The Relevance of Standardization of Comprehension Reading Skills in 4.0 Era

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Abstract—Reading comprehension is one of the main components in the mastery of information literacy competencies. This study discusses the importance of standardization of reading comprehension measurement instruments that aim to obtain objective measurement test results. Instrument development is carried out through field testing and expert testing. Field test results show that there are differences in test results between paper based tests and computer based tests even though using the same type of questions. This is influenced by the limited work time, ease of reviewing results of work using paper based tests, not accustomed using computer based tests (CBT) for this type of reading comprehension exam, and another reasons.

Keywords—standardization; reading comprehension test; PBT; CBT

I. INTRODUCTION

4.0 Era is marked by the spread of digital information through social media and internet-based communication media. Dissemination of information in the form of video, writing, and images has become an integral part of the advances in the communication and technological era. Dissemination of information also does not require a long time. Within seconds after digital information has been uploaded through internet-based media, the information can already be accessed from networks connected around the world. Therefore, information literacy is one of the main competencies that must be mastered in the 4.0 era.

According to Hasugian [1], information literacy is knowing the background needs for information, when and how we look for it, and the use of the information ethically. Some aspects that can be used to measure literacy skills include: when information is used as needed, how to find information, how to analyze and evaluate information, and use that information effectively. Furthermore, O’Connor [2] stated that information literacy is the ability to understand the need for information, and find information needed to meet those needs effectively, and be able to use information for several goals or purposes. In fact, information literacy is the initial capital to prepare people to become skilled and productive workers.

One of the main ability that plays an important role in achieving information literacy competency is the reading comprehension. Resmini and Juanda [3] stated that reading comprehension or reading for understanding is one form of reading activities with the main objective to understand the contents of the message contained in the reading. Furthermore, Somadaya [4] concluded that students are said to understand reading well if they are able to (1) capture the meaning of words and expressions used by the writer, (2) capture the explicit and implied meaning, and (3) make a conclusion. Using the good reading skills, students have a basis for mastering critical thinking skills, communicating, innovating, and technological literacy in an age of scientific and technological progress.

In fact, the results of the PIRLS test show that student's reading ability in Indonesia is still weak. Indonesia has taken the literacy test conducted by PIRLS three times, in 2001, 2006 and 2011. Participation in 2011 obtained the following results, 66% of Indonesian students have successfully answered correctly in the weak questions category, 28% succeeded in the category of medium questions, 4% in the high category, and only 0.1% of students who managed to answer the questions correctly in the perfect category. The international median of the 2011 PIRLS test is 8%. Based on these facts, it can be concluded that the majority of Indonesian students still have difficulty in completing questions in the high and perfect categories. These results are of course far behind those achieved by students from neighboring countries such as Singapore, which ranks first in literacy skills for informative texts [5].

This condition is very contradicts with various efforts, activities, work programs, research, and projects that have been implemented in the context of developing and increasing literacy in the community. For example: the implementation of literacy is a program that has been implemented since the 2000s. In addition, the implementation of research in the educational environment related to literacy activities can be traced through google that began more than a decade ago. The success of the implementation of various programs turned out to be inversely proportional to the real conditions on the ground. Various results of data collection carried out by international institutions show the backwardness of the information literacy of the Indonesian people. This of course requires a massive and structured breakthrough.

As a comparison, countries with more advanced levels of education, such as the United States, and countries on the European continent show that these countries have set standards of information literacy competencies for each level of education for more than 20 years, for example Information literacy competency standards for higher education in 2000. This proves how important the standardization of information literacy is in order to welcome the 4.0 era. Planning, organizing, implementing, and evaluating the standardization of information literacy competencies is carried out in a mature and structured manner. As a result the human resources competencies needed in the 4.0 era were able to be achieved and become the foundation for the existence of his country on the international scene.

Concrete steps need to be taken to catch up with information literacy achievements through improved reading skills, especially reading comprehension. Surabaya State University as one of the centers for developing educational models in Indonesia needs to take an active role to encourage
the improvement of students's reading skills. One of the important step that can be implemented is the construction of a Reading Competency Development Center at Surabaya State University. The main objective of this center is to develop Indonesian reading skills, local language reading skills, and foreign language reading skills. Surabaya State University has the facilities and infrastructure needed to support the Center for Reading Competency Development. Therefore, the initial step of the participation of Surabaya State University is conducting continuous research on the standardization of reading comprehension competencies.

Surabaya State University has complete buildings, facilities and human resources to support the Center for Reading Competency Development. However, measurement instruments and reading ability assessment instruments still do not have a reference standard. Therefore, comprehensive research is needed to make measurement instruments and assessment instruments that have been standardized and validated to measure and assess the ability of Indonesian reading comprehension or to the other regional languages. Standardization of reading skills will make it easier for policy makers, policy implementers, and policy supporters to find out the initial conditions at the moment, analyze the need to develop reading skills in accordance with the situation and conditions being faced, and set rational achievement targets according to the needs of the 4.0 era, and also taking into account the limitations which are owned.

II. LITERATURE REVIEW

A. Standard of Literacy Competency

The Association of College & Research Libraries Standards Committee [6] put forward information literacy competency standards for higher education that provides a framework for identifying individuals who have information competency. Standards focus on the needs of students in higher education. This standard also displays a list of results to assess the development of student information competencies. In ACRL information literacy competency standards, a person is called information literate if able:

- Determine the information scope
- The effectiveness and efficiency of information
- The deep analyzing and evaluation of the information and the sources
- The certain goals that accomplished using the information
- Understand the economic, legal, and social aspects related to the use of information

B. Reading Comprehension

Goodman [7] revealed that reading comprehension is a process of reconstructing messages contained in the text that is read in which the process of reconstructing messages is layered, interactive, and the processes of forming and testing hypotheses occur. This means that when reading someone does the process of extracting messages from the text. Then by interacting with the meaning contained in the text, the reader makes and tests the hypothesis. The results of testing the hypothesis can be used as a basis for drawing conclusions about the message conveyed by the author. Yazdanapanah [8] conclude that text comprehension is a very complex cognitive skill in which the reader draws conclusions by connecting all available resources of the written text and their experiences.

Successful text comprehension is the result of correct implementation of psychological resources. Next the reader formulates the hypothesis as an embodiment of the explicit message of the text. Therefore, its explains that in the reading comprehension, the reader builds new knowledge by connecting all environment resources and knowledge from the experiences.

C. Reading Comprehension Factors

Wainwright [9] suggests several factors that influence the quality of comprehension include: 1) reading speed, reading speed that does not pay attention to reading goals or is too fast in reading so that ignoring the overall reading content, can have detrimental effects on understanding, 2) reading goals, the purpose of reading is closely related to motivation in reading and interest in reading material. Setting clear goals can often create motivation and increase reading interest, thereby automatically increasing understanding, 3) the nature of the reading material, meaning that the material provided is interesting and the language is easy to understand. Reading material is an important component in reading because reading material is the main means, 4) the layout of reading material, namely organizing reading in describing a reading idea and a chart, picture, or graphic that serves to help the reader to more easily understand reading, 5) the environment in which reading, the environment in which to read is undoubtedly its influence on reading comprehension. An environment with a calm atmosphere will certainly make the reader more easily understand the reading than a crowded or noisy environment. According to researchers all the factors raised by Wainwright [9] above are interconnected. If the reader always pays attention to all the factors above surely the reader will become a good reader.

III. HOW WAS THE INITIAL STAGE?

Previous research on the measurement of reading ability has been carried out by Astuti [10] entitled "Development of Reading Compiency Assessment Instrument in Indonesian Subjects Class VII based on Quipper School" which concluded that the reading competency standard assessment instrument for grade VII students based on Quipper School was focused on assessing aspects of structure, content, and language. The language used in this product is Indonesian with a variety of formal languages whose writing is adjusted to the rules of the EYD (Enhanced Spelling). There are several forms of sentences that are avoided in this product, such as: (a) incomplete sentences are sentences that do not have minimal functions, namely the function of subjects and predicates. Each sentence must have a minimum of subject and predicate; (b) ambiguous sentences are sentences that have two or more purposes; (c) an illogical sentence is a sentence whose meaning does not comply with human logic or reason; and (d) straightforward sentences are inefficient, excessive statements in the use of words. The product in the form of a reading competency standard assessment instrument for VII grade students based on Quipper School has several advantages in terms of three aspects, namely (1) the quality of the questions, (2) the needs, and (3) the use. The weaknesses of this product include aspects of the types of questions, and terms of their use.

The next study was conducted by Cahyanto, et al [11] with the title Development of Critical Reading Assessment...
Instrument for High School / Vocational School Students of Class X and XI. This study aims to produce critical reading assessment instruments and describe the results of trials to experts in critical reading material, assessment instrument experts, practitioner experts, and students. There are four types of text that are used as critical reading material, namely exposition text, complex explanations, anecdotes, and short stories. The results of this research and development are (1) critical reading experts get a percentage of 94%, which is feasible and can be implemented, (2) assessment instrument experts get a percentage of 80%, which is feasible and can be implemented, (3) practical experts get a percentage, which is 82% and feasible and can be implemented, (4) the trial of class X students gets a percentage of 81% and class XI gets a percentage of 76%, which is feasible and can be implemented. This assessment instrument has advantages in attractiveness, completeness and ease of use. The questions presented in the critical reading test can help students to think critically through reading activities. The text used varies and contains information and stories that have not been read by students. Another study was carried out by Pratiwiningsy, et al [12] with the title "Development of Cognitive Assessment Instruments to Measure Indonesian Literacy Reading Based on PIRLS Models in Class IV Elementary Students" which makes the following conclusions. Literacy reading is the process of interpreting the things conveyed by the author, and bringing their own experiences to the text they are reading and creating something that is meaningful to the lives of readers. The reading literacy ability of each student should be measurable through assessment using standard assessment instruments. In fact, there is not yet a standard assessment instrument available to be able to measure students' literacy reading skills so it is necessary to develop an Indonesian literacy reading assessment instrument with reference to the PIRLS model. The PIRLS model was chosen as a reference because it has a reading literacy test that has been used throughout the world. The purpose of this study is to provide a practical and standardized reading literacy assessment instrument. The research design used is development research that refers to two models namely Borg & Gall and Branch so that it consists of nine stages of research. The results of the study are in the form of a manual reading assessment of Indonesian literacy for elementary school teachers. Based on the results of the feasibility test, the assessment instruments developed were in the feasible category with a percentage of 83.33% and the quality of the items was also declared to meet the requirements because the item difficulty index (p) generated after the extensive trial was in the range of 0.300-0.700 and the different power index (d) shows \(\geq 0.400\). The items in the reading literacy assessment instrument developed have the characteristics of being arranged in the form of multiple choice and description in order to facilitate scoring. Reading literacy assessment instruments developed are included in the appropriate category in aspects of language and practicality.

Elze, Zainal [13] conducted research of Higher Order Thinking Skills Based Instrument Assessment by Utilizing a Collection of Short Stories based on Coffee Philosophy for Class X. It produce an assessment instrument based on Higher Order Thinking Skills using the short stories collection of Filosofi Kopi for Class X. The development aspects of product consist of content, language, and display design. The development used the O'Malley & Pierce model. Based on the product test results, it concluded that (1) the assessment instrument classified very feasible and worth implemented, and (2) the assessment instrument classified reliable because the reliability coefficient obtained was greater than 0.006.

Ay. METHOD

A. Shape and Type of The Instrument

The form of a test that uses an instrument to measure reading ability is a closed test. The combination of themes, number of questions, and the level of ability measured will produce several variations of questions. Therefore, comprehensive research is needed to produce valid, effective, and practical reading instrument measurement standards. Based on the draft text of measurement instruments that have been standardized, then compiled a Computer Based Test (Computer Based Test / CBT) and Paper Based Test (Paper Based Test / PBT). Different types of tests will affect the process of implementing tests and test results so that the draft CBT and PBT also require a validation process in the form of research.

B. Theme of The Instrument

Themes developed on the measurement instrument were 3 (three) themes, consisting of art themes, social humanities themes, and science and technology themes. Each theme is developed in 2 (two) types, so that the total text of the instrument produced there are 6 (six) texts, namely a1, a2, b1, b2, c1, c2.

C. Instrument Development Procedure

The procedures carried out when developing the instrument for measuring reading comprehension consist of:

- Select source text (original text taken from various sources).
- Adapting the source text (from the content aspect, perhaps there is a part of the content in the source text that is not quite right, and from the linguistic aspect, there may be aspects of language that are not correct)
- Conduct a closed test by making overlapping parts of the adaptation text, the purpose of which is to find out to whom and the readability of the text.
- Conduct a closed test with a limited test of 5 students.
- Revise according to student results and input/ response.
- Revise the adaptation text to the final text.
- Compiling multiple choice questions from each final text. Each text is 10 multiple choice questions A-D.
- Perform expert validation of ready-to-use comprehension reading instruments.
- Conduct wider group tests of 10-20 students.
- Analyzing the results and the response of trials.

V. RESULT

Based on the initial closed test result, it can be seen that there are differences results between trials group using paper based tests (PBT) and computer based tests (CBT) even though using the same type of questions. The average score for the paper based test (PBT) is better than the computer based test (CBT). This is consistent with the results of research conducted by Delgado et al [14] which states that the use of computer-based media has an influence on the test results.
VI. CONCLUSION

The use of computer based tests (CBT) affects the decrease of test results compared to paper based tests (PBT). Based on the analysis results of test participants's responses, it can be seen that the decline in test results is influenced by several factors, including the limited work time, ease of reviewing results of work using paper based tests, not accustomed to using computer based tests (CBT) for this type of exam reading comprehension, and other reasons. Therefore, further testing is needed to get a reading comprehension measurement instrument whose results are objective, not influenced by the use of computer media.

REFERENCES


