

CHAPTER I

INTRODUCTION

A. Background of the Study

The world is changing rapidly around us. As days pass by it is getting more difficult to keep up with the innovations that could alter things as we know now it. In this globalization era, 21st-century skills need to be integrated in the curriculum. ChanLin (2007) states that educators and various social communities that current educational practices must prepare students to thrive in an everchanging technological society. This means that in order to make students successful in facing the future career, it becomes crucial for students to have to recognize coding or programming language.

Integrating 21st-century skill in curriculum will be beneficial to prepare students' future careers. One of the 21st-century skills that is needed and must be taught is coding. According to Hockly et al., (2014) coding is a deeper skill covered in the four major digital literacy languages, connections, information, and (re)design. Coding is an employable skill that teaches students how to solve problems, take risks, think critically and logically while being empowered to fail in a safe environment. These skills are vital in all curricular areas as well as learning skills.

Because of globalization, teachers have to prepare students to face 21st century skills. One of the programming-language projects that can be applied in the classroom is artificial intelligence. Artificial Intelligence or AI is part of the

progress in the industrial 4.0 era. This technology is now being developed in various fields. The introduction of Artificial Intelligence is a step that is creating waves in technology. One particular area that is going to be tremendously influenced by the introduction of AI is the field of education. It is time that educational institutions take advantage of technological advancement and modify their environments accordingly. With the current speed that everything has been updating and adapting, it will not be long before we see AI playing a huge role in teaching and learning activities. In the world of education, the use of AI is expected to facilitate teaching and learning activities. In fact, implementing Artificial Intelligence in the classroom is still less.

Teachers play a significant role in helping students to develop 21st-century skills by applying teaching methods that increase students' abilities in speaking. Teachers should use innovative strategies and modern learning technologies that help to integrate cognitive and social skills with content knowledge as well as increase student participation in the learning environment in order to promote these future skills. There are many strategies that enhance both learning content and skills while also allowing students to engage in real life. It can be done by applying coding or programming language.

Implementing artificial intelligence in the classroom can play a crucial role for teachers and students in teaching and learning English. Teachers always use traditional methods to teach speaking skills. Teachers usually just ask students to make a group of pairs then practice the speaking skill together or students are asked to repeat what the teacher says. This monotonous method makes students feel

disinterested. In order to level up the learning process, implementing AI can be the answer. Teachers can guide and support students to use AI based on instructional programs. Teachers can be a great helper to instruct students to build a program or develop a program based on an AI program. Gawate (2019) stated that “the role of teacher is changed as a guide and they can direct the students regarding use of AI based software”. Implementing artificial intelligence in the classroom does not mean removing the teacher role. But it is possible to alter teacher roles in the teaching-learning process. Guiding and supporting students are still teachers’ roles. Artificial intelligence cannot deny teachers’ role. It shows that it doesn’t just change the learning method from traditional to non-traditional but it makes the classroom activity become student-centered.

In a traditional classroom, students who are struggling to learn will quickly fall behind their peers. With Artificial Intelligence, students can advance at their own pace. The students who need more time to practice or learn can practice outside of class. Students had the perception that learning speaking is hard because the process is presented in an old way. Hence, the teachers used a traditional approach that focused on grammar, vocabulary rather than communication. In other words, students are not involved in authentic communicative tasks. In order to solve this problem, integrating Artificial Intelligence can be the best approach to be used from the need of establishing and low threat environment, essential for mastering the full range of discourse needed for spontaneous communication.

Integrating AI in the classroom can help students learning activity more interested. Students are more likely to play on a gaming console, tablet and cell

phone rather than paying attention in class. Many students are on their phone texting and using social media. This distraction can affect students' grades and disciplinary negatively. Even though many people see technology as a distraction, teachers can benefit from integrating these advancements into the curriculum. Integrating artificial intelligence in the classroom can create interactive education that requires students to use apps on mobile devices which can keep students engaged with their studies by delivering knowledge through a medium they are comfortable with.

Introducing AI in the classroom can be a challenge especially for educators who are not familiar with computer science. Fortunately, a number of apps, software and guides have been produced that make the subject matter of coding easy to grasp for the learners. Whether a beginning programmer or expert programmer looking for more advanced training, they will find something to help enhance the classroom program and move the students forward in their learning.

Lotze (2016) highlighted that employing AI applications help to develop English language skills and language communication skills through intelligent dialog boxes. Language development processors are enhanced by a variety of intelligent sources, windows for dialogs and discussion, intelligent tools for communication, programs that generate voice for speaking, and programs that extract information from speaking passages. Such props develop speaking skills.

One of the applications that can be used to implement AI is PictoBlox. Principally, PictoBlox approach to learning focuses on coding-kid friendly games where students learn a variety of concepts while they assimilate different programming languages without hardly realizing it. PictoBlox is made for kids and

even used by some adults. PictoBlox can bring untraditionally method in the classroom. It can engage students' interest, help students to improve speaking and convert spoken form to machine-readable input. Students need to arrange coding programs that makeable the application detect their voice. While creating the program, it boosts students' creativity, logical thinking ability, and expands the horizons of students' minds which are necessary for the 21st century era. In essence, it can track students'

Pictoblox can aid and excite the playfulness of learners and involve them in an untraditional way of learning. PictoBlox can give students an opportunity to engage independently, where students do not need to worry to make mistakes anymore. PictoBlox provides interaction for a self-paced and safe environment to make mistakes. PictoBlox is a safe place to make mistakes, where mistakes are reformed and require feedback.

PictoBlox is not only an Artificial Intelligence application but it is also a gamification. Gamification is one of the new-technology potentials for motivating students and increasing students' interest to learn.

Based on the result of interview with English teacher in SMP Bina Bersaudara, the use of technology in English teaching and learning activity is still as not expected. It can be shown by the interview transcript below between Researcher (R) and Teacher (T):

R : Have you ever used any artificial intelligence program to teach speaking?

T : Yes, I did. Specifically, I used PictoBlox.

R : Do you think PictoBlox help to enhance students' interest in learning speaking skill?

T : Yes, it does. Students showed some interests.

T : Is there any difficulties when you teach speaking through PictoBlox?

T : Yeah, because I find it difficult to adapt with technology. It is all new stuff for me. I know technology but not really use to it.

R : How about students' interest in learning, Sir?

T : In overall, students showed interest while learning speaking. There are some students follow the learning activity and some students who don't.

R : Then, what do you think about integrating Artificial Intelligence in learning activity?

T : AI enables learning to be focused on the individual needs of the students, especially in this era. It also helped me to keep my students engaged in class.

According to the interview, researcher discovered some problems that make technology still not implemented in learning activity. Inadequacy of teachers in technology is one of the reasons. Lack of proper continuous professional development for experienced or incapable teachers of new technologies is at the forefront of all challenges. Meanwhile, this school has facilities such a computer laboratory that can be used in learning activities. The other challenge is students are not being challenged to experiment and participate in learning because teachers always use lecturing methods. This makes students' ability in speaking is low with

an average score is seven. As a result, researcher was interested in doing research to see if integrating Artificial Intelligence through PictoBlox program helped students to improve their interest in learning speaking skills.

Previous research was conducted by Bahar (2021) who found that Scratch improved students' creativity, communication, collaboration and computational thinking as in terms of the development of the 21st century skills. Similar to Bahar's (2021) finding, students enjoyed working used artificial intelligence. The findings also indicated that the students had a lot of fun using computer and Scratch as tools, as well as their roles and navigator. Students enjoyed being able to create something on their own and learning new things about Scratch in each lesson, which was in line with what Kalelioglu & Gulbahar (2014). Robles (2015) also noted that all of the students enjoyed using artificial intelligence lessons and believed that it taught students how to collaborate. Furthermore, the students felt that their English skills had improved.

Thus, based on previous researches, all results indicate that AI need to be integrated in learning activity, however, it still need to be adjusted. So, this research will focus on how Artificial Intelligence via PictoBlox increase students' interest in learning speaking.

B. The Problems of the Study

Based on the background above, the problem of the study is how can artificial intelligence enhance students' interest in learning English speaking skill?

C. The Objectives of the Study

The objective of the research was to investigate how AI improves students' interest in learning English speaking skill. Researcher believes that students are pretty fortunate to experience the curriculum that integrated to 21st-century skills that can prepare them for 21st-century life.

D. The Scope of the Study

The scope of the study was integrating Artificial Intelligence to increase students' interest in learning speaking skill which applied for twenty students grade VIII in SMP Bina Bersaudara through PictoBlox program. The study was limited to learning Transactional Text: Asking and Giving Opinion.

E. The Significances of the Study

The researcher believes that this study is particularly significant due to the recent introduction of computer programs (PictoBlox) to the educational process.

The significances of the study are classified into two – theoretically and practically, as follows:



1. Theoretically, this research is expected to provide recommendations that may contribute to the improvement of students' interest in learning speaking skills by the PictoBlox program.
2. Practically, this research may be beneficial to:

- a. Students

Introducing artificial intelligence applications to students may encourage them to use it for learning speaking skill and English in general. The result of this research will be useful for students' capability and competency to be fulfilled in facing 21st century skill. Students can also develop and share their creativity with others.

- b. Teacher

This research highlights the application of new technologies in the teaching learning process. This research may motivate English teachers to implement AI in teaching speaking skills as well as. Teachers will discover new and untraditional way of teaching English speaking skills for students.

- c. Other researchers

This research will be beneficial to provide additional information to the researchers interested in conducting additional research in the relevant field.