

**THE DEVELOPMENT OF TEACHING MATERIALS ON TOEIC READING FOR IMPROVING A MINIMUM SCORE STANDARD THROUGH THE ANALYTICAL SKILL ON QUESTION ITEMS**

**Siti Maisaroh, S.S., M.Pd\*, Sutarman S.S., M.M., Nunung Nurmaesah, M.kom**

*sitimaisaroh@stmikglobal.ac.id*

**Institut Bisnis dan Teknologi Bina Sarana Global**

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**ARTICLE**

**ABSTRACT**

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**Keywords:**

*Development, Teaching*

*Materials, TOEIC*

*Reading, ADDIE,*

*analytical Skill*

Students at STMIK Bina Sarana Global is given TOEIC as one of compulsory subjects. However, after four years since TOIEC was taught, students had not significantly improved both their analytical skill of the question items as expected and in the targeted minimum score as to be achieved. The teaching materials have undergone changes for three times. Nevertheless, students still find the textbooks hard to understand, resulting in the low score students gained, particularly in the Reading section. This research is aimed at designing teaching materials to assist students in developing their analytical skill, with ADDIE as its research Method. ADDIE which encompasses five phases -- Analysis, Design, Development, Implementation, and Evaluation became the basis analytical skill from which this in-depth research was conducted. The TOEIC Reading Skills textbook provides the content of units, which commences from the warm up activity, followed by topic explanation, to practice tests and word lists. Twenty students as the subjects of this research and a group of 6 lecturers served as evaluators whom were involved for the purpose of giving more thorough analyses towards the book content. Implementing mixed-method research in the data collections and analyses, the development of the teaching materials has been proven to be valid, effective, and practical. Students felt at ease comprehending the explanation, grew their interest in relation to the teaching materials and performance well on the practice test. As a result, they have shown significant improvement in sharpening their analytical skill towards the Reading question items and in obtaining a higher score. These were proven from the Post-Test, class discussions, interview, and questionnaire results.

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**INTRODUCTION**

At Sekolah Tinggi Manajemen dan Ilmu Komputer (now Institut Teknologi dan Bisnis) Bina Sarana Global, students learn TOEIC as a compulsory subject. The purpose is to equip students with

ready-to-use English at work. TOEIC (Test of English for International Communication) is a test to measure a person's English competence for several purposes, particularly one that relates to careers at work. TOEIC Test certification is often used as a prerequisite for an employment, a job promotion, or a training. The institution deems it necessary to equip student with this skill as a compulsory work competence (PERMENDIKNAS 2020). Nevertheless, for students whose English is not their main major in a college or university, it is quite a challenge to understand the theories comprising grammar, structure and vocabulary and manifest their understanding in the given test that will result in the expected minimum score. In real classroom practices that have been in progress for about four years, it was found that most students couldn't achieve the targeted TOEIC score due to their lack of ability in analyzing the question items from which they are expected to be able to select the most accurate answers using proper analytical skill.

From the consecutive four years since TOEIC was included and taught, it was found that students' scoring achievement was at the average of 40-60% from the targeted minimum score. This phenomenon occurred frequently, meaning that if the expected score is as low as 300 for both sections, then the average students gained only 120-180. The researcher has been notifying several issues that could be further analyzed. One underlying reason was various learning interest, which was prone to be low, the other factor was the teaching materials, as a medium to introduce the subject for the students to learn and practice.

The TOEIC textbook itself has undergone substitution for three times, each of which having not only some supporting points to induce learning, but also several downsides that need reconsideration. The first book focused on words mastery – consisting of low frequency vocabulary students rarely encounter on daily basis-reflected in the incomplete passages for students to complete. Nevertheless, this resulted in confusion the students encountered and lack of motivation in learning they clearly showed as they got more practice. The second textbook was several Listening and Reading practice in each chapter, with grammar explanation inserted in the back pages, then quite frequently students missed the opportunity to relearn it. In addition, the questions items did not wholly reflect what was purposely focused on, and these were found in almost all chapters. The other one resembled the second, one topic for each unit but followed up by too varied question items.

In response to these conditions, it could be stated that most students tended to make erroneous analyses when answering the question items. These similar results were discouraging for both lecturers and students. One research conducted has emphasized that the same results and the low impact of the study result is due to one of which the insufficient teaching materials (Jasmadi,2013).

Based on the rationale, this research is aimed at developing a teaching material, the TOEIC Reading Skills textbook, to facilitate the students with the opportunity to get more actively involved in the learning process, to nurture their analytical skill, and to achieve higher scores in the TOEIC subject.

The research questions are therefore, formulated as follows:

- (1) How valid is the TOEIC Reading Skill teaching material in shaping the analytical skill among students at STMIK Bina Sarana Global?
- (2) To what extend is the effectiveness of TOEIC Reading Skill teaching material in accommodating students' opportunity to sharpen their analytical skill?
- (3) How practical is the TOEIC Reading Skill teaching material in enhancing students' analytical skill that results in the improved score?

TOEIC is a standardized test of English language proficiency for non-native speakers designed to estimate the English competence level. TOEIC the English proficiency of people working in international business or planning to use English to communicate with others (Lougheed, 2014). TOEIC is divided into two main sections: Listening and Reading, in which the former tests the ability to understand spoken English while the latter measures the ability to understand written forms. TOEIC Listening and Reading sections with 200 question items in total, cover seven parts of the whole tests to complete, with four parts in Listening and three parts in Reading. The Listening section comprises Picture description, Questions -- Responses, Short Conversations and Short Talks, whereas the Reading section comprises three parts: Incomplete Sentences, Incomplete Texts, and Reading Comprehension.

The score ranges for TOEIC vary from as low as 225 to as high as 990. Even though TOEIC should not be regarded as a definite assessment of how well a student speaks or understands English, TOEIC certification is a prerequisite that relate to study and work (Kaplan, 2019). TOEIC as well as other English Competence tests are still deemed necessary as proven documents of someone professional needs. In addition, for an employment requirement, TOEIC can provide reliable, comprehensive, and comparable results that can provide important information for consideration in the process of recruitment, promotion and assessment in selecting the best person for a position where English language skills are needed (Taylor, 2019). Concisely, to measure the everyday English skills of people working in an international environment, this test is leveraged by jobseekers and employers to showcase and assess English language skills. (Lougheed, 2014).

Section 2 of a TOEIC test covers discussion that relate to one's mastery of grammar, structure, vocabulary, and comprehension of some reading texts. The 100 question items are divided into 3 sections where students are requested to take careful selection in sentence completion, text completion and reading comprehension. This tends to be a more challenging section compared to the Listening Part where students usually perform better. Although spelling or incorrect spelling is never an option in TOEIC answers, a proper understanding towards these typical questions should be taken into consideration (Taylor, 2019). Take for instance in Part V (incomplete sentences) where students are suggested to have a thorough checking of the words on either side of the blank for clues; Part VI, (completing the texts) in which students need to look at the most appropriate words and try to get the meaning of the text, and also Part VI (Reading Comprehension), the final part that needs students to watch out for similar sounding words, confusing numbers, wrong word forms and words for similar meanings (Lougheed, 2014). In addition, the fundamental grammar points frequently tested on TOIEC and vocabulary that highlighted the whole parts can be strengthened and emphasized through regular practice, to achieve expected score (Kaplan, 2016). Regarding this concern, Students are urged to learn as much as they can about the test format and to approach it through strategic practice to achieve a higher score in future testing situations (Edmunds, 2017).

The target score for an individual in the Reading section is on scale from 5 to 495 points. Nevertheless, since TOEIC is given within the consecutive 3 semesters for students of STMIK Bina Sarana Global, the expected minimum scores for Reading section range from as low as 120 (40 correct answers from 100 question items) to as high as 285 or more (65 correct responses of similarly the total of 100 problems). The combination of both sections with the Listening parts are therefore from 305 up to 610. From the researcher's observation and the interview with the English Section Head, these scores variation are expected to meet the needs for graduates who qualify the working standard of elementary proficiency level in which students are able to maintain very simple face-to-face communication on familiar topics, both spoken and written as well as the Limited Working Proficiency where graduated students have capability to satisfy most social demands and limited work requirements.(see figure 1 and 2)

#jawaban benar	skor Listening	skor Reading	#jawaban benar	skor Listening	skor Reading	#jawaban benar	skor Listening	skor Reading	#jawaban benar	skor Listening	skor Reading
1	5	5	26	55	35	51	235	195	76	400	340
2	5	5	27	60	40	52	245	205	77	405	345
3	5	5	28	70	45	53	255	210	78	415	355
4	5	5	29	80	55	54	260	215	79	420	360
5	5	5	30	85	60	55	265	220	80	425	370
6	5	5	31	90	65	56	275	230	81	430	375
7	5	5	32	95	70	57	285	240	82	435	385
8	5	5	33	100	75	58	290	245	83	440	390
9	5	5	34	105	80	59	295	250	84	445	395
10	5	5	35	115	85	60	300	255	85	450	400
11	5	5	36	125	90	61	310	260	86	455	405
12	5	5	37	135	95	62	320	270	87	460	415
13	5	5	38	140	105	63	325	275	88	465	420
14	5	5	39	150	115	64	330	280	89	475	425
15	5	5	40	160	120	65	335	285	90	480	435
16	5	5	41	170	125	66	340	290	91	485	440
17	10	5	42	175	130	67	345	295	92	490	450
18	15	5	43	180	135	68	350	295	93	495	455
19	20	5	44	190	140	69	355	300	94	495	460
20	25	5	45	200	145	70	360	310	95	495	470
21	30	10	46	205	155	71	365	315	96	495	475
22	35	15	47	215	160	72	370	320	97	495	485
23	40	20	48	220	170	73	375	325	98	495	485
24	45	25	49	225	175	74	385	330	99	495	490
25	50	30	50	230	185	75	395	335	100	495	495

Figure 1. TOEIC Conversion table

Score Level	General Description
905-990 (91%-100%)	<b>International Professional Proficiency</b> Able to communicate effectively in any situation
785-900 (79%-90%)	<b>Working Proficiency Plus</b> Able to satisfy most work requirements with language that is often, but not always, acceptable and effective
605-780 (61%-78%)	<b>Limited Working Proficiency</b> Able to satisfy most social demands and limited work requirements
405-600 (41%-60%)	<b>Elementary Proficiency Plus</b> can initiate and maintain predictable face-to-face conversations and satisfy limited social demands
255-400 (26%-40%)	<b>Elementary Proficiency</b> Speaker has functional but limited proficiency Able to maintain very simple face-to-face conversations on familiar topics
10-250	<b>Basic Proficiency</b>

Figure 2. Score Level and General Descriptors

Teaching materials refer to any forms of instructional designs that serve as a resourceful medium employed by educators for conducting the teaching-learning process in class. These encompass both written and unwritten materials (Thomasena, 2016). Teaching materials require systematic composition to ensure supporting learning atmosphere to occur. Hence, accommodative



teaching materials would therefore require study guidance, expected competence, content, practice or exercises and evaluation (Branch, 2019). It was further strengthened that teaching materials design comprising relevant facts, concepts, principles, and procedures, should be both systematic and systemized in its design, carefully formulated in lieu of competence indicators so that learning objectives, quality learning, and qualified learning outcome are achieved. (PERMENDIKBUD 3, 2020).

Being an entity to be taught and learnt, the teaching materials as an external medium is indeed a workable tool to boost learning motivation among students. A more structured parameter in the teaching materials can affect the students' learning interest. Students find the learning process enjoyable, and their involvement is in existence. Since learning relates to one's acquisition and retention of storage systems, memory, and cognitive organization, some form of practice, perhaps reinforced practice, should be adequately facilitated. (Brown, 2016)

In addition to the structured parameter, the efforts to shape a learning habit will increase the students' cognitive skill and results in not only a better competence but also in the targeted score achievement--indicators that the learning materials resonate the students' needs. It is without doubt that a proper design of teaching materials is significant, and the model development that adequately meet the needs for learners to improve their performance, to learn effectively and to expect a satisfactory outcome should take place (Brown, 2016).

There are several factors to consider for measuring whether a design will be logically acceptable or not. One phase of measurements is through validity test. Validity is defined as cogency, how a concept can be logic and acceptable (Vestiyed, 2019). Validity can be further referred to how accurate a method measure something (Middleton, 2019). Moreover, validity can also relate to the degree in which an instrument accurately measures what it intends to measure (Liu, 2010).

There are 4 types of validity that are related to the instructional designs: Construct, Content, Face, and Criterion. Construct validity measuring the concept, content validity referring to what extend a content is representative, face validity relates to the suitability of the content and criterion validity is to a well-arranged lay out of a product (Halliday, 2015). An instructional designer can measure the validity of his design by comparing the previous design with the proposed one. This content validity responds to the question if the test is fully representative of what it aims to measure. For this purpose, involvement of an expert as a validator is required (Sugiyono, 2012). In addition, the feasibility and usefulness should also be considered, so the design is proven to be plausible (Sumarna, 2015). Thus, in performing a validity test, the following steps can be taken into consideration:

1. Involve 3-6 experts as validators. Experts can be experienced educators who will share their thoughts and analyses towards the new design of the teaching materials. The validation from the experts is required to find out whether the materials designed are in line with the competence standard and the characteristics of the students (Prabowo, 2016).

2. Give scoring using Likert scale. Likert scale is used to measure attitudes, opinions, and perception of people toward the social phenomenon (Branch, 2019). Hence, the scale is as follows:

4	Strongly agree
3	Agree
2	Disagree
1	Strongly disagree

The criteria for measuring the validity of the product (here, the teaching materials) are shown in percentage (%) (Riduwan, 2012)

1 – 20	Not valid
21 – 40	Not Valid enough
41 – 60	Valid enough
61 – 80	Valid
81 – 100	Exceptionally valid

In addition to these two steps, students' involvement also played significant role. It is suggested that besides validators, around 20-30 students with different levels of competence should also be included, so the analyses can be comprehensive and thorough.

As for the practicality, the proposed teaching materials design should gradually intensify the learners' interest as they find the materials easy to understand and enjoyable to use. Practicality also refers to the usefulness of the designed materials and how they can be implemented to help the smooth process of teaching and learning. In a broader sense, the higher the usability, the more

practical the materials will be. A proven practicality of teaching materials is based on the analyses derived from the educators and the students' data collection. Thus, questionnaire can be prepared and distributed. The components in the questionnaire encompass among others, the easiness in using the materials, the efficiency in study hours and the usefulness of the materials (Sukardi, 2012).

There are two types of practicality: 1) Effective practicality from which a product, in this sense, the teaching materials, presents usefulness before the implementation takes place, and 2) Actual practicality. A product (the teaching materials) is proven to be practical after it is implemented, thus, it will serve as a workable prove (Plomp and Nievan, 2015). In relation to the practicality when developing an instructional design, Van de Akker (2016) added that practicality refers to the extent that user (or other expert) considers the intervention as appealing and usable in normal conditions. A good instructional design requires systematic presentation supported by clear examples, relevance and usefulness (Brown, 2016).

To measure practicality, the Likert scale can also be employed as follows:

4	Strongly agree
3	Agree
2	Disagree
1	Strongly disagree

And the criteria for measuring the practicality of the product (the teaching materials) are shown in percentage (%) (Riduwan, 2012):

1 – 20	Impractical
21 – 40	Not practical enough
41 – 60	Practical enough
61 – 80	Practical
81 – 100	Exceptionally practical



Further on is the effectiveness of the designed teaching materials. Effectiveness, derived from the word effective, relates to how impactful the teaching materials are, both for the educators and the students. KBBI (2020) also elaborated effectiveness as influential and resulting. The most important aspect in evaluating an effectiveness of a product (teaching materials) is the usability (Rochmad,2015). Teaching materials are considered effective if during implementation, students are triggered to play active roles in the learning process, in working on the exercises and in comprehending the materials (Branch, 2019). In addition, educators and students show positive responses in the whole process.

Effectiveness is also a pre-requisite of evaluation through the instrument. When students show their cognitive skill in solving the problems during the learning process, in which they are presented with practice and tests, for instance, then how they analyse the question items before coming to the correct responses is one parameter of an effectiveness of a product (teaching materials). During the learning sessions, students also demonstrate their strong will in solving the problems independently, be it through self-learning or through discussions with their peers. Popham (2013) emphasized that the effectiveness in the learning process is reflected when educators succeeded in applying certain methods in the teaching-learning process that will finally meet the shared goals. Effectiveness can also be measured through some indicators: 1) Learning accomplishment, 2) time efficiency in completing the given tasks, 3) instructors' ability in conducting the teaching and positive responses from the learners. (Sinambela, 2016)

To measure effectiveness, the Likert scale are used as follows:

4	Strongly agree
3	Agree
2	Disagree
1	Strongly disagree

As described when measuring validity and practicality, the criteria for measuring the effectiveness of the product (the teaching materials) are shown in percentage (%) (Riduwan, 2012):

1 – 20	Effective
21 – 40	Not effective enough
41 – 60	Effective enough

61 – 80	Effective
81 – 100	Exceptionally effective

Analytical skill refers to a significant cognitive skill where learners are expected to have an ability in analyzing a problem and the relation between one part and another. This can be made possible if students possess a sound ability in analyzing problems (Robbins, 2011). Bloom devised a set of three hierarchical models used to classify educational learning objectives into levels of complexity and specificity. The three lists comprise cognitive, affective, and sensory domains and the cognitive domain has been the primary focus of most traditional education and is frequently employed to structure curriculum learning objectives, assessments, and activities (Brown, 2016). When the learning process is in progress, instructors can facilitate activities that are conducive for this typical skill to be demonstrated by learners. The indicators of an analytical skill can be shown when learners can present logical reasons when they solve problems encountered during the learning process. Furthermore, supporting data can also be presented to support their reasoning, coming up with evaluation, making prediction and conclusions. (Branch, 2019)

The need to develop students' cognitive domain to support favourable learning situations and to facilitate both lecturers and students with proper instructional designs have triggered educators and instructional designers to select a method for the reformulation of the teaching materials. One selected method is called ADDIE, a framework for designing and developing instructional design (Cahyadi, 2019). ADDIE that stands for Analyses, Design, Development, implementation, and Evaluation bridges and equips materials designers with measurable phases to be implemented with the hope that the stages can facilitate students in sharpening their cognitive skill to solve the problems in learning (Bintari, 2017).

ADDIE, developed by Reiser and Mollenda in the 1990s are the subsequent steps in the development of teaching and training materials. It is a generic model design used by instructional designers and training developers that represent a dynamic, flexible guideline for effective performance to take place. The incorporation of a variety of successful teaching and learning theories allows the ADDIE process to be interdependent, synergistic, dynamic, cybernetic, systematic, and systemic (Branch, 2019).

ADDIE commences with the Analyses (A) that highlights a problem clarification, instructional goals, and the identification of students' specific competence to achieve. It identifies the

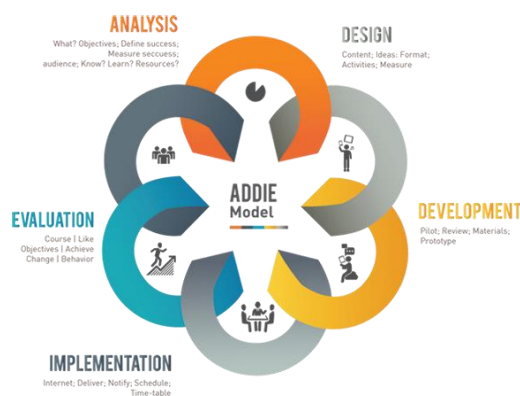
probable causes for a group performance. Hence, questions such as who the audience is, what the characteristics are, what learning constraints do exist and what pedagogical consideration can be scrutinized become the ultimate concerns.

The next phase is a systematic and specific design (D). In this phase, the learning goals, the learning strategies, the teaching materials design, and the learning evaluation are formulated. Though it is still considered a mere concept, this serves as a strong ground for further development.

Phase 3 is Develop (D) where designers prepare the learning environment to engage the students. This encompasses the availability of both students and educators, content generation, media selection, guidance development for students and educators, as well as tests making. These should carefully be conducted before leveling up to the next phase.

Implementation (I) is the phase 4 of ADDIE method. In this stage, what have been developed in phase 3 should be executed in real situations. Hence, educators guide students to reach the learning objectives, ensure solution to the existing problems, resulting in the expected outcome from which students' cognitive skill is given room for improvement.

Evaluation (E) that become the final phase of this method is required to assess the quality of the instructional products and processes, both before and after implementation. Here, evaluation criteria are determined, and evaluation is conducted. The formative evaluation is given prior to the implementation of the instructional designed, and summative evaluation is at the end of the whole sessions. The results are used as feedback to the materials and the users of the model design. (see figure 3)



*Figure 3, ADDIE model*

Quantitative and qualitative data in which students learn different kinds of content under varying conditions where learning occurs are obtained from all stakeholders. The data analyses and summary are processed to gain meaningful interpretations, so that informed decisions about the quality of any materials intended for use during guided learning sessions can be formulated (Halliday, 2015).

An inherent evaluation process in determining the value or specific worth of an ADDIE product should be taken into consideration. This evaluation in ADDIE is intended to particularly strengthen a product or procedure, not just to ratify an existing way of knowing or doing. Thus, evaluation procedures should initiate, pervade, and deduce any ADDIE process to provide ample opportunities to intervene during the process for the purpose of improvement, both in the product and in the process.(Branch 2019)

## METHOD



The researcher utilized a quantitative-qualitative mix method design to investigate *The Development of Teaching Materials on TOEIC Reading for Improving a Minimum Score Standard through the Analytical Skill on Question Items* (Ivankova & Geer, 2015). The quantitative and qualitative designs were implemented to gain the validity of the TOEIC Reading Skill teaching material through the statistical calculation related to the results of the Pre-Test, in comparison to Post-test. Whilst the effectiveness and practicality of the TOEIC Reading Skill textbook were measured using qualitative approach in which the analyses were derived from the G-form questionnaire results, class talks, teaching log and the Forum Group Discussion with 6 lecturers serving as validators, evaluators as well as instructor.

The subject of the research comprised 20 students with varied competence who were randomly selected from 4 classes. Nevertheless, due to the ongoing pandemic situation, all researcher's activities with the students were conducted online, using zoom video conferences as a medium for communication and WA group for further interaction. In addition, to get a more thorough and in-depth evaluation in relation to the teaching materials designed, a forum group discussion (FGD) with six lecturers was also formed, and communication and interaction were via similar media plus face-to-face interactions.

Initially after the 20 students as subject for this research were selected and analyzed, they were given a pre-intervention questionnaire from which a general overview of the TOIEC subject and the need for another textbook were queried. Furthermore, they worked on a pretest with 100 question

items for the Reading section. After the pretest was completed, four random units from the new book were chosen with the researcher and one member from the FGD serving as their lecturers, explaining the materials, and allowing them to do the practice tests. The six weeks' sessions were then ended by a post-test and the questionnaire regarding the designed textbook. Similarly, the Forum Group Discussion (FGD) with 6 lecturers was formed, in which they shared their experiences teaching TOEIC and expressing their views regarding the textbook formerly used in class. A G-form questionnaire was distributed, enabling the lecturers to evaluate the new book for the purpose of validity, effectiveness and practicality of the design and its implementation.

The phases where ADDIE method was used can be seen from the description below:

ADDIE METHOD	DESCRIPTIONS
<p><b>ANALYSE/ANALYSES</b></p> 	<ol style="list-style-type: none"> <li>1. Audience was a group of randomly selected students from 4 classes with varied abilities: low to average achievers</li> <li>2. The learning constraint caused by difficult teaching materials used previously.</li> <li>3. The students were prone to having lack of analytical skill, thus, erroneous prediction to the question items occurred quite frequently</li> </ol>
<p><b>DESIGN</b></p> 	<ol style="list-style-type: none"> <li>1.The researcher decided to offer solution to the problems: designing teaching materials</li> <li>2.The minimum score standard was determined</li> <li>3.The trial for some random units were planned for six weeks' sessions.</li> <li>4. Pre-intervention questionnaire was designed.</li> <li>5.Pretest was created and given prior to the commencement of the six weeks' sessions with the total of 100 question items for the Reading section</li> <li>6. Post-test was distributed at the end of the whole sessions.</li> </ol>

**DEVELOP/DEVELOPMENT**



- 1.The researcher started 2 WA group discussion with both students and lecturers
2. The researcher briefed the students on what would be conducted thoroughly.
3. The researcher also formed an FGD with 6 lecturers, each shared their experiences and proposed some ideas upon notifying that the teaching materials for the TOEIC reading was being worked on.

**IMPLEMENT/IMPLEMENTATION**



- 1.The researcher started with the WA conversation, then sent g-form link for questionnaire, soft file for pretest conducted via video conference
- 2.The researcher commenced the pre-test
- 3.The six weeks' learning were conducted, lasting for 100 minutes for each session
- 4.Post-test was given at the end.

**EVALUATE/EVALUATION**



- 1.The researcher evaluated the results of both Pre and Post Test using quantitative method. There was improvement in the scores gained by most students, before and after the teaching materials were introduced and taught
- 2.The G-form responses for students given as a pre-intervention stage and the discussions result with the 6 lecturers were analysed
- 3.The feedback from stakeholders were received for further evaluation and improvement in the teaching materials design

The data of this research were collected from the students' pre-intervention questionnaire, distribution of pre and post-tests soft files, learning sessions, class discussion at the end of each session, post-intervention questionnaire and the teaching log. Pre-test was initiated prior to the six weeks' learning sessions were held, via video conference. Then they were given treatment when they learned 4 units selected randomly from the new textbook, followed by some practice. Post-test was finally assigned, to investigate their performance after intervention was facilitated. Whilst the data from the evaluators (6 members in FGD (Forum Group Discussion)) was taken before the book was introduced and when the book was used. The data instruments were the group discussion and the G-form questionnaire.



Data Analysis

Research question 1:

*How valid is the TOEIC Reading Skill teaching material in shaping the analytical skill among students at STMIK Bina Sarana Global?*

The first analyses in response to question 1 on the Validity of the TOEIC Reading Skill design were taken from the pretest and the post-test results. The responses from 20 random respondents can be seen below:

<b>RESPONDENT</b>	<b>Incomplete Sentences (40 QI)</b>	<b>Incomplete Texts (20 QI)</b>	<b>Reading Comprehension (40 QI)</b>	<b>Total Correct Answers</b>	<b>TOEIC Conversion</b>
1	18	10	20	48	170
2	20	6	21	47	160
3	15	6	15	36	90
4	19	5	17	41	125
5	10	4	18	32	70
6	9	5	20	34	80
7	11	8	25	44	140
8	8	6	19	33	58
9	20	12	25	57	240
10	21	13	24	58	245
11	15	6	15	36	90
12	10	8	17	35	85
13	12	7	25	44	140
14	25	12	25	62	270
15	20	6	19	45	145
16	20	12	32	64	280
17	8	6	19	33	75

18	22	13	30	65	285
19	18	10	24	52	205
20	10	7	18	35	85

*Table 1. Pre-Test Results*

<b>RESPONDENT</b>	<b>Incomplete Sentences (40 QI)</b>	<b>Incomplete Texts (20 QI)</b>	<b>Reading Comprehension (40 QI)</b>	<b>Total Correct Answers</b>	<b>TOEIC Conversion</b>
1	25	12	22	59	250
2	30	10	26	66	290
3	20	8	21	49	175
4	28	9	21	58	245
5	20	10	23	53	210
6	19	9	24	52	205
7	19	11	28	58	245
8	18	8	24	50	185
9	32	16	30	78	355
10	28	16	29	73	325
11	24	10	20	54	215
12	19	12	21	52	205
13	15	9	23	47	160
14	32	16	35	83	390
15	29	11	25	65	285
16	30	16	35	81	375
17	13	7	21	41	125
18	29	15	33	77	345

19	25	12	30	67	295
20	19	9	22	50	185

Table 2. Post-Test Result

**Analyses**

To find out that data distribution was normal, normality test using Kolmogorof Smirnov was conducted.

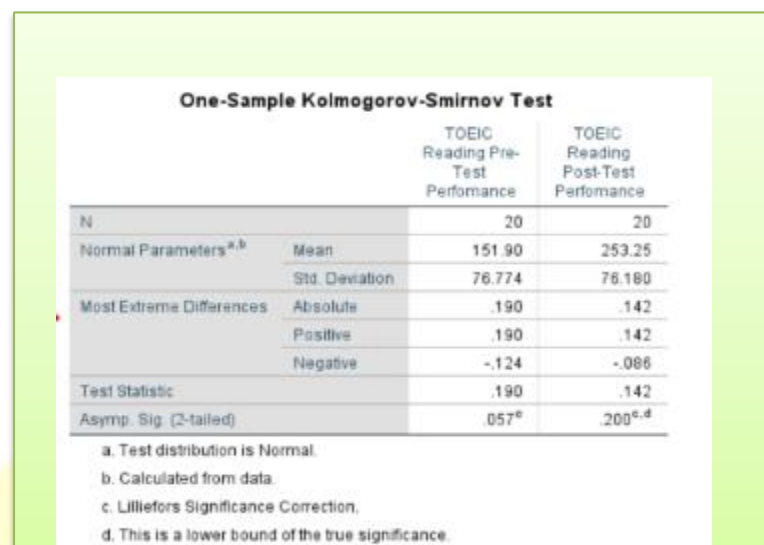


Figure 4. normality test result

Based on the statistical calculation using SPSS 26, it was notified that the data for the TOEIC Reading on the pretest had a normal distribution with the value of sig 0,057 > 0,05, and the post-test performance also showed normal distribution bearing the value of sig. 0,200 > 0,05. Therefore, it can be concluded that both data analyses showed normal distribution.

To further investigate whether there is a difference between Pre and Post-test, the T-test was conducted. This is the result:

One-Sample Test						
	Test Value = 0			95% Confidence Interval of the Difference		
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
TOEIC Reading Pre-Test Performance	8.848	19	.000	151.900	115.97	187.83
TOEIC Reading Post-Test Performance	14.867	19	.000	253.250	217.60	288.90

*Figure 5. T-Test result*

It can be concluded that the value of sig was  $0,000 < 0,05$ , thus there was a difference between the Pretest and Post-Test performance from the data of the average scores for pre-test performance to the value of 151,90 and TOEIC reading post-test performance to the value of 253,25. An increase occurred after the teaching materials were implemented. Thus, the test results were considered valid.

The validity analyses were also derived from the discussions with 6 lecturers as validators to the teaching materials design, prior to proposing the development of the teaching materials by the researcher in an FGD via face-to-face interaction and WA group talks. Questionnaire was also distributed after the teaching materials were composed.

The results of the questionnaire:

No	Descriptors on Validity	1	2	3	4	5	6
1	The content is systematic and organized	4	4	3	4	4	4
2	The stages in each unit are clear	4	4	4	4	4	3
3	The pages have good lay out	3	3	4	4	3	4
4	The topic presented is in line with achievement indicator	4	4	4	4	4	4
5	The material description is clear	4	4	4	4	4	4
6	The practice test can help students understand the materials	4	3	3	4	4	4

7	The practice test helps students achieve the learning goal	3	4	4	3	4	3
8	The book cover reflects the book contents	4	3	4	4	4	4
9	The fonts are readable	4	4	4	4	4	3
10	The language used is correct and accurate	4	4	4	4	4	4
11	The language used is easy	4	4	4	3	4	3
12	Th explanation is clear	4	4	4	4	3	4
13	There is consistency in the terminologies used for each phase	4	4	4	4	4	4
<b>Total score for each validator</b>		<b>50</b>	<b>49</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>48</b>

*Table 3. Validity Descriptor*

Calculation:

$$\text{Validity score} = \frac{\text{The achieved score}}{\text{The maximum score}} \times 100$$

The results:

Validator 1:  $50/52 \times 100 = 96\%$

Validator 2:  $49/52 \times 100 = 94\%$

Validator 3:  $50/52 \times 100 = 96\%$

Validator 4:  $50/52 \times 100 = 96\%$

Validator 5:  $50/52 \times 100 = 96\%$

Validator 6:  $48/52 \times 100 = 92\%$

The average score: 95% (exceptionally valid)

The questionnaire results to measure the validity of the teaching materials proved that the materials designed were exceptionally valid with the total percentage of 95%.

Research question 2:

*To what extent is the effectiveness of TOEIC Reading Skill teaching material in accommodating students' opportunity to sharpen their analytical skill?*

The effectiveness of the teaching material when it was implemented in class was also analyzed using the questionnaire. In its implementation, the researcher and one lecturer from the FGD served as an instructor.

No	Descriptors on Effectiveness	L1	L2
1	Students are active learners in class	4	4
2	Students actively involved in completing the given tasks	4	4
3	Students show responsiveness towards learning	3	3
4	Students show responsiveness to their lecturers	4	4
5	Students show varied thinking and reasoning abilities	3	4
6	Students show independence in learning	4	3
7	Students' learning outcome is satisfactory	3	4
8	The learning goals are achieved	4	4
<b>Total score for each validator</b>		<b>29</b>	<b>30</b>

*Table 4. Effectiveness descriptor*



Calculation:

$$\text{Effectiveness score} = \frac{\text{The achieved score}}{\text{The maximum score}} \times 100$$

*The maximum score*

The results are as follows:

Lecturer 1:  $29/32 \times 100 = 90\%$

Lecturer 2:  $30/32 \times 100 = 93\%$

The average score: 91% (exceptionally effective)

Additionally, from the discussion between the researcher and the other instructor, there was significant difference concerning students' engagement during the teaching and learning process. Students were more active, they tried to solve their own problems with the practice test, analyzed the question items and put such an effort to come with the solution. In the end, both the researcher and the lecturer found out that the book was proven to be exceptionally effective (91%).

Research question 3:

*How practical is the TOEIC Reading Skill teaching material in enhancing students' analytical skill that results in the improved score?*

In measuring the practicality of the book, students, and evaluators (lecturers in the FGD) were also given a questionnaire referring to several indicators. Here are the results of the questionnaire:

No	Descriptors on Practicality	R1	R2	R3	R4	R5	R6
1	The 10 units are sufficient for 1 semester	3	3	3	3	3	3
2	The topics are presented orderly	4	3	3	3	3	3

3	The stages are helpful	4	3	4	4	4	4
4	The explanation is easy to understand	3	3	4	2	4	3
5	The examples given are enough	4	4	4	3	4	4
6	The grammar patterns are clear	3	3	3	3	2	4
7	The 25 question items are adequate	3	4	4	4	3	3
<b>Total Score for each respondent</b>		<b>24</b>	<b>23</b>	<b>25</b>	<b>22</b>	<b>23</b>	<b>24</b>

*Table 5. Practicality Descriptors for respondents*

And the results are as follows:

Student 1:  $24/28 \times 100 = 85\%$

Student 2:  $23/28 \times 100 = 82\%$

Student 3:  $25/28 \times 100 = 89\%$

Student 4:  $22/28 \times 100 = 78\%$

Student 5:  $23/28 \times 100 = 82\%$

Student 6:  $24/28 \times 100 = 85\%$

The Criteria for practicality test

NO	PERCENTAGE (%)	CRITERIA
1	0 – 20	Impractical
2	21 – 40	Not practical enough
3	41 – 60	Practical enough
4	61 – 80	Practical
5	81 – 100	Exceptionally practical

No	Descriptors on practicality	E1	E2	E3	E4	E5	E6
1	The 10 units are sufficient for 1 semester	4	3	4	4	4	3
2	The topics are presented orderly	4	3	3	3	3	3
3	The stages are helpful for the students	4	4	4	4	4	4
4	The explanation is easy for the students to understand	3	4	3	4	4	3
5	The examples given are enough	4	4	4	3	4	4
6	The grammar patterns are presented clearly	4	4	3	4	4	4
7	The 25 questions for the practice test are adequate	3	4	3	4	3	4
<b>Total Score for each respondent</b>		<b>26</b>	<b>26</b>	<b>24</b>	<b>26</b>	<b>2</b>	<b>25</b>

*Table 6. Practicality Descriptors for Evaluators*

*The achieved score*

$$\text{Practicality score} = \frac{\quad}{\quad} \times 100$$

*The maximum score*

The results are as follows:

Evaluator 1:  $26/28 \times 100 = 92\%$

Evaluator 2:  $26/28 \times 100 = 92\%$

Evaluator 3:  $24/28 \times 100 = 85\%$

Evaluator 4:  $26/28 \times 100 = 92\%$

Evaluator 5:  $26/28 \times 100 = 92\%$

Evaluator 6:  $25/28 \times 100 = 89\%$

The average score: 90% (exceptionally practical)

In the discussion held with evaluators (members in FGD), some comments were given by the lecturers. They found out that the textbook was practical in terms of the number of units for one semester, the 25 questions items in each unit, the clear explanation on the topic and the stages. Additionally, the results of the questionnaire bearing the percentage up to 90% has shown that the proposed textbook was exceptionally practical.

## FINDINGS AND DISCUSSION

All the three questions formulated in this research have been thoroughly responded with a set of analyzed data. The research question 1: *How valid is the TOEIC Reading Skill teaching materials in shaping the analytical skill among students at STMIK Bina Sarana Global?* Was answered by the analyses through questionnaire, Pretest, and Post-Test results. There was quite a significant difference between the Pre and Post-test scoring. Some students gained higher scores; the rest picked up to some points. The questionnaire results clarified the validity of both the designed textbook and the achievement the students made.

The research question 2: *To what extend is the effectiveness of TOEIC Reading Skills teaching materials in accommodating students' opportunity to sharpen their analytical skill?* got answered by the real experiences from the researcher and one lecturer when the textbook was used in class. Students' active involvement, willingness to take part in the learning process and the varied thinking and reasoning were shown.

Finally, the research question 3: *How practical is the TOEIC Reading Skill teaching materials in enhancing students' analytical skill that results in the improved score?* Both the lecturer group and the students perceived that the textbook content was satisfactory. The 4 scoring for many items proved their enthusiasm in welcoming a new book to be used in class with the hope that it can assist students in sharpening their analytical skills, become readier to face challenges, and at the same time grow optimism for an improved minimum score.

## CONCLUSIONS AND SUGGESTIONS

ADDIE as the researcher selected for bases to the research is responsive because it accepts whatever goals are established as its orientation. ADDIE is context sensitive, proactive, interactive and is a vehicle for communicating ideas to all stakeholders. The incorporation of a variety of successful teaching and learning theories allows the ADDIE process to be interdependent, synergistic, dynamic, and systematic. The teaching materials design using ADDIE as its method has equipped researcher with valuable knowledge and experiences. Furthermore, the new textbook attained positive responses from both the students and the lecturers. Nevertheless, the proposed book was not a perfect replacement of the previous textbooks used, since those books were designed by experts in their field. The researcher only tried to offer an alternative that is considered more user-friendly, purposely designed to help provide a more supporting learning atmosphere conducive to the possibility of analytical skill to sharpen and the minimum score to achieve. There must be some drawbacks concerning the order of the topics discussed, the explanation shown, the number of question items included and the listed word that need re-evaluating and reformulating since there is never such perfect design that will satisfy all.

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