Developing the assessment of online vocational college students’ reading comprehension test rubrics

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Abstract. Reading is one of the four language skills includes reading as one of its abilities. Reading is frequently a challenge for English language learners, particularly in terms of vocabulary acquisition. In addition to this, additional factors impede the reading comprehension of English learners. This research seeks to develop a rubric for assessing the reading skills of English language learners. This study focuses on the VELT questions, which are a specialized English proficiency exam for vocational school students. This research employs the Research and Development methodology. The results of this study indicate that there are four benchmarks for the reading abilities of English language learners: excellent, decent, satisfactory, and poor.

Keywords: rubrics; reading comprehension; vocational college students; online

1. Introduction

Reading comprehension is now an essential skill, particularly for graduates in the applied sciences. In addition, one of the schema functions in English as a Foreign Language (EFL) or English as a Second Language (ESL) states that the significance of being able to comprehend English texts is supported by the growing number of demands for reading proficiency [1]. The ability to comprehend and analyze complex texts is crucial for students in the applied sciences because it directly influences their future careers. In the sphere of education, the rubric is a tool for assessing student work. Typically, rubrics take the form of points that characterize a category of evaluation [2]. Rubrics are also regarded as instruments that make it simpler for multiple instructors to have the same assessment criteria, so that there are no significant differences in assigning grades to an object [3]. In the assessment process, rubrics are widely preferred because they can also serve as instructors' reminders of certain aspects of the assessment. The rubric has a straightforward format, which is typically laid out in a table on the evaluation document [4]. In addition, the rubric includes scores, which makes it simpler for instructors to determine grades. Rubrics are frequently utilized in assessment processes that are susceptible to subjectivity. However, the rubric will not be utilized in an evaluation procedure that only calculates the correct answer score on a written examination.
The disadvantages and benefits of employing the above rubric are, of course, subject to variation in the realm of education. In an evaluation process, it is natural to have multiple methods that correspond to the various categories of questions and outcomes. As mentioned previously, the rubric includes a description in the form of points, which is beneficial for both instructors and students. By considering these factors, a student will be able to assess his abilities. Determine his areas of strength and vulnerability [5]. Through this, it is also clear that the rubric can indirectly serve as an evaluator instrument for students. This can also be considered a form of responsibility in the assessment's implementation, as it can reveal strengths and shortcomings. Rubrics are comprised of predefined criteria and descriptors, which reduces the possibility of subjectivity in evaluating comprehension. Objectivity ensures equality and consistency among various evaluators, ensuring that evaluators assess students based on their actual comprehension abilities and not their subjective preferences.

Rubrics also encourage student participation and self-evaluation. Each time the educator returns an assessment rubric with comments, students can assess their ability to understand subject-specific reading material and continually improve toward achieving the highest level of critical reading [6]. When students understand the criteria outlined in a rubric, they can partake actively in their own learning [7]. Students can monitor their progress, identify areas for development, and take ownership of their learning journey by using the rubric as a guide. Without learners' deliberate application of quality-assessment information, learning is impossible [8]. This self-reflective practice not only improves their comprehension, but also fosters the metacognitive skills necessary for lifelong learning. In addition, rubrics facilitate continuous interaction between students and instructors [9]. With precise criteria and descriptions, the rubric provides students with specific insights into their reading ability's strengths and weaknesses [10]. This interaction enables students to identify their strengths and weaknesses in order to aspire for improvement. Instead, instructors can use rubrics to recognize learner performance patterns, adapt instruction to meet individual needs, and make instructional decisions.

Utilizing rubrics to assess students' text comprehension in the field of vocational sciences is beneficial for both instructors and students. The rubric does not supplant the instructor's or student's responsibilities. Instructors should provide students with a reading comprehension model and ongoing instruction to aid in the development of their reading skills. In addition, standard rubrics, if properly structured, should not restrict the expression of original ideas by students. Rubrics can be used effectively by instructors and students as reading comprehension evaluation tools [11]. Then, by establishing distinct evaluation criteria, demonstrating objectivity, encouraging self-evaluation, and facilitating useful feedback, rubrics enable students to enhance their comprehension skills. Meanwhile, instructors can facilitate assessment through the use of rubrics. When this topic is investigated in greater depth, various forms of rubrics, application strategies, and their impact on students' reading comprehension in vocational sciences can be identified.

Accurately assessing students' reading comprehension is one of the most pressing issues facing education today. The evaluation of reading comprehension is a complex endeavor that necessitates the application of suitable measures and instruments. Prior to the development of the rubric, the standard method for assessing students was to use a 1–10, 1–100, or A–E scale. As previously explained, not all categories of questions are appropriate for evaluation using the scale method. In addition to ambiguous benchmarks, the instructor's subjectivity will be very influential. Even when the instructor has given an evaluation, it appears that the basis for the award is ambiguous and opaque.

This research seeks to develop a rubric for evaluating Reading material on an English proficiency exam administered by the Vocational College of Diponegoro University. The examination is known as the Vocational English Language Test (VELT) and is administered online. This investigation utilized a sample, specifically the VELT 1 question bank. In a set
2. Methods

Using a Research and Development methodology, this rubric will be used to evaluate students' reading comprehension. This methodology combines systematic research with the creation of innovative evaluation techniques [13]. According to Borg and Gall, research and development methodologies are systematic approaches utilized in educational research to create and improve instructional materials, programs, and interventions. This method involves identifying problems or requirements, accumulating data, designing and developing prototypes, testing and revising prototypes, implementing and evaluating the final product, etc. The first phase of the research and development process necessitates a comprehensive analysis of needs and the establishment of specific objectives. This initial phase focuses on context, audience, and intended results. Various data collection techniques, including surveys, interviews, and observations, were employed.

Next, a rough draft of the rubric is created. This phase requires meticulous content planning, organization, and sequencing to ensure alignment with established objectives and goals. Product validation is conducted by validation specialists. The expert in question is regarded as knowledgeable in his field. Additionally, the expert must be an individual who works in the field of education on a daily basis. Before the rubric is administered to users, it is anticipated that validation experts will provide valuable input. Additionally, the expert must be able to critique the entire rubric, including the description and rating scale.

In the final phase, a comprehensive evaluation of all previous stages will be conducted. There are three main phases to the evaluation: data collection, compilation, and presentation. This was not explicitly mentioned by Borg and Gall in their Research and Development method; however, in this study, this evaluation will be added as a form of quality control, also known as quality control (QC) in the industrial field. All deficiencies and strengths identified during the evaluation process will be documented so that they can serve as a valuable learning tool for enhancing the following rubric. All extant evaluation results are taken into account as suggestions and input during the creation of this rubric. As a consequence, as long as the evaluation results do not compromise the sustainability of the completion of the rubric, as many improvements as possible will be made. In contrast, the evaluation will not be acknowledged if it has the potential to disrupt the continuity of completing the rubric.

Utilizing the Research and Development methodology, this study aims to contribute to the field of education by providing valuable insights and recommendations for the development and implementation of assessment rubrics, particularly for students in the applied sciences. In addition, the development phase focuses on the creation of rubrics that are aligned with learning objectives and reflect the unique requirements of learners in applied science. This rubric will provide a clear and comprehensive framework for assessing reading comprehension, allowing educators to provide targeted feedback and assistance to learners in order to improve their skills. Overall, the Research and Development method provides a simple approach to enhance the rubric-based reading comprehension evaluation of applied science students. This strategy necessitates an applied science-based evaluation instrument. As well as necessitating accurate and reliable evaluations. It is anticipated that this research will facilitate the assessment procedure and identify students' ability to read English texts. This study's findings will not only benefit instructors and students in the applied sciences, but will also contribute to the field of education as a whole. In conclusion, the Research and
Development method provides a guide for employing the rubric as a reliable instrument for assessing and evaluating applied science students' reading ability.

3. Discussion

3.1. Previous Study

Prior to this, Firda Fauziah et al. and Marija Mijukovi conducted research on rubrics. The objective of the first study was to develop a Reading Comprehension-based assessment instrument to evaluate the cognitive abilities of junior high school students. The findings of this study indicate that a Reading Comprehension-based assessment instrument can be used to evaluate the critical thinking skills of junior high school students. During the reading process, texts are evaluated, analyzed, and recognized. Critical thinking students will respond to queries based on indicators of critical thinking. The objective of the second study was to assess the reading comprehension of students using a rubric. This study's findings emphasize the significance of rubrics for assessing students' reading comprehension. This highlights the significance of creating effective rubrics. To develop a successful collaborative strategy, instructors must establish clear and specific objectives. Moreover, innovation and creativity can contribute to the long-term success of both students and teachers.

Using the research of Firda Fauziah et al. and Marija Mijukovi as a foundation, this study focuses on devising appropriate rubrics as assessment instruments to evaluate the reading comprehension skills of applied science students. This research is anticipated to provide valuable insights into the design of effective and efficient rubrics.

3.2. Design and Development

3.2.1. Design

This stage begins with the development of a rubric that takes into account a number of crucial aspects of reading comprehension. Important aspects of text comprehension include vocabulary, grammar, text structure comprehension, inference, context, and general knowledge. In order to comprehend texts in English, it is essential to possess a vast vocabulary. The ability to recognize and comprehend the meaning of words used in a variety of contexts enhances overall text comprehension. A fundamental understanding of English grammar is also required to comprehend the text's sentence structure. Understanding how words and phrases are arranged in sentences facilitates comprehension of the text.

Understanding text structures, such as introduction, main body, and conclusion, will aid in logically organizing information and identifying relationships between ideas presented in reading texts. When reading at difficult levels, the ability to derive conclusions from implicitly stated information is frequently required. This capability facilitates the transmission of non-explicitly stated information. Additionally, essential for comprehending English texts are cultural context and general knowledge. There are instances in which familiarity with a particular culture and context can aid comprehension of textual references. In the subsequent phase, the design of the rubric will consider these five factors. Each element will be rated as exceptional, good, satisfactory, or inadequate. By establishing assessment criteria, rubrics can become more dependable, consistent, and objective [14].

3.2.2. Development
The development will be conducted by analyzing a sample of one set of VELT (Vocational English Language Test) reading questions. In the initial phase, each query will be mapped according to the criterion to be evaluated based on the rubric. In addition, the rubric standards should be consistent with relevant standards and student curricula [15]. Based on the score, each factor will be organized into a scope that indicates the students' abilities. Generally speaking, there are five categories of reading questions:

1. General Comprehension Questions: This type of question assesses general comprehension of the reading passage, such as comprehending the text's overall meaning, main ideas, author's intent, and key information. Typically, the following interrogative phrases reveal the characteristic of inquiries assessing general comprehension: What is the main purpose of the text?, What information is conveyed in this paragraph? How does the author depict the character/event? What message is the author trying to convey? What background knowledge is required to understand this text?

2. Specific Comprehension Questions: This type of query assesses the student's comprehension of particular details in the text, such as specific information, facts, numerical data, or other pertinent information. Typically, the query phrase in this type of question begins with: Based on the text, what is the most appropriate answer to this question?, According to the text, who performs this action? Where does this event take place?, is this statement a fact or an opinion?

3. Vocabulary and Vocabulary Enrichment Questions: This type of vocabulary question assesses test-takers' comprehension of word meanings by requiring them to identify synonyms (words with the same meaning) and antonyms (words with opposite meanings) of words that appear in the text. This type of query is typically formulated as follows: The word "____" in this text is synonymous with which word?, The word "____" in this text is opposite in meaning to which word? What does the word "abundant" mean in this sentence? The word "exquisite" in paragraph three is closest in meaning to which of the following? What is the opposite meaning of the word "humble"? In addition, vocabulary enrichment inquiries are included in this question type. In this type of query, examinees are tasked with selecting the most suitable word to complete a sentence or specific context. Examinees must comprehend the meanings of the terms provided in the answer choices and select the word that best fits the question's context.

4. Inference Questions: This type of query assesses a candidate's ability to draw inferences or draw conclusions based on implicit or indirect information in the text. Typically, the following format reflects the characteristic of inference questions: Based on the text, what conclusion can be drawn about "____"?, What can be inferred from this statement? Moreover, queries depicting cause-and-effect relationships are also classified as inference questions. For instance: Why did the character decide to quit his job? What was the result of the experiment conducted by the researchers? How did the heavy rain cause the flooding in the area?

5. Chronology Questions: This type of question assesses the test-taker's comprehension of the sequence or chronology of events or ideas in the text by requiring them to arrange the events or ideas presented in the correct order. Typically, the query are phrased as follows: "According to the text, what is the correct order of events? What is the correct order of the following events? Arrange the steps in the correct sequence! Which sentence should be placed at the beginning/end of the paragraph? Those five types of questions are grouped according to the above rubric criteria, they are:

1. General Comprehension questions assess context comprehension and general knowledge.
2. Specific Comprehension questions measure grammar comprehension.
3. Vocabulary questions assess vocabulary comprehension.
4. Inference questions assess comprehension of inference, including implicit text comprehension.
5. Sequence queries assess comprehension of text structure.

The next phase is to identify the types of questions found on the VELT. There are five categories of readings based on question type distribution. As a result there are 11 general comprehension question, 10 specific comprehension questions, 19 vocabulary question, 7 inference questions, and 5 sequence questions.

3.2.3. Assesmen

On the basis of the types of questions in the VELT question pool, the following can be determined: eleven questions assess general reading comprehension, ten questions assess specific reading comprehension, nineteen questions assess vocabulary comprehension, seven questions assess inference comprehension, and five questions assess sequence comprehension (text structure). The resulting rubric will assess test-takers' reading abilities based on the categories of questions asked. That is, reading aptitude cannot be determined solely by the number of correct responses. In the first sample set of VELT, it is assumed that each question bears the same weight, one point. In addition, there is one query that does not fit any particular category. The following are the comprehension mapping ratings for each assessment factor based on these results:

<table>
<thead>
<tr>
<th>Competency Aspects</th>
<th>Level</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>Excellent</td>
<td>15-19</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>10-14</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
<td>5-9</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>1-4</td>
</tr>
<tr>
<td>Grammar</td>
<td>Excellent</td>
<td>8-10</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>5-7</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>1-2</td>
</tr>
<tr>
<td>Text's structure</td>
<td>Excellent</td>
<td>4-5</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>1</td>
</tr>
<tr>
<td>Inference</td>
<td>Excellent</td>
<td>6-7</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>4-5</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
<td>2-3</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>1</td>
</tr>
<tr>
<td>Context and General Knowledge</td>
<td>Excellent</td>
<td>8-11</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>5-7</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>1-2</td>
</tr>
</tbody>
</table>

The literacy assessment components have been organized hierarchically. Beginning with vocabulary comprehension, it progresses to context and general knowledge comprehension. On this basis, each factor will be assigned its own weight, which will be multiplied by the
number of questions answered accurately. This is done to identify each test-taker's strongest aptitude. For each correct response, the context factor will be multiplied by 5, the inference factor by 4, the comprehension of text structure factor by 4, the grammar factor by 2, and the vocabulary factor by 1. In addition, it is assumed that if a test-taker receives a perfect score or answers every question accurately, the total number of points earned will be 123. Consequently, the formula below will be applied to this question set:

\[
\frac{(\text{Vocabulary Score} \times 1) + (\text{Grammar Score} \times 2) + (\text{Text's Structure Score} \times 3) + (\text{Inference Score} \times 4) + (\text{Context and General Knowledge} \times 5)}{123 \times 100}
\]

Based on the aforementioned scores, the following evaluation rubric has been generated:

**Table 2. Reading ability**

<table>
<thead>
<tr>
<th>Score</th>
<th>Reading Ability</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1-31  | Poor            | • Has limited comprehension of texts with a moderate to high level of difficulty.  
• Difficulty identifying the text's primary ideas and essential details.  
• Difficulty drawing precise conclusions from the text.  
• Has a limited comprehension of arguments and the author's viewpoints.  
• Recognizing language styles and writing techniques in the text is challenging. |
| 31-61 | Satisfactory    | • Has an adequate comprehension of texts with a moderate level of difficulty.  
• Capable of identifying the essential points of a text with some errors.  
• Understands some essential textual details, albeit with occasional limitations.  
• Capable of drawing conclusions within the constraints of the text.  
• Has a fundamental comprehension of arguments and the author's viewpoints.  
• Possesses a fundamental comprehension of language styles and a few writing techniques in the text. |
| 62-92 | Good            | • Good comprehension of texts with a moderate to difficult level of difficulty.  
• Capable of identifying the text's key points with reasonable accuracy.  
• Understands the text's crucial details with ease.  
• Capable of drawing reasonable conclusions from the read text.  
• Effectively identifies arguments and the author's perspective.  
• The text's language approaches and writing techniques are identified. |
| 93-123 | Excellent | • Has a profound comprehension of complex and varied texts.  
• Easily identifies the text's central ideas and essential details.  
• Accurately analyzes and interprets complex information.  
• Based on the text read, draws logical conclusions and organizes thoughts in a structured manner.  
• Accurately identifies arguments, perspectives, and the author's intentions.  
• Identifies the language styles and writing strategies employed in the text. |

4. Conclusion

On the basis of the preceding description, it can be concluded that the assessment of reading skills can be conducted as follows: categorizing question categories, calculating scores for each skill aspect, and calculating overall reading ability. This investigation can be expanded by using five to eight sets of questions and similar procedures. The objective is to delve deeper into the analysis and develop a more reliable rubric formula. In addition, it is essential to have command over the reading queries. The query distribution should be balanced so that all aspects of skill can be assessed. The rubric facilitates greater comprehension and improved literacy skills. The use of rubrics also provides students with formative feedback and ensures uniform assessment standards. Consequently, the use of rubrics in assessing reading comprehension can result in substantial benefits for both students and the learning process.

Reference


