecturers who encouraged him to keep writing. He has published at least ten research papers over his four semesters at the University of Lampung, including presentations at both international and national conferences as well as articles in both international and national journals.

## DEDICATION

By offering my praise and gratitude to Allah SWT for the abundant blessing to me, I would proudly dedicate this piece of work to:

1. My beloved parents: Bapak Sudirman and Robingatun
2. My whole families.
3. My own teachers, friends and students at SMKS Islam YPI 2 Way Jepara.
4. My best-friends of batch 2020 of Master of English Education Department (MPBI 2020).
5. My Almamater, Lampung University



**MOTTO**

*“To get what you love, you must first be patient with what you hate.”*

**Al-Ghazali**

*“An educated person must learn to act justly, beginning, first of all, with his thoughts, then later in his deeds. That is what it means to be educated.”*

**Pramoedya Ananta Toer \_ Earth and Humankind**

*"The mountain must not be destroyed; Lebak must not be damaged; Shorts should not be spliced; Length should not be cut"*

**Urang Kanekes \_ Lebak - Banten**

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Finally, the researcher believes that this work is a long way from being perfect. Thus, comments, criticism, and suggestions are always acceptable. The researcher hopes this study would give a positive contribution to the educational development in English Language Teaching, to the readers, and to those who want to conduct further research.

Bandar Lampung, August 31<sup>st</sup> 2022

The Writer,

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## LIST OF CONTENTS

Cover.....	i
Abstract.....	ii
Curriculum Vitae .....	vii
Dedication Page .....	viii
Motto.....	ix
Acknowledgment .....	x
List of Contents.....	xii
List of Table.....	xiv
List of Figures .....	xvi
List of Pictures .....	xvii
List of Appendixes.....	xviii
<b>CHAPTER I. INTRODUCTION .....</b>	<b>1</b>
1.1 Background of the Study .....	1
1.2 Formulation of the Research Question .....	5
1.3 Objectives of the Research.....	5
1.4 Significance of the Research.....	6
1.5 Scope of the Research.....	6
1.6 Definition of Terms.....	7
<b>CHAPTER II. THEORETICAL FRAMEWORK .....</b>	<b>8</b>
2.1 Assessment.....	8
2.1.1 Definition of Assessment.....	9
2.1.2 The Forms of Assessment .....	12
2.2. Online Assessment.....	12
2.2.1 The Definition of Assessment.....	13
2.2.2 The Important Points of Online Assessment in ELT .....	14
2.2.3 The Benefits of Online Assessment.....	16
2.2.4 The Challenges of Online Assessment .....	17
2.3 Electronic Learning .....	17
2.3.1 The Definition of E-Learning .....	18
2.3.2 The Principles of E-Learning.....	18
2.3.3 The Approaches of E-Learning.....	19
2.3.4 The Kinds of E-Learning .....	20
2.4 Moodle .....	23
2.4.1 A Brief of Moodle.....	24
2.4.2 Developing Moodle for E-Assessment .....	24
2.5 Reading .....	26
2.5.1 The Nature of Reading.....	26
2.5.2 The Purpose of Reading.....	28
2.5.3 The Strategy in Reading.....	28
2.5.4 Reading Aspects.....	30

2.5.5 Reading Comprehension .....	31
2.6 Theoretical Assumption .....	32
<b>III. RESEARCH METHOD .....</b>	<b>34</b>
3.1 Research Design.....	35
3.2 Population and Sample .....	35
3.3 Data Collecting Technique .....	36
3.4 Validity and Reliability of the Instrument .....	38
3.4.1 Validity .....	39
3.4.2 Reliability .....	39
3.5 Data Analysis .....	39
<b>IV. FINDING AND DISCUSSION .....</b>	<b>42</b>
4.1 Finding .....	42
4.1.1 Decide .....	42
a. Need Analysis.....	43
b. Pre-Test .....	52
4.1.2 Design .....	52
a. Designing Flow-Chart .....	54
b. Designing Use Case and Diagram Activity.....	56
c. Designing Page .....	57
e. Trial Application.....	59
4.1.3 Development.....	61
a. Installation and Setting Moodle.....	58
b. Expert Validation .....	63
c. Revising Product.....	66
4.1.4 Evaluation .....	76
a. Post-Test .....	78
b. Students Responses .....	80
c. Teacher Responses .....	91
4.2 Discussion .....	
4.2.1 To what extent is the development of assessment-based E-Learning Platform .	137
4.2.2 How is the feasibility of assessment-based e-learning platform.....	146
4.2.3 The teachers and students' responses .....	149
<b>V. CONCLUSION AND SUGGESTION .....</b>	<b>151</b>
5.1 Conclusion .....	151
5.2 Suggestion.....	152
5.2.1 For English Teachers .....	152
5.2.2 Further Researcher.....	152
<b>REFERENCES .....</b>	<b>153</b>
<b>APPENDIXES .....</b>	<b>165</b>

## LIST OF TABLES

Table	Page
Table 1. 1 Reading Score and Reading Frequency Index .....	4
Table 2. 1 English Testing in Program adopted by Brown Caroll and Hall in (Shimizu, 2002).....	16
Table 3. 1 The Brief of The Sample Data Based on School, Gender and Age .....	49
Table 3. 2 Teachers and Experts Profiles .....	49
Table 3. 3 The Organization of Need Analysis Questionnaire .....	53
Table 3. 4 The Questionnaire of Students' Responses.....	54
Table 3. 5 The Organization of Teacher Responses Questionnaire .....	55
Table 3. 6 The Organization of Experts Course Materials Validation.....	56
Table 3. 7 The Questionnaire of Experts Course Materials Validation .....	56
Table 3. 8 The Questionnaire of Experts Learning Management System Validation.....	57
Table 3. 9 The Organization of Teachers' Interview .....	58
Table 3. 10 Content Validity of Narrative Text.....	59
Table 3. 11 Content Validity of Descriptive Text.....	59
Table 3. 12 The Construct Validity of Narrative Test .....	60
Table 3. 13 The Construct Validity of Descriptive Test.....	60
Table 3. 14 The Validity of Test Instruments .....	60
Table 3. 15 The Validity of Need Analysis Questionnaire .....	61
Table 3. 16 The Validity of Experts' Judgment on Course Materials Questionnaire .....	62
Table 3. 17 The Validity of Experts' Judgment on LMS Questionnaire .....	63
Table 3. 18 The Validity of Students' Responses.....	64
Table 3. 19 The Reliability of Reading Test.....	65
Table 3. 20 The Reliability Test of Need Analysis.....	65
Table 3. 21 The Reliability Test of Expert's Judgment .....	66
Table 3. 22 The Reliability Test of Expert's Judgment on LMS .....	66
Table 3. 23 The Reliability Test of Students' Responses .....	67
Table 3. 24 The Reliability Test of Students' Responses .....	67
Table 4.1 The Students' Personal Information .....	71
Table 4.2 The Students' Goals and Necessities in Learning English .....	72
Table 4.3 The Students' Lacks in Learning English.....	74
Table 4.4 The Students' Wants in Learning English .....	76
Table 4.5 The Students Roles in Teaching Process .....	78
Table 4.6 The Data of Learning Needs.....	80
Table 4.7 The Students' Pre-Test Scores.....	83
Table 4.8 Plugins in Assessment-based E-Learning Platform.....	101
Table 4.9 Try-Out Registering Account Teacher 1 .....	102
Table 4.10 Try-Out Registering Account Teacher 2.....	102
Table 4.11 Try-Out Registering Account Student 1 .....	103
Table 4.12 Try-Out Registering Account Student 2 .....	103
Table 4.13 Try-Out Registering Account Student 3 .....	104
Table 4.14 Try-Out Registering Account Student 4 .....	104
Table 4.15 Try-Out Creating Course Teacher 1 .....	105
Table 4.16 Try-Out Creating Course Teacher 2 .....	105
Table 4.17 Trial Uploading Materials Teacher 1.....	107
Table 4.18 Trial Uploading Materials Teacher 2.....	107
Table 4.19 Trial Creating Quiz Teacher 1 .....	108

Table 4.20 Trial Creating Quiz Teacher 2 .....	108
Table 4.21 Trial Following Course and Quiz Student 1 .....	109
Table 4.22 Trial Following Course and Quiz Student 2 .....	109
Table 4.23 Trial Following Course and Quiz Student 3 .....	109
Table 4.24 Trial Following Course and Quiz Student 4 .....	110
Table 4.25 Expert on Course Materials .....	111
Table 4.26 The Validation of Expert on Course Materials .....	112
Table 4.27 Suggestion form Expert on Course Materials .....	113
Table 4.28 The List of Experts on Learning Management System.....	113
Table 4.29 Validation Result of Expert on Learning Management System.....	114
Table 4.30 Suggestion form Expert on LMS .....	115
Table 4.31 Revision from Expert on Course Materials .....	116
Table 4.32 Suggestion and Revision form Expert on LMS .....	118
Table 4.33 The Students' Post-Test Scores .....	121
Table 4.34 Normality Test of Pre-Test and Post-Test Score .....	121
Table 4.35 Descriptive Statistics of The Pre-Test and Post-Test.....	122
Table 4.36 Statistical Summary of T-Test the Pre-test and Post-test.....	123
Table 4.37 Paired Sample T-Test the Pre-test and Post-test in Narrative & Descriptive Text .....	124
Table 4.38 The Result of Students' Responses.....	125
Table 4.39 Students' Responses on Anxiety.....	126
Table 4.40 Students' Responses on The User-Friendliness of The Platform.....	126
Table 4.41 Students' Responses Toward Assessment Materials .....	127
Table 4.42 Students' Responses on Satisfaction of Platform .....	128
Table 4.43 Students' Responses Toward Assessment Process .....	130
Table 4.44 The Teachers' Responses toward The Assessment-based E-Learning Platform .....	131

## LIST OF FIGURES

Figure	Page
Figure 2.1 The Distinguish between Norm and Criterion Reference Test.....	16
Figure 2.2 Assessment in the Learning Process.....	21
Figure 3.1 Research Timeline.....	51
Figure 4.1 The DDDE Flowchart adopted by Iver and Barron (2002) .....	46
Figure 4.2 Design Flowchart .....	84
Figure 4.3 Use Case Diagram .....	85
Figure 4.4 Diagram Activity of Administrator .....	86
Figure 4.5 Diagram Activity of Teachers .....	88
Figure 4.6 Diagram Activity of Students.....	90
Figure 4.7 Diagram Activity of Guests.....	91
Figure 4.8 The User Face Diagram.....	93
Figure 4.9 Login Page .....	93
Figure 4.10 The Design of Teachers' Dashboard .....	95
Figure 4.11 The Design of Students Dashboard .....	96
Figure 4.12 The Flow Chart Moodle Installation .....	97



## LIST OF PICTURES

Picture	Page
Picture 2.1 The Dashboard of Moodle as LMS .....	33
Picture 2.2 The Waterfall Chart Adapted from (Bassil, 2012) .....	35
Picture 4.1 Moodle Version 3.4.4 .....	97
Picture 4.2 Changing Repository .....	98
Picture 4.3 Installed Moodle.....	98
Picture 4.4 a. Default Login Page b. Customized login page .....	99
Picture 4.5 Customized Login Page.....	100
Picture 4.6 The Display of Home Page.....	100
Picture 4.7 The Result of Try-Out on Teachers' Accounts in Platform.....	103
Picture 4.8 The Students' Account in Platform viewed by Laptop and Cell-Phone .....	105
Picture 4.9 The Courses made by Two Teachers.....	106
Picture 4.10 Try-Out Chatting Forum.....	110
Picture 4.11 Providing the Lesson Plan in Platform: A. Before Revision B. After Revision .....	116
Picture 4.12 Revising the Directions of the test in Platform:.....	117
Picture 4.13 Revising the form of test .....	117
Picture 4.14 Maintenance the Platform.....	118
Picture 4.15 Revising the Color Theme in Platform:.....	119
Picture 4.16 Adding Plugins and Running Text .....	119
Picture 4.17 Adding Language Pack and Integration to Other Platform .....	120

## LIST OF APPENDIXES

Appendix	Page
Appendix 1. Administration .....	166
Appendix 2. Documentation.....	170
Appendix 3. Reading Test .....	171
Appendix 4. Construct and Content Validity of Reading Test .....	177
Appendix 5. Item Analysis of Reading Test.....	182
Appendix 6. The Need Analysis Questionnaire.....	183
Appendix 7. The Validity and Reliability of Need Analysis Data.....	184
Appendix 8. The Data of Need Analysis .....	187
Appendix 9. The Data Interview .....	190
Appendix 10. The Data of Experts Judgements on Course Materials .....	194
Appendix 11. The Validity of Reliability Data of Experts Judgements on Course Materials .....	195
Appendix 12. The Data of Experts Judgements on Learning Management System .....	197
Appendix 13. The Validity and Reliability Data of Experts Judgements on Learning Management System .....	199
Appendix 14. The Data of Pre-Test and Post-Test .....	203
Appendix 15. The Validity of Reliability Data of Pre-Test and Post-Test .....	205
Appendix 16. The Data of Students' Responses.....	206
Appendix 17. The Validity and Reliability Data of Students' Responses .....	208
Appendix 18. The Data of Teachers' Responses .....	209
Appendix 19. The Validity and Reliability Data of Teachers' Responses .....	210
Appendix 20. The Manual User.....	211
Appendix 21. ....	217
Appendix 22. Manual Guide.....	221
Appendix 23. Certificates .....	232

## I. INTRODUCTION

This chapter discusses several points, background of the problem, research problem, objective of the research, uses of the research, scope of the research and definition of terms.

### 1.1 Background of Study

Assessment is a fundamental part that cannot be separated from teaching and learning process, the two are related to each other, not least in the teaching of English (Tosuncuoglu, 2018). Assessment is the activity done by teachers in collecting data, evaluating, and then determining the strengths and weaknesses of their students (Salma & Prastikawati, 2021). It incorporates a variety of materials such as tests, projects, reports, essays, portfolios, or standardized examinations (Ghouali et al., 2020). Moreover, assessment is a test to measure approaches, methods, techniques and learning materials in the learning process. Since, the quality of assessment is one of the key features of good teaching (Gardner, 2012; Jimaa, 2011.)

Language assessment always draws teachers' attention and interest because they constantly design instruments, techniques and procedures in an effort to effectively assess what students have learned or provide the kind of feedback they need to enhance their learning. Assessing learning should actually be a highly structured and important activity aligned to certain guidelines and principles that can ensure that assessment really mirrors teaching and can also guide teachers in the design of high-quality instruments. Language assessment has undergone two broad paradigms. Assessment of learning, also known as traditional assessment, refers to practices that involve the use of assessment for administrative purposes (assigning grades, selection, decisions) and looks into what learners can do at the end of the teaching and learning process to rank their achievement levels against a standard. Assessment for learning, also known as authentic assessment,

embeds assessment processes throughout the teaching and learning process to constantly adjust teaching and inform learners of how they may improve. In real life, teachers employ both assessment paradigms and regard them as opportunities to gather insights into learner abilities.

However, teachers then find it difficult to distinguish between assessment and test. Teachers tend to use the test as an assessment process (Mellati & Khademi, 2018; Saputra et al., 2019). Therefore, giving a simple definition between the two becomes important to be stated at the beginning so that there is no misinterpretation. Assessment and testing considerably differ from each other. While testing is formal and frequently standardized. Meanwhile, assessment is based on a collection of details concerning what students learn and what they can do. In other words, students are provided identical guidelines for distributing and scoring in testing (Dikli, 2003).

Assessment as the systematic collection of information about student learning, using the time, knowledge, expertise, and resources available, in order to inform decisions that affect student learning. Assessment is one of important aspects in learning and teaching English as second or foreign process in order that the students can develop their potential because the number of the students who get low score will affect the learning effectiveness. Moreover, the teachers' lack of assessment knowledge could affect the quality of education, and that teacher assessment literacy is critical to the success of teaching (Nurdiana, 2021; Popham, 2009).

Online Assessment is an assessment through technology or based on internet access. It assesses the student via internet or virtual access. It also can be alternative way of testing. Online assessment is an innovative assessment besides conventional assessment

which is based on paper. It also requires more on going and systematic approach than used traditional assessment. Online assessment gives an advantages and disadvantages in that process. Some advantage gives by online assessment are giving a direct feedback and scoring, practices and effective time.

Regarding teaching English, reading is one of the skills in teaching a language. Reading is an activity of absorbing information from all readable sources. It is an active process consisting of recognition and comprehension skill (Patel and Jain, 2008). By having comprehension, someone can be claimed that she or he has done the process of reading, and get information stated in the text. The reading process involves recognizing words, parsing syntactic structures, and forming semantic propositions. As well as going through these lower-level processes, readers bring their prior knowledge to build a coherent mental representation, which is called the 'situation model'(Van Dijk & Kintsch, 1986).

In Indonesia, especially Senior High School level, reading comprehension takes most part in English subject(Guntur & Rahimi, 2019; D. Manalu et al., 2019; D. B. Manalu, 2015). As a proof, in daily tests, the teachers tend to give the students reading comprehension rather than writing test, listening test or speaking test. Unfortunately, the students cannot comprehend English texts well. Therefore, the learners are difficult to recognize the information of the text or answering the comprehensive questions (Kasim & Raisha, 2019). Moreover, the poor reading comprehension occurs due to three remarkable factors, which are students' lack of motivation, low prior knowledge, and poor English vocabulary (Nanda & Azmy, 2020). This then shows another fact, that if the student's reading ability is low. It is also influenced by students' interests and reading activities (Iftanti, 2012; Kurniasih, 2017). This problem also occurs in students at a

vocational school in East Lampung who are participants in the National Assessment in 2021 organized by the *Ministry of Education and Culture* to see students' reading skills and the quality of education from literacy and numeracy assessments (Kemendikbud, 2020). The following table is the evidence of reading score also the reading index of students in East Lampung, Indonesia.

**Table 1. 1 Reading Score and Reading Frequency Index**

The Number of Students	<i>Students Reading Score*</i>		
	Score	Category	Percentages
10	10 – 55	Failed	62,50%
6	60 – 100	Passed	37,50%
<b>N = 16</b>		<b>N</b>	<b>100%</b>
Reading Duration	<i>Time Consuming in Reading Activity**</i>		
	Category	Number	Percentages
Less than an hour a day	Low	11	68,75%
An hour up to two hours a day	Medium	4	25,00%
More than two hours a day	High	1	6,25%
Total		16	100%

\* *Based on Standard Minimum of Competence*

\*\**Referring to the National Library Reading Index (PNRI,2018)*

The exposure of the data above is a portrait of students' ability to read in English text and student reading activities index. This is also reinforced by several studies on reading index of Indonesian students is still low (Nanda & Azmy, 2020; OECD, 2019; Siti Aisah, Ana Ahsana, 2019). It can also be seen that the assessment process uses a multiple-choice format on students' reading ability, the score of assessment could not provide adequate information on how fluently students can read, what level of reading competency they have, and what strengths and weaknesses the students have in comprehending reading texts. The findings of various studies were used as a basis to formulate solutions to solve students reading comprehension by applying an interactive approach to reading in English and assessment as learning output through technology integration.

In line with this, Snyder et al (2005) claimed that reliable computerized assessment methods can aid evaluate reading comprehension accurately (Snyder et al., 2005). Furthermore, the most important benefits of using ICT to teach reading comprehension were: the obvious improvement in vocabulary building and use through the use of an online dictionary; and the fact that students were often excited about reading comprehension lessons, which helped them learn and promoted meaningful learning, among other things (Henrietta & I, 2016).

Assessment and English Language Teaching then converge the cloverleaf of roads with technological advances (Doğan et al., 2020). The integration of English teaching with technology is popularly utilized as a teaching medium frequently, which makes the map of teaching English switch from traditional mode to digital learning (Arkorful & Abaidoo, 2015; Qdah & Ababneh, 2017). This can be clearly seen from the many online-based learning media (Mofareh, 2019). Moreover, several studies reported that the use of technology in learning English have generally revealed such a positive influence of technology on learning (Ahmadi, 2018; Ammade et al., 2018; Bakar, 2016; Hamat et al., 2012.). Likewise, assessments which began to use ICT as a breakthrough to assess the ability of learners, in which originally used paper pencils are now changing with technology as a medium, which came to be known as e-assessment.

The integration of ICT, English language teaching and assessment found the momentum when pandemics hit the world as well as Indonesia. UNESCO notes at least millions of students and teachers in Indonesia have to leave school and have to adapt to distance learning, which has an impact on the learning process (Schleicher, 2020) and the assessment process (Pokhrel & Chhetri, 2021). *Save The Children Indonesia* map the

five issues of learning challenges in pandemic, namely learning materials, limited internet access, learning infrastructure, digital literacy of teachers, and quality of assessment (Usnadibrata, 2020). Moreover, the teachers have some obstacles while conducting the assessment test during online learning, such as (1) the internet connection, the validity of the assessment, and the low of students' enthusiasm (Yulianto, D. & Mujtahin, 2021). Therefore, developing e assessment for English learners also requires steps as response to the situation that occurs to reduce learning loss for Indonesian learners. An online or e-assessment process is necessary to be implemented (Barbosa & Garcia, 2005), it is not only to capture the development of English learners during online learning, but also to promote students reading comprehension.

Some studies on e-assessment in English language teaching have been conducted by previous researcher in several countries. Elatia and David found that online assessment tool in Canada, with the outcome that the online assessment involve students in improving in their language competence in line with the programs that English learners were attending (ElAtia & David, 2019). Liu, Zhang, and Jing have done research in their hometown, China. It was regarding Formative Assessments in Junior High School English Class Based on Multimedia-assisted Language Teaching. They finally resumed that MALL will influence to three areas : the teachers' classroom feedback, as a kind of formative assessments, and it influences students' desire for studying (Liu et al., 2014). In Malaysia, Sameh and Shubair introduces a screen-capture technology- based approach to performative and authentic assessment. They designed and implemented of screen-capture assignments to assess computer maintenance skills. The sample consisted of 28 students enrolled in computer hardware and software maintenance classes. Data from



students was collected through a multi-modal student survey and a semi-structured interview. The results shows that screen-capture performative assessment makes students more interested and enables them to learn more about how to solve real-world problems (S. S. Ismail & Abdullah, 2021). In Vietnam, Nguyen and Takashi Yukawa discussed Kahoot with smartphones in testing and assessment of language teaching and learning. It is concluded that both teachers and learners have had positives views and attitudes to social networking in their education progress (Nguyen, 2019).

While in Indonesia, the study particularly on online assessment has only been carried out since the last two years, when online learning was enacted. This can be found in some of the following research publications. Amalia (2020) reported a conclusion of application the *quizizz* website as an online assessment for English teaching and learning that the students strongly agreed that *Quizizz* has an attractive display which is interesting and fun, students cannot cheat during the test, *Quizizz* creates a competitive atmosphere in the classroom, and *Quizizz* is better than the offline traditional test (Amalia, 2020). Sumardi and Muamaroh revealed that *Edmodo* is one of free site of online assessment is well-mediated teachers to carry out the computer-based test (CBT). It was an accurate mode of assessment as no cheatings were facilitated; the validity, and reliability of the test could be favorably accomplished (Sumardi & Muamaroh, 2020). Responses and perceptions of both teachers and English learners were also reported to be positive in the use of online assessment (Kristiyanti, 2020) and (Syafrizal & Pahamzah, 2020).

Although many studies have examined the use of ICT in assessments in English language teaching, the study of e assessment development in reading comprehension and

interest has not gained a place in the integration of ICT, English language teaching and assessment. Thus, researcher sees a gap that appears to be the issue. Therefore, to fill the gap, researcher proposes a breakthrough in the use of ICT, English language teaching and assessment, namely the developing assessment-based e-learning platform in Moodle to promote students reading comprehension in teaching English in Indonesian context.

Referring to the results of previous research above, the researcher has some assumptions on e-assessment on English learning. In e-assessment, students can act as writers and feedback evaluators (Gogoulou et al., 2007). Computerized systems can be utilized as simulation, to handle vast volumes of data, improve interaction, and increase learners' involvement in the assessment process (Santos et al., 2015). Thus, the use of online assessment can reduce in terms of time, budget, and achievement of assessment goals. In online conditions, it can help minimize the level of cheating of students every time they take an exam and reduce the level of subjectivity in data processing, and the response to the change in education towards digitalization (Bakieva & Muradkasimova, 2019).

Some points related to the importance of Moodle as Learning Management Systems:

- 1) Enriching learning experience
- 2) Increasing student's participation
- 3) Managing contents delivery
- 4) Making standardized format can be used for contents of course.

This opinion supports the significance of Moodle in learning with the e-learning system. Moreover, interactive assessment through e-learning platform is believed as the solution to overcome the problems of reading comprehension (Yulia et al., 2019).

Based on the consideration above, the researcher wants to develop an assessment based -e-learning platform in Moodle to promote students' reading comprehension for vocational high school students in East Lampung.

## **1.2. Research Questions**

Based on background of the problem mentioned previously, the problems of this study are formulated as follows:

- a. Why the development of assessment-based e-learning platform is needed in promoting students' reading comprehension?
- b. How is the feasibility of assessment-based e-learning platform developed to promote students' reading comprehension?
- c. What are the teachers and students' responses toward assessment-based e-learning platform in promoting students' reading comprehension?

## **1.3 The Objective of Study**

In relation to the statement of the problem above, the objectives of this research are determined as follows:

- a. To find out best model of assessment-based e-learning platform in Moodle for promoting students' reading comprehension.
- b. To verify the assessment-based e-learning platform is being developed.
- c. To get the result of best practice of assessment-based e-learning platform in Moodle for promoting students' reading comprehension.

## **1.4 The Significance of The Study**

The findings of the research are expected to be beneficial both theoretically and practically.

***a. Theoretically, this current research can be used to:***

- 1) Verify and contribute the previous studies and theories related to theories in this research.
- 2) Fill the gap among previous research.
- 3) Be used as a reference for further research.

***b. Practically, this present research can be used to:***

- 1) Encourage English teachers integrate ICT, increasing the students' reading comprehension and reading interest in interactive assessment-based e learning platform.
- 2) Persuade English teacher to design best assessment-based e learning platform in Moodle as Course Management System (CMS).
- 3) To be used for an alternative assessment in teaching English at Indonesia context especially in promoting students reading comprehension.

### **1.5 The Scope of Research**

The study is essentially research and development (R n D). The researcher will develop and test an assessment in English based e-learning platform on Moodle. Moodle is a *Course Management System* that can be used for free with features that can be developed according to learning needs. This research departs from the problem of learning English during online learning, where the learning process and assessment are hindered by the use of devices, both experienced by teachers and learners. Then, there is a downward trend in students' reading comprehension in English texts. The problem in which the researcher in developing assessment products as interactive approaches in online learning. The researcher is going to answer the English

assessment model with an e learning platform to improve reading comprehension. Second, researcher will test product is developed in order to improve reading.

## **1.6 The Definition of Terms**

### **a. Assessment**

In education, the term assessment refers to the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students.

### **b. E-Learning Platform**

A learning platform is an integrated set of interactive online services that provide teachers, learners, parents and others involved in education with information, tools and resources to support and enhance educational delivery and management.

### **c. Assessment-Based Learning Platform**

Assessment-based e-learning platform is a general term which encompasses computer application in assessment process.

### **d. Moodle**

Moodle is a Learning Platform or course management system (CMS) is a free-source software package designed to help educators create effective online learning.

### **e. Reading Comprehension**

Reading comprehension is a deliberate, active, interactive process that takes place before, during, and after a person reads a specific piece of writing.

## **II.LITERATURE REVIEW**

In this chapter, the researcher explains review of related literature. In order to support this research, the researcher provides explanation about the literature review which are related to this research such as the definition of Assessment, the types of Assessment, Online Assessment, the important points of Online Assessment, the benefits of online assessment, the challenges of online assessment, the definition of e learning platforms, the kinds of e learning, designing e learning platform for teaching reading, the nature of reading, the purpose of reading, the strategy of reading, reading comprehension, and theoretical framework.

### **2.1 Assessment in English Language Teaching**

In this part, the researcher will reveal some important issues regarding assessment in English Language teaching. First, it will discuss regarding the definition of assessment. Secondly, the form of assessments.

#### **2.1.1 Definition of Assessment**

Assessment is one of the important parts of the educational system. It constantly gave information about the students' improvement and achievement. It is also quite important in language instructions and it is not an end in itself but a vehicle for educational improvement (Bérešová, 2014). Assessment is to measure the student performances both skill and their knowledge. Assessment is the activity when the teacher is teaching then the teacher wants to collect evidence and data as to how the students understand the material. The teacher might assess listening, reading, speaking and writing skill and knowledge competence (Brown, 2003). Besides, assessment is simplest when it reflects on understanding of getting to know as multi- level, incorporated, and performance-revealed over time and should be authentic.

Assessment is the systematic process of documenting, measuring knowledge, skills, dispositions, or beliefs gleaned through instructional sequences, with an aim to improve all aspects of student learning (Selma, 2015). Assessment is also used to provide feedback to students on their progress and evaluate students' mastery of the subject matter (Myron, 2014). Based on Khairil and Mokshein assessment is a part of teaching and learning process which aim to bring improvement for the assessor and individual assessed. Assessment also provides information that can be used as feedback to modify the teaching and learning activities. The activities of assessment as follow, classroom observation, class discussion, quizzes, homework and test (Farida, 2016).

In the issue of English language teaching, assessment is an important aspect in the world of education, because it is the key to success for teachers in bringing students to succeed in learning. According to the available literature, the purpose of any learning assessment activity is not to identify flaws in the examined object or program, but rather to gain insight into how well something works and what factors contribute to its ineffectiveness (Sukenti et al., 2020). So, it needs to be given a recommendation to be able to do improvements or improvements from the weaknesses found.

Based on the definitions above, it can be concluded that assessment is the process of obtaining data or information from the learning process and providing feedback to teachers or students. Thus, assessment is a method used to improve the quality of education because increase lifelong learning skills and promote performance in various educational contexts. The assessment process that occurs at the end of the lesson is not just about giving the value of numbers or letters, but it can be a tool to

measure the students understanding of the material taught, attempt to decide what students know and what they can do. The forms of assessment are differentiated into period, purposes, criteria, formality and administration.

### **2.1.2 The Forms of Assessment**

Assessment is divided into four forms, namely based on period, purpose, criteria, formality, and administration.

#### **a) Based on Period**

According to its period, there are two types of assessment those are formative and summative assessment (Baran-Łucarz, 2019). Formative assessment is considered one of the most influential ways to improve teaching and learning processes (Kuze & Shumba, 2011). This type of assessment is conducted to assess students' understanding, learning needs, and learning progress concerning a particular unit of learning materials, in another word formative assessment is the way for evaluating students' performance during the learning process. Moreover, formative assessment is intended to give feedback to the teachers and the students related to instructional processes and to oversee the gaps between the learning process and the desired learning outcomes (Elliott & Yu, 2013). Formative assessment is essential because it helps teachers to make judgment on the students ability and decide what improvement should be intensified in order that the students learning achievement can reach the highest standard (Widiastuti & Saukah, 2017).

Meanwhile, Summative assessment is the way for evaluating students' performance which is given in the end of unit or course (Ahmed, 2018). summative assessments are typically given in the closing few weeks of the course to determine



how well students have absorbed the material (Fauziah, 2019). The results from these assessments are aggregated and used to determine whether a student has fulfilled the specified learning outcomes and may achieve some kind of accreditation. This usually causes a degree of anxiety since the grades received in summative assessments are final and can affect their future prospects.

#### **b) Based on Purpose**

There are four types of assessment based its purpose, those are diagnostic test, placement test, achievement test, and proficiency test (Brown,2004). The diagnostic test is primarily used to discover learners' strengths and weaknesses and provide detailed feedback for both teachers and learners to make decisions (Zhao, 2013), for example Diagnostic Test for Non-Native Speakers (Fidanboylu, 2014). Placement test is usually developed to check students' level of language proficiency in order to put them in the appropriate course level (Akhidenor-Bamidele, 2019). Moreover, Bill Wullur for instance said that placement test develops and validates the English performance test to serve as entrance test in school (Wullur, 2011). Thus, the use of placement test is not actually a tool to judge students' performances but a guide on how students can approach the course and improve on their language abilities through the guidance of the teacher.

Achievement tests are also known as classroom tests because they are related to classroom lessons (Brown, 2004). The tests are designed based on particular units, lessons, or chapters in a course book. It aims to measure the learners' comprehension on particular aspects of a language and their ability to use the language. In Indonesia, achievement tests can be applied in midterm and final tests (Nurdiana, 2020). Then, the proficiency test serves to determine a person's

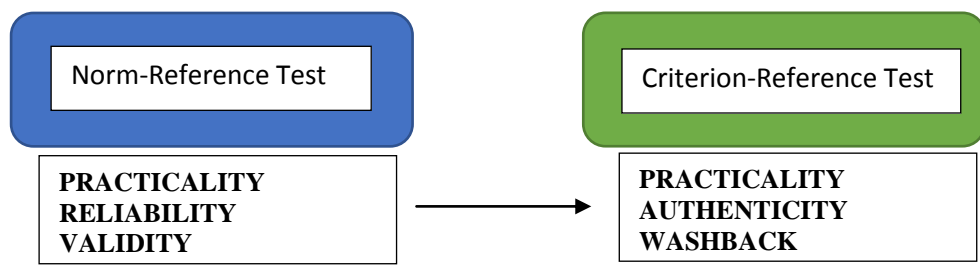
language skills globally or thoroughly. Some examples of proficiency tests are TOEFL, IELTS, TOEIC or TOEFL IBT (internet-based TOEFL).

*Table 2. 1 English Testing in Program adopted by Brown Carroll and Hall in (Shimizu, 2002)*

	Types of Decision	Type of Test	Type of Measurement	
Terminal Progress	<b>Classroom Level</b>	Diagnostics	Very Specific	End of Course
↕		<b>Program Level</b>	Achievement	↕
	Placement		Pre-Course	
Placement		Proficiency	Very General	Entrance

### c) Based on The Criteria

Regarding the criteria of the test, there are two types of assessment those are norm-reference test and criterion-reference test. A norm-reference test, or NRT, is a test that compares the performance of one test taker or group of test takers to the performance of another test taker or group of test takers whose scores are given as the norm. This is one of the most important ways that ICT could be used in teaching (Hussain et al., 2015). Norm-referenced standardized tests can use local, state, or national norms as a base. NRT is an approach of evaluation through which the learners individual relative rank is compared to other students in the classroom(Brown, 2014).



**Figure 2. 1 The Distinguish between Norm and Criterion Reference Test**

On norm-referenced test, the score is interpreted in relation to a mean (average score), median (middle score), or percentile rank (10-100%) (Muthaiyan, 2020). The purpose of this test is to place test-takers along a mathematical continuum in rank order. Scores are reported back in the form of numeral score and percentile rank. The examples are GRE, TOEFL, IELTS. Criterion-Referenced test is designed to give test-takers feedback, usually in the form of grades, on specific course or lesson objective.

**d) Based on Formality**

Based on the formality, there are two types of assessment those are formal and informal assessment. Informal assessment can be also oral and written. Oral informal assessment is an immediate assessment that can be done every meeting and giving impromptu feedback to the students (Nurhayati, Baiq Suprapti Handini, 2019). The feedback includes saying “Nice job!”, “Good work” or advice about how to pronounce well or by correcting the students’ answer. Written informal assessment can be also paper and essay. The teacher may write some comments, give responding, put a smiley face on some homework or suggestion to the written assessment. On formal assessment has a synonym with test. Formal assessment is systematic, planned, structured, which is used to evaluate the teacher and students.

**e) Based on Administration**

According to its administration, there are two types of assessment those are offline and online assessment. Offline assessment is an assessment that is administered as a traditional, without internet connection, and usually paper-based test. Online assessment is an assessment that is administered through assessment tools or usually use media and connected with internet. This online assessment is

usually used for distance learning. Online assessments can be any means of evaluating student achievements, giving feedback or channelizing students forward in their learning process in a fully online mode. Online or it is well-known as e-assessment is a process of assessing students in electronic form through Internet network with the use of management system for education.

Based on the kinds of the assessment above, the researcher selects formative test to be developed as assessment-based e-learning platform to promote students' reading comprehension. It is due to some assumptions, According to Black and Wiliam (1998), revealed that formative assessment can be defined as the process that provides both instructors and students with continuous feedback on the teaching and learning with an aim to improve students' learning and attainment of the instructional objectives(Black & Wiliam, 1998). Besides, formative assessment is renowned as an essential tool to enhance students' performance in the classroom (Beverley Bell, 2000).

Furthermore, three benefits of formative assessments embedded in an online learning environment. First, the flexibility of time allows students to take the assessment at any time convenient to them, as long as the students meet the deadline appointed in advanced. Second, students can have several attempts to respond to the assessments until they achieve the desired minimum grade. Third, online formative assessment provides students with prompt feedback needed to assess their learning and remedy weaknesses in instruction and their learning. Additionally, online formative assessment can help reduce the level of anxiety among students before sitting for the summative assessment (Cassady & Gridley,

2005). Vonderwell et al. (2007) further noted that language teachers can employ online formative assessment to enhance interactivity between students and other students and between students and instructors( Vonderwell et al., 2007).

## **2.2 Online Assessment**

In this part, the writer will deep discuss the definition at first, some key points about online assessment in the English classroom, as well as the benefits and the challenges.

### **2.2.1 Definition of Online Assessment**

Dyjur and Kelly stated that online assessment means of evaluating student achievement, providing feedback, or moving the students forward in their learning process in fully online credit courses (Dyjur and Kelly,2018). This assessment can be completely online (such as online exam) or just require online submission (such as essays). Using online assessment can provide the flexibility to easily create assessments for each of the topics, while also allowing students to take the assessments at their own convenience. Online assessments also give the opportunity for learners to interact and collaborative with their peers during online discussion, reflection exercises, self and peer review, and group work. Such assessment can provide students with a detailed record of learning that they can use to showcase their achievements when they graduate.

Based on Geoffrey Crisp, online assessment or e-assessment means the use of digital devices to assist in the construction, delivery, storage or reporting of student assessment tasks, responses, grades or feedback in online (Crips, 2015). Online assessment can be undertaken with many devices, such as traditional desktop computers or laptops, with portable communication devices such as smart mobile phones, with digital devices such as iPads or through the use of electronic gaming

devices. Online assessment can use a multitude of formats, including text document formats, multimedia formats such as sound, video or images. It can involve complex simulations or games.

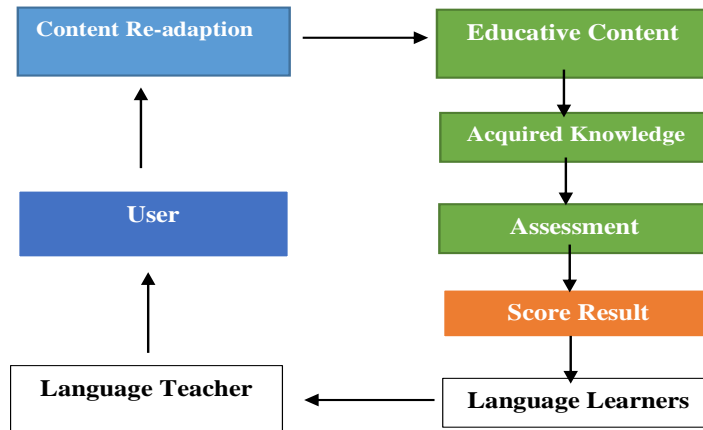
It can also be undertaken by students in groups or individually and it can occur with large numbers of students. From the explanation, the writer concludes that online assessment is the process of assessing students' performances on learning process by using ICT such as laptop, computer, and android in online through internet connection. It can use website, social media, or application. It can be concluded that era 4.0 give big impact especially in education. However, the teachers have to master technology to imply learning related technology(Wibowo & Novitasari, 2021). In this case the teacher might be applied online assessment to assess the student in distance condition without leaving the classroom. Online assessment is one of solution depends on the today's condition.

Based on the explanation above, the researcher will employ two assessments based on period and administration, namely the formative test and the online test. This was done by since some reasons. First, the formative test is clearly used to measure students' abilities when learning is progressing. Second, using online media in assessments can help teachers in providing feedback to students.

### **2.2.2 The Important Points of Online Assessment in English Classroom**

Conceptualizing the learning process to its basic elements, the writer may identify at last some elements (Barbosa & Garcia, 2005a). First, the educational material to be taught by the teacher in a classroom. Secondly, the teaching and learning activities

that take place in a classroom. Third, the assessment activity to measure the student learning and the report of the score results given by the teachers to the students. This conception is well suitable for the traditional educative process.



*Figure 2. 2 Assessment in the Learning Process*

In Figure 2.2, the writer characterizes the importance of assessment in the learning flow. The tests and evaluations not only are an integral part of the learning process, but also those are an element that complete and close a circular activity, contributing as a feedback source for: the users (giving the scores and feedback), for the instructors (by giving support and feedback) and for the instructional designer (to update the contents of the learning system) as well. This circular conceptualization of the learning process allows the teachers to see the significance of the assessment because it helps to the adaptation of the system by setting a new user knowledge level, evaluating and determining new learning profiles, assign the user grades and, in consequence, performing user content re adaptation. This is how we see the importance of the assessment task for the adaptation process.

Regarding online assessment, as Kendle and Northcote cited by Booth(2003) asserted that the evaluation should be one of the first considerations of design when

the teachers prepare an online course, integrating it in the program and not considered by apart (Booth et al., 2003). The following points regarding the important assessment in learning process.

**a) Educative Content and Adaptive Process**

The results of the test made by the students could allow an education of the web site that reflects the new knowledge topics or the new syllabus that will be taken. According to the *Australian Flexible Learning Framework*, assessment, especially when is included within a real learning task or exercises, could be an essential part of the learning experience, giving to the entire Web site the characteristic to adapt itself to the needs of the users.

This could be an interesting feature of an educational Web site because the improvement of the online teaching experience by giving to the student:

- 1) Convenient Feedback: the web site shows the results of the assessment and gives the feedback to the user to improve their scores;
- 2) Once the lesson taken and the corresponding evaluation was carried out, the educative content could be readapted to the new knowledge level of the user by imparting new lessons, based upon the results of the assessment;
- 3) From the last feature, the teachers could establish user-tailored content information to give the student the convenient, adapted and meaningful information, improving the learning experience;
- 4) Gives flexibility, enables group work when the test is designed to be made for several individuals, have the potential to be interactive, learners can assess assessments remotely and could be ease to use (Booth et al., 2003).



**b) For User of Assessment**

For the student, the assessment activity informs progress and guide learning; also, it is essential for the accreditation process and measures the success of the student. Assessment tasks can be seen as the active components of study, also assignments provide learners with opportunities to discover whether they understand and not, if they are able to perform competently and demonstrate what they have learnt in their studies.

Furthermore, the feedback and grades that assessors communicate to students serve to both teach and motivate (Hyde et al., 2004). In addition, we have to consider another and emerging approach for online assessment that refers to group collaboration, sharing and learning where students are able to see solutions to authentic problems from many other students. It is necessary to mention that a fast, instantly and effective feedback is very important to the learners, also to have access to multiple attempts, take charge of their own learning and track their own progress.

**2.2.3 The Benefits of Online Assessment**

There are some benefits using online assessment in teaching English for English teachers, language learners and for educational goals, those are:

**A. For English Teacher**

- 1) Higher control, friendly interface;
- 2) Higher flexibility;
- 3) Fast and easy to use;
- 4) Easy accessibility from remote areas;

- 5) Receive immediate feedback, and
- 6) Increased motivation to enhance performance (Joshi et al., 2020).

### **B. For Language Learners**

- 1) Greater flexibility with any place and any time assessments;
- 2) Better using of time through simplified and quicker examination procedures;
- 3) Improved quality of feedback to students;
- 4) Can track students' progress;
- 5) Easy to make analysis across assessments;
- 6) Reduced workload;
- 7) More flexible and imaginative assessments possible, with greater relevance for students, example; by using simulations, audio and video clips(Joshi et al., 2020).

### **C. For Educational Goals**

There will be at least two main advantages in using online assessment. First, supporting higher-order thinking skills like critiquing, problem-solving, reflection on cognitive processes and facilitate group work projects. Secondly, providing accurate results by adaptive testing(Joshi et al., 2020).

#### **2.2.4 The Challenges of Online Assessment**

Implementation of online or e-assessment in teaching English could face some challenges (Alruwais et al., 2018). Some different studies have investigated about these challenges and suggested solutions:

- 1) Incompetent student with a computer or the online assessment process (Osuji, 2012). The students need a training at the beginning to be familiar with E-assessment.

- 2) Accessibility of computer and internet (Crews & Curtis, 2011; Joshi et al., 2020). As solution for this problem, the universities should provide a laboratory with fully equipment and internet access for students.
- 3) Poor technical infrastructure development. The government should provide fully equipment to set up and run E-assessment system

### **2.3 E-Learning and Learning Platform**

E-learning or Electronic Learning has become a new trend of learning method and considered as the most relevant learning method. In this case, the writer discusses the definition of E-Learning and Learning Platform from some prominent experts, the principle of e learning, the forms of e-learning and learning platforms in teaching English.

#### **2.3.1 Definition of E Learning**

The term of E-learning was devised in 1998 by Jay Cross, Electronic learning or E-learning is a popular way of developing education by technological breakthroughs (Ja'ashan, 2020). In general, the term E- learning is synonymous with online learning. E-learning becomes a new paradigm and a modern philosophy in teaching with a mission to serve as a development platform for the present-day society based on knowledge. So, E-learning has defined in many different ways. For example, Hassan and Clement (2005) defined E-learning as an innovative approach for delivering well-designed, learner-centered, interactive, and facilitated learning environment to anyone, anyplace, anytime (Hasan & Clement, 2012).

This definition includes pedagogy on perspectives as well as access and content. On the other hand, Garrison (2011) E-learning as electronically mediated asynchronous and synchronous communication to construct and confirm the knowledge (Garrison, 2011). Meanwhile, Bacescu (2013) defines that e-learning

concisely as the use of internet technologies to provide a broad range of solutions that enhances performance and knowledge. E-learning also means any act or virtual process used to obtain data, information, skills or expertise. In a broad sense, E-learning means all learning situations where there is significant use of informatics and communication resources.

From the previous definition, E-learning used new multimedia technologies and the internet to improve the quality of learning and teaching. It would widely use, and it would even bring revolutionary changes to education. In other words, the use of new multimedia technologies and the internet in learning as a means to improve accessibility, efficiency and quality of learning by facilitating access to resources. Meanwhile, Clarke (2004) asserts the close relation between ICT and E-learning is covering many different approaches that have in common which use information and communication technology (Clarke,2004). Rashty (2012) E-learning with many common points with traditional learning, such as the presentation of ideas by the students, arguments, group discussions, and many other forms of conveying information and accumulating knowledge (Rashty,2012).

### **2.3.2 The Principle of E-Learning**

Nichols (2003) argued that there are ten hypotheses for E-learning which purposely focused on the underlying principles that apply to E-learning in all situations.

- a) The adaptability of e-learning enables it to be used with a wide range of pedagogical approaches (for example, face to face or distance education);
- b) By combining elements of both traditional classroom instruction and distant learning, e-learning creates new educational opportunities;

- c) The pedagogy of a course should guide the choice of E-Learning tools, not the other way around. How technology is used is more important than what technology is used;
- d) In order to improve E-learning, pedagogical innovation must be adopted and used effectively;
- e) E-learning can be used in two major ways; the presentation of education content, and the facilitation of education processes;
- f) E-learning tools are best made to operate within a carefully selected and optimally integrated course design model;
- g) E-learning tools and techniques should be used only after consideration has been given to online versus offline trade-offs;
- h) Effective E-learning practice considers the ways in which end-users will engage with the learning opportunities provided to them;
- i) The overall aim of education, that is, the development of the learner in the context of a predetermined curriculum or set of learning objectives, does not change when E-learning is applied;
- j) Only pedagogical advantages will provide a lasting rationale for implementing E-Learning approaches(Nichols, 2013).

To sum up the theory proposed by Nichols (2003), it is believed that the effectiveness of using E-Learning can be determined by factors such as end users, predetermined curriculum, pedagogical approach used by the instructors and how the educational activities are being implemented within the E-learning aims. E-Learning functions as a tool for the instructors to help them engage the students in informal learning activities provided through online education.

### **2.3.3 The Approaches of E-Learning**

There are two approaches of E-Learning, namely Asynchronous e-learning and Synchronous e-learning (Devi & Lakshmi, 2020). Asynchronous E-learning is commonly facilitated by media such as e-mail and discussion boards supports work relations among learners and with tutors, even when participants cannot be online at the same time (Hrastinski, 2008). It is a key component of flexible e-learning. In fact, many students take online courses because of their asynchronous nature, combining education with work, family and other commitments.

Synchronous e-learning, on the other hand, refers to learning/teaching that takes place simultaneously via an electronic mode. Synchronous voice or text chat rooms provide an opportunity of teacher-student and among student interaction (Perveen, 2016). Apart from chat, video-conferencing facilitates face-to-face communication like zoom and Google Meet. Web conferences through surveys, polls and question-answer sessions can turn out to be more interactive than video conferencing.

From some research, both a/synchronous modes can be beneficial for language learning (Ene & Upton, 2018; Memari, 2020). A blend of the two models can give students an opportunity to better learn than any of the individual models. A/ synchronous modes can complement each other in teaching and learning language through the conversational framework and constructivist approaches of creating meaning through dialogue, reflection and experience.

### **2.3.4 The Kinds of E-Learning**

There some previous research discussed deeply regarding the kinds of E-learning (Algahtani, 2011; Arkorful & Abaidoo, 2015). The writer prefers to cite a study was conducted by Harriman (2010) as cited in Kumar et al. indicated that there were different types of e-learning. Those are online learning, distance learning, blended learning, m-learning (Kumar Basak et al., 2018).

#### **A. Online-Learning**

An online learning is done through the Web and it may add graphics, animation, text, audio, video, email, discussion boards, and testing. In addition, it is self-directed and on demand but it can incorporate the web-based teleconference such as audio, graphics, synchronous chat, or technology that are similar. Many researchers throughout these years discussed the benefits and the challenges of online learning. Brewer et al. (2001) stated that technology plays a significant role in the teaching learning process. However, there is a necessity for appropriate integration of technological tools. They warned that if such learning technologies used wrongly, they are likely to undermine the role technology and thus the failure of the learning process. According to Hsboula (2009), online learning has the potential to improve access to education and training as well as the quality of teaching and learning.

#### **B. Distance-Learning**

It takes place when learners and instructors are not in the same place and also when learners and instructors are at the same place but not at the same time (Bušelić, 2017; Sadeghi, 2019). In recent days, the distance learning takes place using the number of media and these media are from the postal mail to the

teleconferencing or the Internet in global pandemics (Aini et al., 2020). In addition, these two terms such as distance learning (learner focus) and distance education (instructor focus) are used interchangeable since learning is the result of education. In the case of distance learning in Indonesia, Open University or it is well-known as Universitas Terbuka is the pioneer of the distance learning (Yaumi, 2007).

### **C. Blended-Learning**

Blended learning is the combination of two learning steps that are face-to-face learning and online learning (Köse, 2010). The main purpose of blended learning is to combine delivery modalities of the efficient and effective instruction experience. Furthermore, it is used to describe a solution that includes different delivery methods, namely, collaboration software, Web-based courses, and the electronic performance support systems.

### **D. M-Learning**

M learning stands for Mobile learning. it is used to handheld many information technology devices that can be used in teaching and learning namely, personal digital assistants (PDAs), mobile phones, laptops.

The study of the type of online learning led to a conclusion that basically the use of technology in learning will determine the usefulness of online learning. Hence, in this study researcher provides the limitation on the use of online learning as a learning process and assessment in English language teaching to improve reading comprehension with mobile learning as a device.



### 2.3.5 The Kinds of E Learning Platforms

The E-learning in English teaching and learning process is done with the help of various online platforms. Over time, many definition were used to describe online learning, such as Computer-mediated learning (Anaraki, 2004), Web-based training, E-learning systems, and Learning Management Systems (Costa et al., 2012). A Learning Management System is seen as a software that operates and encompasses many services that are meant to aid teachers in managing their lectures and courses (Ouadoud et al., 2018), and those were created in order to assess the students in terms of monitoring and evaluating students, giving grades, monitoring the course attendance or additional administrative actions that can be demanded by educational institutions. These systems can be divided into two categories: open source-Moodle platforms, and commercial or proprietary, where platforms like Blackboard are included (Dagger et al., 2007).

In Indonesia, some familiar online learning platforms are used for tool in teaching English before and during global pandemics, such as Kahoot (Mahbub, 2020; Nurlaela & Nawir, 2020; Putri, 2019; Sabandar et al., 2018) Edmodo (Aji, 2016; Safriyani & Khasanah, 2021), Quizzes (Nugraha et al., 2021), Google Classroom (Nursyahrina et al., 2021; Sholah, 2020), and Microsoft Teams (Wijayanto et al., 2021).

Utilizing the above platforms to administer assessments can function as an innovative pedagogical strategy through facilitating opportunities in formative and immediate feedback, engagement with critical learning processes, and promoting equitable education. The adoption of technology may be a common practice in general strand content areas, most studies reviewed do not specifically evaluate the language learning aspect.

From any kinds of E-Learning Platforms, in designing to offer students, teachers, and administrators a system that can help them create an enhanced and customized learning climate, Benta et al. proposed Moodle is considered a web-based flexible learning environment that facilitates collaboration between users (Benta et al., 2014). Through these platforms, teachers can upload and supply students with information and resources to which they would not have had access during face-to-face classes, and students can easily share information, state their difficulties and receive feedback (Martín-Blas & Serrano-Fernández, 2009). In the next section of this current work, the researcher will review Moodle specifically as an e-learning platform.

## **2.4 Modular Object - Oriented Dynamic Learning Environment (MOODLE)**

In this section, researcher discusses briefly and deeply about Moodle as one of the learning management system platforms from various literatures.

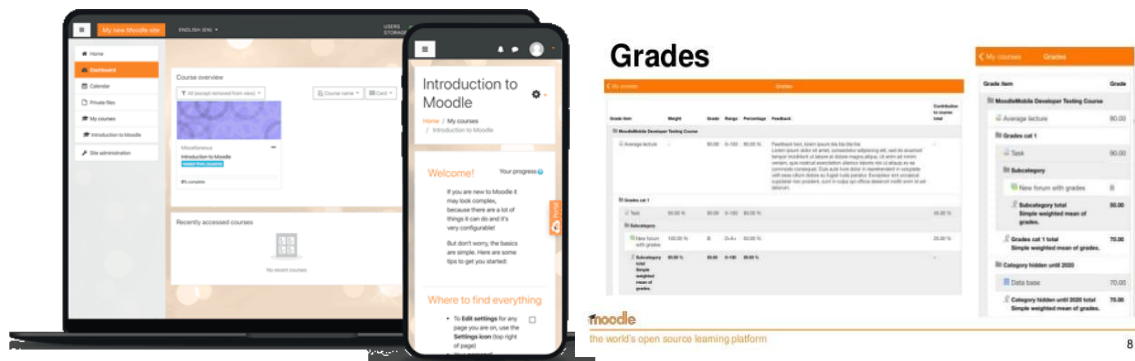
### **2.4.1 A Brief of Moodle**

Moodle is an open-source program that most famous of programs other e-learning. This application was first developed by Martin Dougiamas in August 2002. By nature, it can be downloaded for free and can be modified by anyone makes this program become a solution for the development of learning more effective and efficient.

Rice (2015) defined Moodle is a free learning management system that enables the teachers to create powerful, flexible, and engaging online learning experiences (Rice, 2015). The word Moodle was originally an acronym for Modular Object-Oriented Dynamic Learning Environment, which is mostly useful to programmers and education theorists. Still from Rice, Moodle is designed to support a style of learning called Social Constructionist Pedagogy (Rice, 2015). This style of learning is interactive. When the learners interact with the learning material, construct new

material for others, and interact with other students about the material. It means that the learners learn best.

Moodle was built on constructivism approach. Constructivism is based on the idea that individuals learn new things (construct knowledge) through experience by comparing new things to what they already know. They do this by solving realistic problems, often in collaboration with other people. The purpose of this theory is to create independent students who have belief and skill to use variety of strategies to arise their knowledge by themselves.



Picture 2. 1 The Dashboard of Moodle as LMS

Moodle also offers five kinds of activities where students interact with each other. These are five activities used to create social course material. They are Chat (live online chat between students), Forum (you can choose the number of online bulletin boards for each course), Glossary (students and/or teachers can contribute terms to site-wide glossaries) and Wiki (Wikis can be inserted into courses, or a Wiki can be the entire course) and the last, Workshop (workshops support collaborative, graded efforts among students).

Thus, Moodle includes diverse features such as forums, chats, private messaging, and higher education institutions can use it as an additional method to traditional

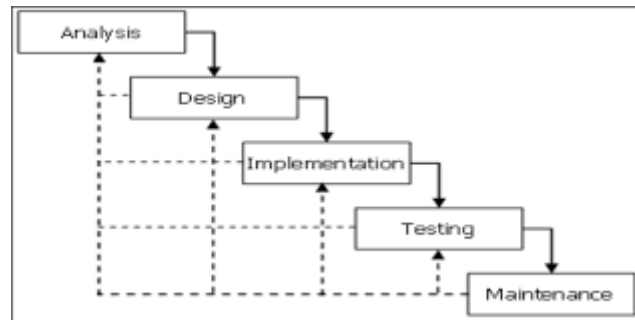
education, or for exclusively online learning (Oproiu, 2015). Therefore, Moodle platforms are easy to access and use and they are known to have a positive impact on students' learning performance, Martín-Blas and Serrano-Fernández showing in their study that students who used Moodle during the academic year had better results and higher grades than students who were not asked to use it (Martín-Blas & Serrano-Fernández, 2009). From the consideration above, the writer wants to use Moodle as online learning platform in teaching and assessing English especially in promoting reading comprehension.

#### **2.4.2 Developing Moodle as an E-Assessment**

Moodle is an e-learning system or called as software. To develop Moodle, it was needed a standard of software development. ISO/IEC 12207 is an international standard for software life-cycle processes (Ruparelia, 2010). It aims to be the standard that defines all the tasks required for developing and maintaining software. In software development, there is a standard process called SDLC. SDLC is the acronym of Software Development Life Cycle.

SDLC is a process followed for a software project, within a software organization. It consists of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software. The life cycle defines a methodology for improving the quality of software and the overall development process. There are various software development life cycle models defined and designed which are followed during software development process. The researcher selects one of famous development cycle, that is Waterfall Model.

Waterfall approach was first SDLC Model to be used widely in Software Engineering to ensure success of the project. In *the waterfall* approach, the whole process of software development is divided into separate phases (Bassil, 2012). In Waterfall model, typically, the outcome of one phase acts as the input for the next phase sequentially.



**Picture 2.2 The Waterfall Chart Adapted from (Bassil, 2012)**

The phase set of activities carried out during the development of Moodle as an assessment-based e-learning platform is explained in the following steps.

**a) Need Analysis**

Needs analysis is used to identify the problem, object, scope associated with the input, output and procedures (process) which is applied in managing inputs into outputs.

**b) Design**

Design means that the process of planning and problem solving for a software solution. One type of this process is interface design.

**c) Implementation**

In this phase, the researcher develops the website of Moodle as an assessment-based e-learning platform can be accessed.

**d) Testing**

The step is also known as verification and validation which is a process for checking that a software solution meets the original requirements. The step can be validation expert and field trial of Moodle as an assessment-based e-learning platform.

**e) Operation and Maintenance**

The last phase is operation and maintenance. This is an activity that aims to accommodate changes in order to produce a better performance. This activity is also modifying a software solution after delivery and deployment to refine output, correct errors, and improve performance and quality (Bassil, 2012).

From the explanation above, it can be seen that Moodle as an assessment-based e-learning platform has many varieties contents and types. One reason that makes it is interesting, because the developer can modify the features based on her/his need. Although it has a copyright from the formal institution, as developer, we also have a copyright of it.

**2.5 Reading**

In this part, some discussion regarding reading from the nature of reading, the aims of reading, the kinds of strategies in reading, aspects of reading and reading comprehension are discussed.

**2.5.1 The Definition of Reading**

There are four skills in English that must be mastered by the students included listening, speaking, reading and writing. Furthermore, Harmer states that reading is useful for language acquisition. Provided that students more or less understand in what they read, more they read, the better they get it. In addition, Patel and Praveen (2008)

stated that reading is an important activity in life with which one can update his/her knowledge. It means that reading has usefulness for providing more understanding in subject learning and it has important part in life which can update our knowledge.

Reading is a complex process which involves interaction between the reader and language and ideas of the text. It means that reading is the good way to catch all of direction between us as the reader with the text. Every text of course has the ideas so get the idea in the text is a way to know what the text means.

Reading is an active process to get information through written language. In other word, it can be said that reading is an interactive process that goes on between the reader and the text, resulting in comprehension. The text presents letter, words, sentences, and paragraph that encode meaning. The reader uses knowledge, skills, and strategies to determine what the meaning is. Urquhart states that reading involves processing language messages (Urquhart,1998). Widdowson in Urquhart (1998) also states that reading is the process of getting linguistic information via print (Urquhart,1998). Further, he states that getting information is one-way process from writer or text to reader. Further, Urquhart stated that reading is a process of receiving and interpreting information encoded in language via the medium of print (Urquhart,1998).

Nuttall (1989) states that there are some words that relate with the definition of reading, those are, understanding, interpreting, and meaning, sense, decoding, deciphering, identifying, articulating, speaking, and pronouncing (Nuttall,1989). The definition of reading reflects the ideas that reading is the process of the identifying

written words, besides that in great many classrooms; the reading lesson is used as an opportunity to teach pronunciations, encourage fluent and expressive speaking. Reading as interpreting means of a written text as a piece of communication. Reading is a part of daily life for those who live in literate communities that much of the time we hardly consider either the purpose or the processes involved.

Another definition of reading is stated by Stanferr, he states that reading is a mental process requiring accurate word recognition, ability to call to mind particular meanings, and ability to shift or reassociate meanings (Stanferr in Petty and Jensen, 1987). Reading is a fluent process of readers combining information from a text and their own background knowledge to build meaning. The goal of reading is comprehension (Nunan, 2003). Reading is the process of understanding written language. It begins with a flutter of patterns on the retina and ends (when successful) with a definite idea about the author's intended message. Thus, reading is at once a "perceptual" and a "cognitive" process. A process bridges and blurs these two traditional distinctions (Rumelhart, 1994).

From the statement above it can be concluded that reading is a process of getting information and message from written language. In understanding the message from written language, the reader must have the background knowledge. Hence, in the process of reading, the reader must combine their background knowledge and the content of the text. Besides, they should combine their interference, memory, and the strategy of reading.



### 2.5.2 The Purpose of Reading

Learning a foreign language, especially reading skill is often used for purpose. A person may read for enjoyment or to improve his knowledge (Sangia, 2018). Besides, the purpose of reading determines the appropriate approach of reading. A person, hence, selects what they want to read. For instance, one person goes to the restaurant, she or he wants to know the price of the food so he read a menu in the restaurant, although he does not need to know the name of the food listed. A person reading poetry for enjoyment needs to recognize the words the poet uses and the ways they are put together, but he does not need to identify the main idea and supporting idea of the poetry, just for enjoying.

Further, a person reading scientific article to support her or his background knowledge needs to know vocabulary that is used, understand the facts that are presented as hypotheses. A person reads something because she or he wants to comprehend something from reading materials that she or he reads. In foreign language, learning reading is often used for purposes, which are different from those found in mother-tongue learning.

For example, we noted that reading aloud is often used (mistakenly, most experts agree) as one form of pronunciation teaching. However, the most typical use of reading a foreign language class is to teach the language itself. The typical text in a FL course book is one that helps the teacher to present or practice specific linguistics items-vocabulary, structures and so on.

Good reader read extensively, integrates information in the text with existing knowledge, have a flexible reading style, depending on what they are reading. There

are some different skills interacting: perceptual processing, phonemic processing, and recall. Reading has a purpose: reading serves a function. It means that if reader gets the opportunities, reader will read more texts. The learners spend their time on text intending to improve their knowledge or their language.

### **2.5.3 Strategy in Reading**

Reading strategies can be defined as “plans for solving problems encountered in constructing meaning (Richard, 2002). Further, he states that they range from bottom-up vocabulary strategies, such as looking up an unknown word in the dictionary, to more comprehensive actions, such as connecting what is being read to reader’s background knowledge. Richards (2002) stated that the aim of reading strategies as follows:

- a) Strategies help to improve reading comprehension as well as efficiency in reading;
- b) By using strategies, students will be reading in the way that expert readers do;
- c) Strategies help readers to process the text actively, to monitor their comprehension, and to connect what they are reading to their own knowledge and to other parts of the text.

In other words, it can be concluded that strategies of reading help students to improve their performance on test of comprehension and recall. Comprehension is the purpose of reading. Variations in comprehension are likely to come from different background knowledge brought to the text (Urquhart, 1998). In the classroom where teacher and students share the same culture, such variations may not be very large, but in the classroom where teacher and students may come from a wide range of

background knowledge and culture, the comprehension may become the major problem.

Brown (2000) states that reading comprehension is primarily a matter of developing appropriate, efficient comprehension strategies, those are:

- a) Identify the purpose of reading. Efficient reading consists of clearly identifying the purpose in reading something. The reader knows what he is looking for and can weed out potential distracting information;
- b) Use efficient silent reading techniques for relatively rapid comprehension (for intermediate to advance level);
- c) Use grapheme rules and pattern to aid in bottom-up decoding (for beginning level learners). At the beginning level of learning English, one of the difficulties students encounter in learning to read is making the correspondences between spoken and written English. Learners may need to be given hints and explanations about certain assumption that one-to-one grapheme-phoneme correspondence will be acquired with ease, other relationship might prove difficult;
- d) Skimming consists of quickly running one's eyes across a whole text to get the gist. Skimming gives reader the advantage of being able to predict the purpose of the passage, the main topic or message, and some of developing supporting ideas;
- e) Scanning is searching quickly for some particular piece of information in a text. Scanning exercise may ask learners to look for names or dates, to find a definition of a key concept, or to list a certain number;

- f) The strategy of semantic mapping, or grouping ideas into meaningful clusters, helps the reader to provide some order to the chaos. Making such semantic maps can be done individually, but they make for a productive group work;
- g) Guessing;
- h) Several techniques are useful here: (1) look for prefixes; (2) look for suffixes; (3) look for roots that are familiar; (4) look for grammatical contexts; and (5) look at the semantic context (topic) for clues.

#### **2.5.4 Reading Aspects**

Suparman (2006) states in order to know the important of reading in teaching process, reading is contraction of involves the reader connecting information from the written message. There are several aspects of reading comprehension that should be mastered by reader to comprehend the text: mind idea, specific information, references, inferences, and vocabulary.

##### **a) Main Idea**

Finding the mind idea of paragraph is one of most important reading comprehension skill. In some paragraphs, the mind idea is not explicitly stated in one sentence. Instead, it is left to the reader to infer or reason out. In the word, the main idea is the most important idea that the author develops throughout the paragraph.

##### **b) Specific Information**

Specific information develops the topic sentences by giving definition example, facts, comparison, analogy, cause, and effect statistic and quotation.

##### **c) Reference**

References are words or phrases used either before or after the references in reading material. They are used to avoid unnecessary repetition of words or

phrases. It can the readers signal to find the meaning of word elsewhere in the text.

**d) Inference**

Inference is an educational guessing or prediction about something unknown based on available facts and information. It is the logical connection that the reader draws them between his observes or known and what he does not know.

**e) Vocabulary**

Vocabulary is the stock of word used by the people of even person. Concerning with those statement indeed vocabulary is fundamental for everyone who wants to speak or to produce utterances for reading (Suparman,2012).

Based on the explanation above, the students must master mind idea, specific information, references, inferences, and vocabulary. This means that an English text must bring up these elements, so that it means that make the students can easily to identify the information of the text. The reading aspect is the basic students' competence in reading comprehending specific information of the text. Because it is important to teaching learning process in reading.

**2.5.6 Reading Comprehension**

According to Johnson, comprehension is strategies readers use to retrieve information and construct meaning from expository text. It is thinking processes, broken down into steps, that are used to comprehend (Jhonson, 2008). It means that comprehension is a process of understanding a text or a process of constructing meaning from a text. Comprehension is a construction process because it involves all of the elements of the reading process working together as a text is read to create a representation of the text of the readers mean.

In addition, Snow stated the ability of processing the text and the understanding the meaning is called reading comprehension (Snow, 2002). It can be defined as all of the processes which the meaning of the text needs to be understood. Reading comprehension involves the activity of extracting and establishing the meaning at the same time which can be obtained through the collaboration of the written language. The students could take the expectation from reading text. They have to comprehend the text to get the point of what they read.

Besides, Janette stated reading comprehension is the process of constructing meaning by coordinating a number of complex processes that include word reading, word and world knowledge, and fluency (Janette, 2007). It means in comprehending the text, the students take the expectation to get the point of what they read. The comprehension skills categories are cumulative, in that one is built on the other. Based on the language assessment theory of Brown, especially in reading, there are some criteria are commonly used in measuring students reading comprehension ability, they are:

- a) Main idea (topic)
- b) Expression/idiom/phrases in context
- c) Inference (implied detail)
- d) Grammatical features
- e) Detail (scanning for a specifically stated detail)
- f) Excluding facts not written (unstated detail)
- g) Supporting ideas
- h) Vocabulary in context (Brown, 2003).

Based on the consideration above, it is critical to focus more on students' reading comprehension. English teachers should give learning experience and learning

assessment process that suitable to the students so students can improve their reading comprehension. The students who have good reading comprehension will understand easily regarding the implicit meaning in every subjects. Reading is basic knowledge of students to understand the message that delivered through written text. Therefore, developing reading comprehension continuously is not only as the goal of teaching but also as the requirement to improve students' reading comprehension.

## **2.6 Theoretical Assumption**

Having reviewed all the theories above, some theoretical assumption can be drawn. First, assessment is an essential component of teaching and learning. In the case of English language teaching, assessment is critical in documenting ability and learning. The problem appeared that in English language teaching, the assessment process use text to assess learners. The assessment process, however, is hampered by students' poor reading abilities.

Second, the integration of ICT and English Language Teaching is seen as an effort that can be used as a medium of assessment to improve students' reading skills. This can be proven by several reports of research results on the integration of ICT, Assessment and Teaching English. Thirdly, online assessment is an option in English learning and assessment process in the 21st century. Moodle as one of the Learning Management System is seen as having the advantages of various e-learning platforms to be used to improve students' reading comprehension.

### III. RESEARCH METHODOLOGY

This chapter describes the method of this research that covers research design, population and sample, research setting, research instrument, validity, reliability, data collecting technique, and data analysis.

#### 3.1 Research Design

In terms of the research background and problem formulation, this study employs mixed methods. The methodology focuses on the techniques and methods applied to answer the questions of the Research part and the Development part since this research is categorized as Research and Development (R&D). There are some steps that must be undergone in developing an educational product using this method. The researcher developed the assessment-based e-learning platform to promote students' reading comprehension by using the steps in the DDDE model.

Developing a product using DDDE model is appropriate since it four steps that is quite enough to be done. These steps are *Decide, Design, Develop and Evaluation* which are presented in brief as follows.

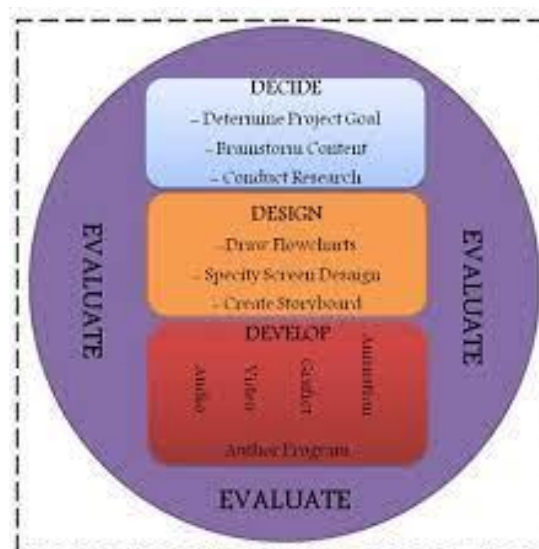


Figure 4. 1 The DDDE Flowchart adopted by Iver and Barron (2002)



According to the characteristics of the combination method, the first phase of research employs qualitative methods for teachers and students, and the second employs quantitative methods for teachers or teachers. The goal of this research is to develop an assessment-based learning platform or product that can be used in English classroom. The assessment model developed in this study is DDDE (*Decide-Design-Develop and Evaluation*) by Iver and Barron (2002). In this research, the researcher will do the four processes regarding the DDDE, namely:

**a) Decide**

At this stage, researcher conducted studies on mapping English learning problems with technology, curate and review previous research, compile research instruments, administer Pre-Tests to measure students' initial abilities, analyze the needs of both teachers and students, as well as learning conditions, and evaluate as the foundation for problem solving.

**b) Design**

The next step for researcher is to design a product, in this case an assessment-based E-Learning Platform, which includes designing application flow-charts, determining use case and activity diagrams.

**c) Development**

The subsequent phase is development. During this phase, the researcher did installation and configuring assessment-based E-Learning Platform, Try-Out, and validation of experts, then the researcher revised the platform based on the evaluation and recommendations of experts, adds certain features to the application, and implements the application on a larger number of users.

#### **d) Evaluation**

Essentially, the evaluation method is used to harmonize each stage of this research, following the Decide, Design, and Development phases. The final step is evaluation, where testing is conducted by administering Post-tests to quantify the difference in student abilities between before and after using the application, as well as receiving comments from users, especially teachers and students, in order to rate the application.

### **3.2 Research Subjects**

Population is all subjects of research that are assumed to have the same characteristics. The population in this research is the first-grade students of SMK Islam YPI 2 Way Jepara and SMK Negeri I Labuhan Maringgai - Lampung. The number of populations of the study is 239 students. In selecting the students as the research subjects, the researcher used purposive sampling technique. The purposive sampling is non-probability sampling method in which researcher relies on own judgment when choosing samples to participate in the study.

Then, the numbers of the students are participated in this study is 70 students which are distributed into one class at each school. The researcher has own reason in selecting those students as the sample of the research, that is most of them are the participants of National Assessment based Computer (ANBK 2021) which was done to know the ability of literacy and numeracy that has been conducted online. The following table is the data of sample based on the gender and age.

**Table 3. 1 The Brief of The Sample Data Based on School, Gender and Age**

<b>School</b>	<b>Number</b>	<b>Percentage</b>
SMK Islam YPI 2 Way Jepara	37	55,22%
SMK Negeri 1 Labuhan Maringgai	33	44,77%
<b>Total</b>	70	100%

<b>Gender</b>	<b>Number</b>	<b>Percentage</b>
Male	26	37,14%
Female	44	62,85%
<b>Total</b>	70	100%

<b>Age</b>	<b>Number</b>	<b>Percentage</b>
<16	19	27,84%
16	41	58,46%
>16	10	14,28%
<b>Total</b>	70	100%

According to Table 3.1, the distribution of sample data based on school is 55.22 percent of all samples from the first school and 44.77 percent from the second school. According to the table above, 26 of the samples are male students and 44 are female students. Meanwhile, the distribution of data based on age showed that 19 students are under the age of sixteen, 41 students are over the age of sixteen, and the rest are over the age of sixteen.

To collect data for needs analysis and product evaluation, researcher selects four English teachers from two schools as research subjects, as well as eight experts in English teaching assessment and online learning developers to validate the feasibility of product.

**Table 3. 2 Teachers and Experts Profiles**

<b>No</b>	<b>English Teacher</b>	<b>Degree of Education</b>	<b>Teaching Experience</b>	<b>Certified</b>
1	Fitrorul Lukluin Nisak, S.Pd.I.	Bachelor	12	Certified
2	Ade Ari Prayudi, S.Pd.Gr.	Bachelor	10	Certified
3	Linawati Dewi, S.S.	Bachelor	7	Not Certified
4	Ela Erfianda, S.Pd.	Bachelor	6	Not Certified

<b>No</b>	<b>Expert on Course Materials</b>	<b>Education</b>	<b>Experience</b>	<b>Institution</b>
1	Prof. Dr. Cucu Sutarsyah, MA.	Doctoral	27	University of Lampung
2	Dr. Ahmad Subhan Roza, M.Pd.	Doctoral	14	IAIN Metro

3	Slamet Riyanto, M.Pd.	Master	13	The Head of MGMP
No	Expert on LMS	Education	Experience	Institution
1	Purwahid, ST.MT.	Master	10	Developer LMS
2	Haris Setiaji, ST. M.Kom.	Master	12	Head of IT IAIN Metro
3	Suhono, ST.MT.	Master	4	IAIN Metro

Table 3.2 reveals the profiles of English teachers in the two schools as the location of the research. Based on data, there are two teachers who have been certified, which means that they have taken advanced teacher education or PPG, with experience between 10-12 years of teaching. Meanwhile, the other two teachers have between 6 and 7 years of teaching experience and have not participated in PPG. In addition to the teacher profile, the table above also shows the profiles of experts in two different fields. In course materials experts, there are three experts who have the expertise and experience of teaching English in various institutions. Then, three experts in the Learning Management System also have a track-record in the development of learning applications.

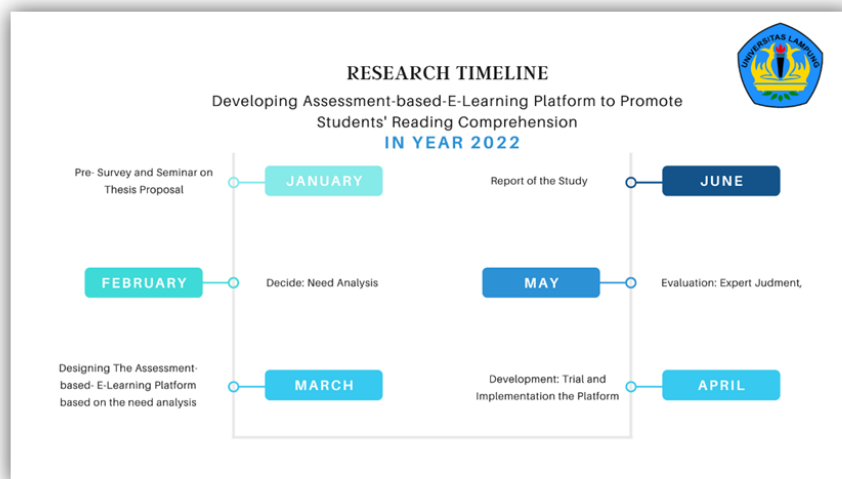
### 3.3 Research Setting

#### 3.3.1 Location

This study was carried out at two vocational schools in East Lampung, namely SMK Islam YPI 2 Way Jepara and SMK Negeri 1 Labuhan Maringgai. Both schools are chosen as research location for a variety of reasons. First, because each school has implemented an e-learning platform for online learning, it can be assumed that the sample in this study is familiar with the use of technology in the learning process. Second, SMKS Islam YPI 2 Way Jepara is located in the center of Education in East Lampung, where it can be assumed that samples from the school can represent *urban students*. Meanwhile, the second research site is in the area and the eastern coast of Lampung, which will represent students living in the countryside.

### 3.3.2 Research Timeline

In providing the information of research timeline, the following table is the timeline for researcher in conducting the current research.



**Figure 3. 1 Research Timeline**

Figure 3.1 describes the series time implementation of the research process based on stages adjusted to research design. First, in January, researcher carried out the preparation of proposal manuscripts, conducted pre-research and thesis proposal seminars. Then, the next stage is carried out in accordance with the research procedure that has been explained in this chapter in sub-heading 3.1.

### 3.4 Research Instrument

An instrument is a tool to collect data of the research. The instrument used in this research is a test and questionnaire.

#### A. Test

Test is valuable measuring instrument for educational research. Therefore, the role of the test is important in collecting data. In this research, the writer uses reading comprehension test in the form of multiple choices. The instrument is constructed by following the language assessment book by Brown. He mentioned several sets of question, such as: main idea (topic), expressions/idiom/phrase in context, inference

(implied detail), grammatical features, detail (scanning for a specifically stated detail), excluding facts not written (unstated details), supporting idea(s) and vocabulary in context (Brown, 2004).

This research takes some indicators from set of questions mentioned above. The writer modifies the questions into four indicators, such as identifying main idea, identifying specific information, identifying vocabulary context and identifying pronoun reference. This research consists of 20 items both in narrative and descriptive text. This test is used in both pre-test and post-test.

The researcher also uses five aspects of reading comprehension in this test. The five aspects of reading comprehension are determining main idea, making inference, identifying reference, finding specific information, and the understanding meaning of words or vocabulary.

## **B. Questionnaire**

The questionnaires are given to the students as well as a materials expert. In this study, five types of questionnaires are used. These are the needs analysis, students' responses, teachers' responses and experts on Course Materials and Learning Management System judgment questionnaires.

### **1. The Questionnaire of Need Analysis for Students**

The need analysis questionnaire is distributed to find out the target needs and the learning needs of students two schools. In developing the needs analysis questionnaire, this study referred to the theory of needs assessment proposed by Hutchinson and Waters (1987), and Nunan (2004).

**Table 3. 3 The Organization of Need Analysis Questionnaire**

<b>Aspect</b>	<b>Items</b>	<b>The aim of the question</b>	<b>Reference</b>
<i>Personal Identity of Students</i>	1,2,3,4,5	To find some information about student and teacher identity.	Hutchinson and Waters (1987)
<i>Necessities on goal</i>	6,7	To find out the reason of students to learn English.	Nunan (2004)
<i>Necessities</i>	8,9,10,11,12	To know student needs in terms of targets situation.	Hutchinson and Waters (1987)
<i>Lacks</i>	13,14	To find out the level of knowledge of students and students' weakness in studying English.	Hutchinson and Waters (1987)
<i>Wants</i>	15	To find students' desires related to material.	Hutchinson and Waters (1987)
<i>Input</i>	16,17	To find out what content is needed to design an assessment.	Nunan (2004)
<i>Procedures</i>	18	To find out what students are must do with the task.	Nunan (2004)
<i>Setting</i>	19,20	To find out how the assignment done (group work, work partner or individually).	Nunan (2004)
<i>Teachers' roles</i>	21,22	To find out the role of the teacher in the classroom.	Nunan (2004)

Table 3.3 contains nine aspects that are used to obtain data on needs analysis. The nine aspects were then mixed into 22 questions in a questionnaire given to the students.

## **2. The Questionnaire for Students Responses**

The design of the questionnaire and interview guide was based on a review of the conceptual framework of washback (Alderson & Wall, 1993; Bailey, 1996) and adopted from Fan et al., (2014) and Cheng et al., (2011). In this study, learning practices are operationalized as dimension near related to students' learning attitudes. These instruments were used to answer research questions: What are the students'

responses toward assessment-based E-learning platform in promoting students' reading comprehension.

**Table 3. 4 The Questionnaire of Students' Responses**

Aspect	Statement	SA	A	N	D	SD
<b>Students' Responses on Anxiety</b>	I feel nervous when doing my online test in platform					
	I feel confidence in doing the online test in platform					
	Doing the test without direct teachers' supervision (online), make me nervous					
	The platform of IC online test makes me nervous					
	I am not confidence in doing the test because of my internet connection					
<b>User-Friendliness</b>	Test instruction is well understood so that I can do the test without feeling anxious					
	Test design is on the whole satisfactory					
<b>Students' Responses on Learning Platform</b>	Test result truly reflect my English proficiency on reading					
	The level of difficulty of the test is appropriate					
	Objective and subjective questions/items are well balanced					
	Language skill tested in reading are what I need					
<b>Students' Responses on Satisfaction of Platform</b>	I have paid more attention to English by taking IC course					
	IC online assessment has improved my interest in reading					
	IC Online assessment has improved my confidence in English					
	The platform makes me more active in reading English text					
	I have spent more time on English by taking IC online assessment					
	I get the feedbacks when taking the test in the platform					
<b>Students' Responses on Assessment</b>	I feel enjoy in taking the test					
	The platform makes me collaborate each other					
	I can do learning and taking the test wherever I want					
	Because of IC online test, I read more English books and text					
	I directly can see my own score without waiting several times					

Table 3.4 contains five aspects that are used to obtain data on students' responses after following the online assessment. The five aspects were then mixed into 22



questions in a questionnaire given to the students. The researcher uses the platform for distributing the questionnaires for students.

### 3. The Questionnaire for Teachers' Responses

The purpose of providing this questionnaire is to see the response of teachers after using assessment-based E-Learning Platform. The table 3.5 below shows the form of questionnaire given to the teacher.

**Table 3. 5 The Organization of Teacher Responses Questionnaire**

Statement	SA	A	N	D	SD
I think the application helps me to teach English especially in Reading Class.					
I feel more motivated to teach					
I can easily use the application					
The platform has numerous advantages					
Because the platform, I easily assess my students score in reading					
I guess the students score and habit are improved.					
The platform helps me to design the English lesson.					
The menu is suitable for me to assess my student					
Test result truly reflect students' English proficiency on reading					
The application makes me know about technology in ELT.					
My students can work in pairs and collaborative each other					

Table 3.5 above contains eleven questions that are used to obtain data on teachers' responses after following the online assessment. The researcher uses the platform for distributing the questionnaires for teachers.

### 4. The Questionnaire for Experts on Course Materials

The fourth questionnaire is the expert on course materials validation. The questionnaire is distributed as the instrument to get the data from the experts. From the questionnaire, the researcher could obtain more feedbacks and suggestions from the experts related to the content and language. The organization of the questionnaire is presented as follows.

**Table 3. 6 The Organization of Experts Course Materials Validation**

No.	Aspects	Question Goal	References
1.	Content	To evaluate and see the appropriateness of materials and the tasks	Brown (2001), Graves (2000), Hutchinson and Waters (1987), Nation (2007), Nunan (1988), Reddy (2003)
2.	Language	To evaluate and see the appropriateness of language use	Hutchinson and Waters (1987), Nation (2007)

**Table 3. 7 The Questionnaire of Experts Course Materials Validation**

No	Statement	Score				
		5	4	3	2	1
A. Content						
1.	The materials are relevant to the core competence and basic competence of curriculum 2013.					
2.	The content of the materials are relevant to the students' needs and characteristics.					
3.	The themes and topics encourage students to learn.					
4.	Every unit has clear objectives and goals.					
5.	The materials include reading strategies.					
6.	The explanations of text types are clear and understandable.					
9.	The materials use vocabularies which are relevant to students' competencies.					
11.	The levels of difficulty are in line with students' proficiency level.					
12.	The materials include various challenging and interesting activities.					
13.	The instructions in each activity are clear and understandable.					
14.	The development of activities is in accordance with <i>language assessment</i> .					
15.	The activities involve students to work individually.					
16.	The activities involve students to work in pairs.					
17.	The activities help students to develop their reading comprehension.					
B. Language						
1.	The language use is in accordance with students' proficiency.					
2.	The language use is familiar to the students.					
3.	The language use is clear and simple to learn.					
4.	The language use in each unit is <i>eye-catching</i> and in accordance with the content of the materials.					
5.	The spelling and word choice of the language use is correct and appropriate.					
6.	The language use is grammatically correct.					
7.	The sentences use correct punctuation.					

## 5. The Questionnaire for Experts on Learning Management System

The fourth questionnaire is the expert on Learning Management System validation. The questionnaire is distributed as the instrument to get the data from the experts. From the questionnaire, the researcher could obtain more feedbacks and suggestions from the experts related to the system in application regarding the graphic as well as display and the use and maintenance of application. The organization of the questionnaire is presented as follows.

**Table 3.8 The Questionnaire of Experts Learning Management System Validation**

Aspect	Statement	5	4	3	2	1
<b>Graphic and Display</b>	The appearance of layout elements on Moodle front page screens is easy to read					
	Design on a neatly arranged LMS					
	Attractive design on the LMS					
	Menu layout that makes it easier for users					
	Design layout according to flow-chart					
	Design layout according to use case diagram					
	Coloring selection that fits the theme					
<b>Efficiency, Maintainable Application</b>	The application looks efficient in development					
	Effective use of technology for LMS					
	Maintainable (can be maintained/managed easily)					
	Easy to use app					
	Application development according to needs					
	The application is made full online					

Table 3.8 above contains the questionnaires for experts of Learning Management System. The questionnaires are distributed by *Google Form* after those experts were given access to the platform.

### C. Interview

Interview draft is used as the employed instrument in data collection. It consisted of questions which are prepared for gaining the information from the English teacher about learning condition and the teaching resources for looking information related to problems and learning needs for teachers. The organization of the interview questions or guidelines is stated in the following table.

**Table 3. 9 The Organization of Teachers' Interview**

No.	Aspects	Question Goal	References
1.	<i>Goal &amp; Necessity</i>	To find information about the teacher's opinion of teaching and learning activities in reading class.	Graves (2000), Hutchinson and Waters (1987), Nunan (2004)
2.	<i>Lacks</i>	To find out the difficulties and problems which occurred during teaching and learning process of reading.	Graves (2000), Hutchinson and Waters (1987)
3.	<i>Wants</i>	To find out what the teacher wants to be included in the materials	Graves (2000), Hutchinson and Waters (1987)
4.	<i>Input</i>	To find information about the kinds of input that are used by the teacher	Nation (2007), Nunan (2004)
5.	<i>Materials</i>	To find out the appropriateness of the content, language, and presentation of the materials	Nation (2007)

### 3.5 Validity and Reliability of Instrument

In order for conducting research in scientific disciplines, they must be free of bias and distortion. Reliability and validity are two concepts that are important for defining and measuring bias and distortion.

#### 3.5.1 Validity

The test and questionnaire have validity and reliability. An instrument is said to be valid if it measures accurately what it is intended to measure. In the research, the researcher uses content and construct validity.

##### a) Content Validity of Reading Test

In content validity, the items of a test were validated by two validators based on the content of the instrument. The content validity of test items is conducted by including reading materials which are arranged based on materials already given and suitable based on recent curriculum of vocational high school, in line with tests syllabus, the students are required to be able to

comprehend the narrative and descriptive text. Then the reading is used to measure students' understanding of five reading aspects such as main idea, supporting detail, reference, inference, and vocabulary. The following table is the result of content validity of Reading test.

**Table 3. 10 Content Validity of Narrative Text**

Validity	Statement	V1	V2
Content	The items are based on basic competence and indicators	√	√
	All items relate to the instructional objectives and desired learning outcomes	√	√
	The alternative options are homogeneity and logic	√	√
	Every item has one correct option	√	√
	Every item is accordance with reading comprehension aspects	√	√
	The result gives a broad picture of students reading comprehension	√	√

**Table 3. 11 Content Validity of Descriptive Text**

Validity	Statement	V1	V2
Content	The items are based on basic competence and indicators	√	√
	All items relate to the instructional objectives and desired learning outcomes	√	√
	The alternative options are homogeneity and logic	√	√
	Every item has one correct option	√	√
	Every item is accordance with reading comprehension aspects	√	√
	The result gives a broad picture of students reading comprehension	√	√

#### **b) Construct Validity of Reading Test**

The relation validity of the instrument refers to construct validity in which question represents five sorts of reading skill, for example finding main idea, finding supporting detail, finding reference, making inference, and understanding vocabulary. Skills of reading in the test are part of the construct validity and the item numbers are parts of content validity. The researcher also used the *Iteman* to analyze the reading test before giving to the students (*see Appendix*). In order to fulfill the criteria of construct validity, the test items are presented in the table specification below.

**Table 3. 12 The Construct Validity of Narrative Test**

Text	Reading Aspect	Item Number	Numbers of Item
Narrative Text	Identifying Main Idea	1,10,16	3
	Identifying Supporting Details	2,3,6,7,11,12,13,17	9
	Making Inference	8,15,18	3
	References	4,14,19	3
	Understanding Word Meaning	5,20	2
N			20

**Table 3. 13 The Construct Validity of Descriptive Test**

Text	Reading Aspect	Item Number	Numbers of Item
Descriptive Text	Identifying Main Idea	1,6,9,14	4
	Identifying Supporting Details	2,5,10,11,15,18,19,20	10
	Making Inference	8,16	2
	References	4,12,18	3
	Understanding Word Meaning	3	1
N			20

**Table 3. 14 The Validity of Test Instruments**

		Correlations			
		Pre-Test Narrative Text	Post-Test Narrative Text	Pre-Test Descriptive Text	Post-Test Descriptive Text
Pre-Test Narrative Text	Pearson Correlation	1	.119	.668**	.304**
	Sig. (2-tailed)		.326	.000	.010
	N	70	70	70	70
Post-Test Narrative Text	Pearson Correlation	.119	1	.213	.385**
	Sig. (2-tailed)	.326		.076	.025
	N	70	70	70	70
Pre-Test Descriptive Text	Pearson Correlation	.668**	.213	1	.402**
	Sig. (2-tailed)	.000	.076		.001
	N	70	70	70	70
Post-Test Descriptive Text	Pearson Correlation	.304*	.185	.402**	.458**
	Sig. (2-tailed)	.010	.125	.001	
	N	70	70	70	70

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

Based on Table 3.14 above, the *Pearson Correlation* shows that the validity of Reading Test both in the Pre-Test and Post-Test are valid. Thus, the test is valid to measure the students' reading comprehension.

### c) Construct Validity of Questionnaire

The questionnaire in Likert scale is done based on Farzaneh and Nejadansari (2014) and Richard (2001). It is intended to see the need analysis, students' and teacher responses and experts on course materials and LMS judgments. Further, the questions will be translated into Bahasa in order to avoid mis interpretation.

#### 1) The Validity of Need Analysis Questionnaire

The SPSS validity test shows that the questionnaire in the needs analysis has good validity. The validity is shown in the table below.

**Table 3. 15 The Validity of Need Analysis Questionnaire**

No Q	Person Correlation	R Table N (70)	Note
1.	0.438	0.235	Valid
2.	0.642	0.235	Valid
3.	0.483	0.235	Valid
4.	0.351	0.235	Valid
5.	0.389	0.235	Valid
6.	0.350	0.235	Valid
7.	0.320	0.235	Valid
8.	0.420	0.235	Valid
9.	0.413	0.235	Valid
10.	0.568	0.235	Valid
11.	0.568	0.235	Valid
12.	0.372	0.235	Valid
13.	0.392	0.235	Valid
14.	0.367	0.235	Valid
15.	0.264	0.235	Valid
16.	0.273	0.235	Valid
17.	0.283	0.235	Valid
18.	0.357	0.235	Valid
19.	0.497	0.235	Valid
20.	0.537	0.235	Valid
21.	0.618	0.235	Valid
22.	0.618	0.235	Valid

From the SPSS test based on the table above, it was concluded that from 22 questionnaire items those are valid then the researcher utilized all the items for obtaining the need analysis for students.

## 2) Validity of Expert on Course Materials

The researcher used Pearson Product Moment by comparing two ways. First by comparing r-table with *Pearson Correlation* and Significance with a probability value of 0.5. The validity is shown in the following table.

**Table 3. 16 The Validity of Experts' Judgment on Course Materials Questionnaire**

		Correlations			
		V1	V2	V3	Total
<b>V1</b>	Pearson Correlation	1	.424	.472*	.854**
	Sig. (2-tailed)		.056	.031	.000
	N	21	21	21	21
<b>V2</b>	Pearson Correlation	.424	1	.149	.705**
	Sig. (2-tailed)	.056		.518	.000
	N	21	21	21	21
<b>V3</b>	Pearson Correlation	.472*	.149	1	.695**
	Sig. (2-tailed)	.031	.518		.000
	N	21	21	21	21
Total	Pearson Correlation	.854**	.705**	.695**	1
	Sig. (2-tailed)	.000	.000	.000	.000
	N	21	21	21	21

\*. Correlation is significant at the 0.05 level (2-tailed).  
 \*\*. Correlation is significant at the 0.01 level (2-tailed).

Based on the data in Table 18, it shows that *Pearson Correlation* Validator 1 is 0.845 while the second and third validators are 0.705 and 0.695, the three > 0.443 (r-table), and the significance value of the data on the Experts' Judgment validity test is smaller than 0.05. Thus, it can be concluded that the questionnaire of experts' judgment on course materials are valid.

## 3) The Validity of Expert Judgment LMS Questionnaire

The SPSS validity test shows that the questionnaire of Learning Management System. The researcher used Pearson Product Moment by comparing two ways. First by comparing r-table with *Pearson*



*Correlation* and Significance with a probability value of 0.5. The validity table is shown in the table below.

**Table 3. 17 The Validity of Experts' Judgment on LMS Questionnaire**

		Correlations			
		V1	V2	V3	Total
<b>V1</b>	Pearson Correlation	1	.262	.314	.603**
	Sig. (2-tailed)		.386	.296	.001
	N	13	13	13	13
<b>V2</b>	Pearson Correlation	.262	1	.272	.583**
	Sig. (2-tailed)	.386		.369	.282
	N	13	13	13	13
<b>V3</b>	Pearson Correlation	.314	.272	1	.654**
	Sig. (2-tailed)	.296	.369		.001
	N	13	13	13	13
Total	Pearson Correlation	.603*	.323	.454	1
	Sig. (2-tailed)	.029	.282	.119	0.00
	N	13	13	13	13

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Based on the validity test above, it shows that Pearson Correlation Validator 1 is 0.603 while the second and third validators are 0.583 and 0.654, the third  $> 0.553$  (r-table), and the significance value of the data on the Experts' Judgment validity test is smaller than 0.05. Therefore, it can be concluded that the questionnaires Experts' Judgment on Learning Management System (LMS) data are valid.

#### 4) The Validity of Students' Responses

The researcher used Pearson Product Moment by comparing r-table with *Pearson Correlation* The validity table is shown in the table below.

**Table 3. 18 The Validity of Students' Responses**

Statement	Person Correlation	R Table N (70)	Note
I feel nervous when doing my online test in platform	0.192	0.235	Invalid
I feel confidence in doing the online test in platform	0.991	0.235	Valid
Doing the test without direct teachers' supervision (online), make me nervous	0.560	0.235	Valid
The platform of IC online test makes me nervous	0.520	0.235	Valid
I am not confidence in doing the test because of my internet connection	0.116	0.235	Invalid
Test instruction is well understood so that I can do the test without feeling anxious	0.789	0.235	Valid
Test design is on the whole satisfactory	0.836	0.235	Valid
Test result truly reflect my English proficiency on reading	0.905	0.235	Valid
The level of difficulty of the test is appropriate	0.764	0.235	Valid
Objective and subjective questions/items are well balanced	0.824	0.235	Valid
Language skill tested in reading are what I need	0.756	0.235	Valid
I have paid more attention to English by taking IC course	0.722	0.235	Valid
IC online assessment has improved my interest in reading	0.516	0.235	Valid
IC Online assessment has improved my confidence in English	0.842	0.235	Valid
The platform makes me more active in reading English text	0.770	0.235	Valid
I have spent more time on English by taking IC online assessment	0.625	0.235	Valid
I get the feedbacks when taking the test in the platform	0.799	0.235	Valid
I feel enjoy in taking the test	0.722	0.235	Valid
The platform makes me collaborate each other	0.777	0.235	Valid
I can do learning and taking the test wherever I want	0.778	0.235	Valid
Because of IC online test, I read more English books and text	0.691	0.235	Valid
I directly can see my own score without waiting several times	0.629	0.235	Valid

Table 3.18 shows that there are two question items on the questionnaire that are invalid, namely statements number one and five.

Meanwhile, the other statements based on the r-table are valid.

### 3.5.2 Reliability

The next important part which should be tested is reliability of test instrument. The instruments are reliable if it is able to measure the same subject on different occasions indicating the similar result.

### a) Reliability of Reading Test

The researcher will measure the reliability of reading test using correlation product moment and then the result will be included to Spearman Brown formula. The value of the instrument will be very high and reliable if the final result shows score 0,80 – 1,00. The result of analysis by SPSS showed that the Cronbach alpha is more than 0.05 (0.727). It means that the reliability of the test is reliable.

**Table 3. 19 The Reliability of Reading Test**

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.727	20

### b) Reliability of Questionnaire

Moreover, since the questionnaire is developed using Likert scale, a Cronbach alpha is used to measure the internal consistency of the items of questionnaire. The alpha ranges between 0 and 1. The higher the alpha, the more reliable the questionnaire would be (Setiyadi,2006).

#### 1) Reliability Need Analysis Questionnaire

The students' responses on need analysis were tabulated and then analyzed with SPSS 25 for windows to look for instrument reliability, with the following results.

**Table 3. 20 The Reliability Test of Need Analysis**

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.529	22

The data in the table 3.20 shows that the *Cronbach alpha* of needs analysis questionnaire with the number of 22 questions is 0.529 or greater than 0.05. so that it can be concluded that the questionnaire needs analysis is reliable.

## 2) Reliability of Expert's Judgment on Course Materials Questionnaire

The three experts on course materials responses were tabulated and then analyzed with SPSS 25 for windows to look for instrument reliability, with the following results.

**Table 3. 21 The Reliability Test of Expert's Judgment**

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.725	22

Table 3.21 shows that the *Cronbach alpha* of needs analysis questionnaire with the number of 22 questions is 0.725 or greater than 0.05. Thus, it can be concluded that the questionnaire is reliable.

## 3) Reliability of Expert Judgment LMS Questionnaire

The three experts on Learning Management System responses were tabulated and then analyzed with SPSS 25 for windows to look for instrument reliability, with the following results. Based on the reliability test, the data is reliable.

**Table 3. 22 The Reliability Test of Expert's Judgment on LMS**

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.701	13

The data in the table above shows that the Cronbach alpha needs analysis questionnaire with the number of 13 questions is 0.701 or greater than 0.05. So that it can be concluded that the questionnaire is reliable.

#### 4) Reliability of Students' Responses Questionnaire

The students' responses were tabulated and then analyzed with SPSS 25 for windows to look for instrument reliability, with the following results. Based on the reliability test, the data is highly reliable.

**Table 3. 23 The Reliability Test of Students' Responses**

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.946	22

#### 5) Reliability of Teachers' Responses Questionnaire

The students' responses were tabulated and then analyzed with SPSS 25 for windows to look for instrument reliability, with the following results. Based on the reliability test, the data is highly reliable

**Table 3. 24 The Reliability Test of Students' Responses**

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.714	11

The data in the table above shows that the Cronbach alpha needs analysis questionnaire with the number of 11 questions is 0.714 or greater than 0.05. so that it can be concluded that the questionnaire is reliable.

### 3.5 Trustworthiness of the Data

In the research, researcher must obtain data are valid. This part of research points how the way data can get the trustworthiness. To check the trustworthiness of the data, the researcher used theoretical triangulation, credibility and dependability in this research. Triangulation is a technique that utilizes data validity that exploits something else.

Triangulation was a method to enhance researcher's understanding about what was being investigated. There are four kinds of triangulation: source triangulation, method triangulation, theories triangulation and investigator triangulation. In this study, the writer used method triangulation because the researcher used more than one method to gather data. credibility in qualitative research concerns the truthfulness of the inquiry's findings.

Credibility or truth value involves how well the researcher has established confidence in the findings based on the research design, participants, and context. Dependability is a way to make and get consistency of data will be found by the researcher so that the data can be dependable. Thus, consistency is viewed as the extent to which variation can be tracked or explained. This is referred to as dependability or trustworthiness. One way to make the dependable data was by applying triangulation. Thus, to get the dependability of data analysis, the writer used method triangulation. In this study, the writer analyzed and read the script of teachers' interviews many times and then classified data based on need analysis to get consistency.

### 3.6 Data Analysis

In this research, the researcher will use three data analysis: Data Analysis of Reading Test, Data Analysis of Questionnaire and Data Analysis of Expert Judgment.

#### a) Data Analysis of Reading Test

As explained previously, the data of reading test will be analyzed quantitatively. Hence, to analyze the quantitative data, the researcher used Paired Sample T Test on *Statistical Package for Social Science (SPSS)* program version 25.0 for windows. The data obtained from test will be compared before and after treatment.

#### b) Data Analysis of Questionnaire

In this research, the data will be collected two times by using questionnaire. First is questionnaire in need analysis, second is questionnaire in expert judgment, practitioner and students' perception about the developed assessment-based e-learning platform. Data analysis used in this part is descriptive which is analyzed by calculating the percentage of the answer. Result of the need analysis from the questionnaire will use this pattern:

$$X = \frac{\sum x}{N} \times 100\%$$

Note:

X = Score

$\sum x$  = The same answer

N = Total number of questionnaires

## V. CONCLUSION AND SUGGESTION

This is a final chapter in which it presents the conclusion of the result of the research and suggestions for teachers and further researcher who want to use and develop Assessment-based E-Learning Platform to promote students' reading comprehension.

### 5.1 Conclusion

In accordance with the result and discussion of the present study, the conclusion is drawn as follows:

1. The students have diverse goals and necessities. This goal needs to be seen as a motivation that encourages students in the learning process. Moreover, teaching English in vocational schools prioritizes students being able to communicate both written and spoken, as well as proficient in using technology in the world of work. The weaknesses, desires, and student needs, which have been comprehensively described as having a relationship with each other. For example, the ability to read is considered to be the ability of literacy, the desire of students to continue reading English texts and the influence of the use of ICT. Learning materials must be adapted to vocational, cultural issues and familiar content.
2. The feasibility study on course materials and Learning Management System (LMS) towards the Reading Test and Materials as well the system of the platform showed highly feasible.
3. Based on the Paired Sample Test, there is improvement of students' reading comprehension both in Narrative and Descriptive Text after attending the course and following the assessment in the platform. Moreover, both students and teacher are as users provided positive responses toward the platform as E-Learning and E-Assessment.



## **5.2 Suggestion**

These following suggestions are proposed for both teachers and further researcher:

### **5.2.1 For Teachers**

The findings can be used as material to develop a learning and assessment application, which in turn will give birth to many benefits for both teachers and students. First, learning and assessment systems can be run under all conditions. The coronavirus pandemic can be used as an opportunity and challenge for English teaching. Second, the burden of costs incurred can be reduced, so the cost of education is relatively cheap. Third, the use of ICT in the learning and assessment process becomes a blended and hybrid education solution, which will give birth to a learning process with several keywords: learning, collaborative, and independent.

### **5.2.2 For Further Researcher**

The researcher feels that research has many shortcomings, both in obtaining data and discussing findings in depth. This research is only at the development stage, the evaluation of students' abilities is only limited to two genres of text, namely narrative and descriptive. The researcher also looked at the limitations of data analysis on student scores. In addition, in which aspects of reading comprehension is mostly improved after participating in the Assessment-based E-Learning Platform has also not been explored in more depth. Also, the supervision by the Schools' Principal and the role of parents as *Guests*, have not been conducted by researcher. Thus, researcher provides advice to future researcher to more comprehensively discuss this issue, and it is necessary to develop learning products and Assessments based E-Learning Platforms.

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