PREPARING STUDENTS' READING ABILITY FOR IR 4.0: UNDERSTANDING THEIR MOST PROBLEMATIC READING COMPREHENSION SKILLS AND THE SOLUTIONS

Manfredus Muliamarfan Mbangur[7], Johanes Leonardi Taloko[8], Vincentia SHS[9]

Abstract

The Industrial Revolution 4.0 (IR 4.0) signifying manufacturing digitalization has become a major concern around the globe. Not only does it deal with industrialists or engineers, but it also deals with teachers, and education policy makers. This new revolution requires educational institutions to prepare their students to be able to adapt themselves in this new era. English, serving as a global lingua franca, still plays an important role for all students in different majors that need to be mastered. One of the English language skills, reading, must be given sufficient attention by English teachers for their students to be able to read and comprehend English texts in their job fields in the future. This study attempts to reveal the reading comprehension mastery of the Business Administration students in a private university. It examines three series of English proficiency test (EPT) exercises and a final EPT they took as the requirements to complete their study in the university. Among the thirteen micro skills in this kind of test, the students' most problematic skills are: answering transition questions correctly (25% correctly answered), determining the tone, purpose, or course (37%), and using context to determine meaning of difficult words (42%). Possible causes and recommendations to minimize those problems are also comprehensively presented.

---

[7] *Student of Graduate School of Widya Mandala Catholic University Surabaya*
[8] *Lecture of English Dept., Widya Mandala Catholic University Surabaya*
[9] *Widya Mandala Language Institute Surabaya*

Keywords: *Industrial Revolution 4.0, EPT reading comprehension*

Introduction

The world we live in has changed dramatically for centuries. Advancement revolutions of technology and industry identify the development of mankind and environment. The first industrial revolution occurred in the end of the 18th century by the introduction of mechanical production machines powered by water and steam (Aberšek, 2017). The second industrial revolution started in the beginning of the 20th century when mass production lines powered by electric energy were introduced. In the early 1970s, the use of electronics and IT in autonomous production marked the third phase of the industrial era. And now, we are entering the fourth industrial revolution which stimulates the advances of science and technology, in which the Internet of Things (IoT) and its supporting technologies serve as backbones for Cyber-Physical Systems (CPS) and smart machines are used as the main promoters to optimize production chains (Liao, Loures, Deschamps, Brezinski, & Venâncio, 2018) and be based upon a combination of the existing and the new (Hajar Halili, 2019).

The development of each phase of industrial revolution brings effects on education. Not only did they happen to the previous three revolutions but also to the fourth revolution. Industry 4.0 inspires the emergence of Education 4.0 (Anggraeni, 2018), referring to technology-implemented up-skilling in the teaching and learning process (Hariharasudan & Kot, 2018). Industry 4.0, signifying automation and digitalization of industries, requires knowledgeable professionals in the technological world who can make informed decisions related to usability, sustainability, safety, and ethics in that world. Working with cyber-physical systems, digitalization, robotics, artificial intelligence (AI) and the internet highlight the importance of human interaction for idea sharing, critical thinking, and emphasizing with others (Shanks, 2006). Beside the skills

mentioned above, people working in the areas of industries need to master English. It is the most commonly preferred language in the digital era (Hariharasudan & Kot, 2018; Anggraeni, 2018). It also serves as a global lingua franca (Jenkins, 2008; Hülmbauer, Böhringer, & Seidlhofer, 2008; Fiedler, 2011), a medium language for native and non-native speakers of English around the world to communicate. In this era of 4.0, English also serves as Digital English, the language that is preferred worldwide in the digital world since applications of the Internet of Things (IoT), digitalization and industrial operations done through the medium of English (Hariharasudan & Kot, 2018). Therefore, mastering English has become more essential to be able to thrive in Industry 4.0 than ever before. Further, as Industry 4.0 is also the era of IoT (Internet of Things) in which people can access almost any information through their laptops or mobile phones, the need of being able to understand written English is skyrocketing. Hence, it is important for colleges and universities graduates are equipped with sufficient English skills to fulfil the needs of the prospective employers in the job market (Awaludin, 2018).

One of the English language skills, reading, must be given sufficient attention by English teachers for their students to be able to read and comprehend English texts in their future job fields. A report by Gunawan (2016) provides support that according to a study conducted by Central Connecticut State University in the US, Indonesia is the second lowest among 61 most literate nations in the world, one position better than Botswana in the last rank. In Indonesian context, a recent study conducted by Suryanto (2017) shows that Indonesian students still face difficulties in mastering English reading comprehension skills. Based on his thematic analyses through literary studies, it is found that there are three English reading problems in Indonesia, especially those related to cultural-based, English teaching and learning, and social-context. Therefore, in order to obtain better insights on what particular reading comprehension skills the university level students face most, this study is conducted. It also tries to

find out the possible causes and offers some solutions to overcome the challenges.

Method

This research is a quantitative study which discusses reading skill problems, the possible causes, and also the suggested technics of teaching TOEFL reading. The researchers collected the data from seventy-one Business Faculty students who took an English Proficiency Test (EPT) preparation course held by Widya Mandala Language Institute. The EPT preparation course was given in 10 meetings and it took 2 hours in each meeting. The EPT itself is one of the graduation requirements for Business Faculty of a private university in Surabaya. Three different tests were administered in different days with five passages each; the first test was given in the first meeting, second test was administered in the sixth meeting, and the third was in the eighth meeting. Among those tests, the students were explained the content of each question and how to answer them. As the focus of this research is on students' reading ability, the researchers only analyzed students' answers from the reading section which consists of 50 multiple-choice questions. The analysis was based on 13 reading skills (skill 14 was excluded since it was particular for computer test) developed by Phillips (2001) namely *answering main idea, recognizing the organization of ideas, answering stated detail questions, finding "unstated" details, finding pronoun referents, answering implied detail questions, answering transition questions, finding definition from structural clues, determining meanings from word parts, using context to determine meanings of difficult words, using context to determine meanings of simple words, determining where specific information is located,* and *determining the tone, purpose, or course.*

The researchers then determined which skill belongs to which question based on the description of each skill, and referring them to the students' answers. Hence, the skills, which according to the students are

difficult, will be revealed. This research also utilized a questionnaire in order to clarify the findings and reveal the students' background. It consists of 10 questions: 4 open-ended questions and 6 closed-ended questions, for digging information on the students' experience in learning English as a foreign language.

Findings

From this research, it is found that there are three reading skills in which the students have problem most, namely *answering transition questions, determining the tone, purpose, or course,* and *using context to determine meanings of difficult words.* This result can be seen form the following table which shows the percentage of each skill.

Table 1. The Overview of the Mastery of the Students' Reading Comprehension Skills.

	Skills	**Percentage of correct answers**	**Percentage of wrong answers**
1	Answering main idea questions correctly	53%	47%
2	Recognizing the organization of ideas	100%	0%
3	Answering stated detail questions correctly	60%	40%
4	Finding "unstated" details	57%	43%
5	Finding pronoun referents	68%	32%
6	Answering implied detail questions correctly.	44%	56%
7	Answering transition questions correctly	25%	75%

	Skills	Percentage of correct answers	Percentage of wrong answers
8	Finding definitions from structural clues	67%	33%
9	Determining meanings from word parts	57%	43%
10	Using context to determine meanings of difficult words	42%	58%
11	Using context to determine meanings of simple words	59%	41%
12	Determining where specific information is found	70%	30%
13	Determining the tone, purpose, or course	37%	63%

The table above shows that the most problematic skill in EPT reading was skill 7, *answering transition questions*. This is the smallest percentage (25%) of all that students answered correctly. This type of question requires the students to understand that a paragraph may start out by linking the idea of the previous paragraph, and at the same time, may become the idea for the next paragraph (Phillips, 2001). Here is an example of skill 7 question taken from students' pre-test: *The paragraph following the passage most probably discusses….*

The second problematic skill was skill 13, *determining the tone, purpose, or course*, which 37% of all students answered correctly. This question type is asking the writer's purpose & emotion, could be humorous, angered, informational, explanatory, factual, etc. (Phillips, 2001). An example of skill 13 question is as the following question taken from students' practice test 1: *The author's purpose in this passage is to…*

The third most problematic EPT reading skill was skill 10, *using context to determine meanings of difficult words*, with 42% of all students answered correctly. Phillips (2001) described a difficult word as a word that the students are not expected to know the meaning which actually is clearly indicated in the passage. Here is an example of skill 7 question taken from students' pre-test: *The word "pooled" in line 6 could be best replaced by*.…

On the other hand, it was shown that skill 2, *recognizing the organization of ideas*, got the highest percentage of 100% since all students answered this type of question correctly. Then, the second highest percentage (70%) represented the questions which were correctly answered by the students; under skill 12: *determining where specific information is found*. The third one was skill 5, *finding pronoun referents*, with 68% of all the students answered correctly.

There were some reasons behind the students' problems in answering the EPT reading question items. Actually, there were 52% of the students who had taken an English course before. However, the duration of how long they took the course might be varied. Some took it in 8 days, 3-6 months, 1-3 years, 6 years, and even 12 years. The questionnaire also showed that most of the students (57%) had never taken any English courses. It was because they did not have time to do it, did not like English, focused on their formal education, the English course cost was pretty high, and some preferred learning English from movies, games, and songs. Some students who preferred learning English from movies said that they watched English movies only occasionally. However, the students who preferred learning English by listening to songs said that they listened to English songs in every day. Besides, while taking the EPT preparation course, the students also identified some obstacles. First, they were not able to do the structure part since they did not have a good understanding about English structure. Second, they did not have a good ability in understanding English. Third, they found difficulties in listening and reading, especially

for long reading passages. Fourth, the students sometimes did not get the lectures well. Fifth, they were too shy to consult their difficulties to the lecturer.

Overall, the students found that actually the most difficult part in EPT test was structure, followed by listening, and the last one was reading. Most students also found it was useful to join the EPT preparation course since they thought that their ability in doing the EPT test was increased.

Discussions

Comprehending reading passages is one essential skill for college and university students to possess in order to be successful in the era of Industry 4.0. An indicator that they have such ability is by having sufficient knowledge and skills to succeed in TOEFL tests. However, there are some factors that hinder them from understanding English texts, such as: lack of ability to understand certain texts, having limited vocabulary and some phrases (Samad, Jannah, & Fitriani, 2017), ambiguous words, and limited available time to cognitively process the text (Qarqez & Ab Rashid, 2017). Those things have a strong impact on the students' ability in answering questions in reading comprehension section of TOEFL tests.

The students statement that they found a difficulty in answering transition questions was also in the study conducted by Ntereke & Ramoroka (2017) in Botswana. Transition questions require the test takers to understand that a good reading passage contains transitions from one paragraph to the following. A particular paragraph may contain an idea that will be further explained in the next paragraph. In another case, it is possible that the question asks for information which is probably available in the previous paragraph. The keywords of understanding this kind of questions and being able to answer them correctly are: following and preceding. The questions are commonly formulated as:"*The paragraph preceding the passage probably...*", "*What is most likely in the paragraph following the passage?*" Failing in answering this kind of questions can be

caused by their inability to identify the previous or the following ideas stated in the passage.

Determining the tone, purpose, or course is another problem considered as an overall review type. It asks about the tone of the passage, the author's purpose in writing the passage, and the course in which the passage might be used. The tone refers to any emotion the author expresses in his or her reading texts. It can be informational, explanatory, factual, humorous, sarcastic, or impassioned. It requires students' sensitivity to English language especially, especially in the written forms as well as vast vocabulary to comprehend the texts. A question about purpose is asking what the author is trying to do in the passage. The author's purpose can be drawn by referring to the main idea and the organization of details in the passage. A question about the course is asking the test takers to decide which university course might have this passage as assigned reading. They should draw a conclusion about the course by referring to the topic of the passage and organization of details. Failing in answering this kind of questions can be caused by their inability to identify the general meaning or message conveyed in the texts. The finding in this study on this particular skill is different from the study conducted by Samad et al. (2017) in which only 1% of their respondents made mistakes in this skill.

Using context to determine meanings of difficult words is also a big challenge for the test takers. In this type of question, the test takers are asked to determine the meaning of a difficult word which is not expected to know in a reading passage. In this case, the passage will probably give a clear indication of what the word means from the context that helps them to understand the meaning of an unknown word. Failing in answering this kind of questions can be caused by their lack of understanding that the meaning of a difficult can be found around the word being questioned. It can be found before or after the particular world to get the correct meaning.

Conclusion and Suggestions

From Table 1, it can be seen that only four out of thirteen skills had correct answers below 50%, which were skills 6, 7, 10, and 13. The rest had better percentages. It indicates that reading comprehension of the students taking these EPT tests can be categorized into moderate to good. However, in order to improve the students' ability in reading comprehension in the era of Industry 4.0, there are several considerations that can be taken into account. First, the students must have strong motivation to succeed and the role of their teachers to strengthen their motivation is crucial (Özütürk & Hürsen, 2014; Bahous et al., 2011). The score of the students' EPT must be at least 450 as the minimum requirement for them to be allowed to graduate. Succeeding in achieving a high score in EPT test is not only important for graduation but also for their future career which has become more competitive every day. Second, the students are lack of reading strategies. To be effective readers, they should be capable of employing some reading strategies like predicting, text mapping, and summarizing (Suryanto, 2017), bottom-up and top-down processing (Sattar & Branch, 2017), or pre-reading, while-reading and post-reading stage reading strategies (Antoni, 1992). Third, the teachers need to choose appropriate teaching techniques, such as Think-Pair-Share or others to accommodate different levels of students' proficiency in the class (Marzban & Alinejad, 2014). Although not all teachers have fundamental knowledge of implementing Cooperative Learning techniques, it is worth-trying. Combining extensive reading activities and Learning Management System, such as Edmodo or Schoology, may also motivate them understanding a reading passage better (Santoso, Rochasantiningsih, & Sujoko, 2014). Hopefully, by doing all these, the teachers can equip their students with sufficient reading comprehension skills to thrive in the Industrial Revolution 4.0

Reference

Aberšek, B. (2017). Evolution of Competences for New Era or Education 4.0. *Czech Educational Research Association*, (September). Retrieved from http://cpvuhk.cz/wp-content/uploads/2017/09/Aberšek.pdf

Anggraeni, C. W. (2018). Promoting Education 4.0 in English for Survival Class: What are the Challenges? *Metathesis: Journal of English Language, Literature, and Teaching*, *2*(1), 12. https://doi.org/10.31002/metathesis.v2i1.676

Antoni, N. (1992). EXPLORING EFL TEACHERS' STRATEGIES IN TEACHING READING COMPREHENSION By: Nurman Antoni. *Jurnal Penelitian Pendidikan*, *11*, 39–51. https://doi.org/ISSN 1412-565X

Awaludin, F. L. binti S. F. A. binti. (2018). English communication for digital technology: bridging the gap between industrial revolution 4.0 requirements and graduates readiness. *Journal of Education and Social Sciences*, *10*(1), 144–150.

Bahous, R., Bacha, N., & Nabhani, M. (2011). Motivating Students in the EFL Classroom: A Case Study of Perspectives. *English Language Teaching*, *4*(3), 33–43. https://doi.org/10.5539/elt.v4n3p33

Fiedler, S. (2011). English as a lingua franca – a native- culture-free code ? Language of communication vs . language of identification. *Apples - Journal of Applied Language Studies*, *5*(3), 79–97.

Hajar Halili, S. (2019). Technological Advancements in Education 4.0. *The Online Journal of Distance Education and E-Learning*, *7*(1), 63–69. Retrieved from www.tojdel.net

Hariharasudan, A., & Kot, S. (2018). A Scoping Review on Digital English and Education 4.0 for Industry 4.0. *Social Sciences*, *7*(11), 227. https://doi.org/10.3390/socsci7110227

Hülmbauer, C., Böhringer, H., & Seidlhofer, B. (2008). Introducing English as a lingua franca (ELF): Precursor and Partner in Intercultural Communication. *Synergie Europe*, *3*, 25–36. https://doi.org/10.1515/IPRG.2009.008

Jenkins, J. (2008). English as a Lingua Franca. *JACET 47 Annual Convention*, (September), 11–13.

Liao, Y., Loures, E. R., Deschamps, F., Brezinski, G., & Venâncio, A. (2018). The impact of the fourth industrial revolution: a cross-country/region comparison. *Production*, *28*(0). https://doi.org/10.1590/0103-6513.20180061

Marzban, A., & Alinejad, F. (2014). The Effect of Cooperative Learning on Reading Comprehension of Iranian EFL Learners. *Procedia - Social and Behavioral Sciences*, *116*(December), 3744–3748. https://doi.org/10.1016/j.sbspro.2014.01.834

Ntereke, B. B., & Ramoroka, B. T. (2017). Reading competency of first-year undergraduate students at University of Botswana: A case study. *Reading & Writing*, *8*(1), 1–11. https://doi.org/10.4102/rw.v8i1.123

Özütürk, G., & Hürsen, Ç. (2014). Determination of University Students Motivation in EFL Classroom. *Procedia - Social and Behavioral Sciences*, *116*(1985), 7–12. https://doi.org/10.1016/j.sbspro.2014.01.159

Qarqez, Mohammed; Ab Rashid, R. (2017). Reading Comprehension Difficulties among EFL Learners: The Case of First and Second Year Students at Yarmouk University in Jordan. *Arab World English Journal*, *8*(September), 421–431.

Samad, I. A., Jannah, M., & Fitriani, S. S. (2017). Efl Students' Strategies Dealing With Common Difficulties in Toefl Reading Comprehension Section. *International Journal of Language*

Education, *1*(1). https://doi.org/10.26858/ijole.v1i1.2869

Santoso, S. I., Rochasantiningsih, D., & Sujoko. (2014). Improving the Students'Competence Using Edmodo Posting. *Eltindo*, *1*(5). Retrieved from http://www.jurnal.fkip.uns.ac.id/index.php/s2inggris/article/view /11661

Sattar, S., & Branch, N. (2017). The role of teaching reading strategies in enhancing reading comprehension INTERNATIONAL JOURNAL OF CURRENT LIFE SCIENCES THE ROLE OF TEACHING READING STRATEGIES IN ENHANCING READING, (October). https://doi.org/2249- 1465

Shanks, P. (2006). Implications for higher education in regional. *Crossroads*.

Suryanto. (2017). An Investigation On English Reading Comprehension Problems In Indonesian Cultural Contexts. *The 1st International Conference on Education, Science, Art and Technology*, (July), 200–205.