CHAPTER V
CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

5.1 Conclusions

1. Many language teachers and students may not prioritize the significance of coding in the context of language learning because they do not recognize its value or relevance. Lacks of proper teaching and learning guides for coding in the context of language learning is another issue. The creation of materials that offer a clear and understandable introduction to coding principles and terminology that are specifically created for language learners was required. Furthermore, there were no standards for measuring code literacy in language instruction. This research aimed at developing code literacy-based English Language Learning (CLELL) Model for EYL class students at three universities through Developmental Research Design. After evaluating the learners' needs analysis and designing the model, the implementation was carried out to evaluate the effectiveness of the model on students' language skills and coding competence.

2. This research tried to weave language teaching with coding activities-especially block-based coding. This model tried to see the feasibility of the two frameworks – English and code in promoting computational thinking skills and at the same time improving language skills, especially reading comprehension. The research was expected to give a new lens on the perspective of language teaching since the modern goals of language teaching is considered as a tool for learning to understand other discipline rather than an end in itself. Four problems investigated in this research related to (1) the Teacher Students'

needs in the CLELL model; (2) the CLELL model development; (3) the model validity; and (4) the model effectiveness.

3. The research's findings on establishing a Code Literacy-based English language learning model have highlighted the significance of incorporating coding skills into language teaching. The model was created with the goal of increasing students' language competency and critical thinking skills through computer programming. The results of the investigations for the first research problems showed that (1) the TSs required learning English –particularly reading comprehension in conjunction with coding activities; (2) the TSs desired to practice coding platforms like Scratch, Tynker, and Bebras Tasks in language learning; (3) the TSs wanted to improve their computational thinking skills; and (4) TSs needed to apply independent learning to be able to learn independently.

4. Furthermore, in relation to the learning model development, it was designed into five components namely, (1) learning syntax; (2) social system; (3) reaction principle; (4) support system; and (5) instructional system. CLELL paradigm was developed in accordance with constructivist philosophy, which encourages students to discover their own knowledge. Social system related to classroom interaction and Scratch community online. The reaction principle through this model was orientation, Forum Group Discussion, CLELL Model, and created independent learning. Further, CLELL Model was completed by four products. The four products written as guides for Teacher Educators and Teacher Students were: (1) Model Book; (2) Teacher's Guide; (3) Student's Guide; and (4) Activity Book. In an instructional system, students must be

involved in the teaching and learning process. To determine the reading comprehension skills, the research should include them as a topic. Therefore, the instructions used were led the students to improve reading comprehension integrated with coding.

5. In addition, the model validity was assessed by the experts comprising construct and content validity. The results were 3.93 categorized as very good. A series of practices revealed that students exposed to the code-literacy-based model improved significantly in their language skills (87.97). It was discovered that they could understand and utilize the sophisticated English language more efficiently and that they could analyze and interpret texts more successfully. Furthermore, it was discovered that the model had a favorable effect on students' interests and motivations (100%) towards English learning. The TSs stated that they were more involved and motivated during the courses since they were able to apply their coding skills to real-world problems, such as developing their own materials and media. According to the findings of this research, code literacy can be an effective tool for English language learning, and educators should consider introducing programming into their language courses. They can assist students in gaining the skills needed to succeed in today's technologically driven society while also increasing their language fluency and critical thinking ability.

5.2 Implications

There were several implications of this research both theoretically and practically:

5.2.1 Theoretically

a. Code Literacy-based language learning model is consistent with the constructivist learning philosophy. According to this theory, learners actively construct their knowledge and comprehension of the world through experiences and interactions with their surroundings. By learning to code, language students engage in a hands-on and interactive process that facilitates the development of their language skills. This approach supports the notion that language acquisition is an active and dynamic process, not a passive one.

b. Code Literacy-based Language Learning model can improve the metacognitive abilities of language learners. Metacognition is the awareness and comprehension of an individual's cognitive processes. By learning to code, students improve their problem-solving abilities, which in turn can enhance their metacognitive skills. This model can help language learners become more self-aware and reflective regarding their language-learning strategies, leading to improved learning outcomes.

c. Models of language learning that emphasize code literacy can foster creativity and innovation. Coding entails the production of something new and original, which can encourage learners' originality and creativity. This model can help students acquire language skills in a more creative and engaging manner. This model can help students develop language skills in a more dynamic and adaptable manner by encouraging learners to think outside the box.

5.2.2 Practically

a. The Code Literacy-based English Language Learning model necessitates a change in the teaching of English. Traditionally, English language instruction has emphasized the development of abilities in reading, writing, speaking, and listening. However, the development of code literacy necessitates a distinct model. Teachers must be trained in coding skills and incorporate coding activities into their instruction of the English language.

b. The code-literacy dependent on the use of technology in the classroom is required by the English language learning model. Technology can be used to facilitate coding activities and enhance student learning. To implement this model, teachers must receive training in the use of technology and have access to the necessary technological resources.

c. The model for teaching English based on code literacy necessitates the development of new assessment techniques. Traditional evaluation techniques may not be suitable for evaluating students' coding abilities. New assessment methods must be devised to accurately evaluate the coding and English language acquisition skills of students.

d. The English language learning model based on code literacy has implications for the development of students' code literacy abilities. Students can improve their code literacy skills, which are becoming increasingly important in the digital age, by developing code literacy. Teachers must be trained in the development of digital literacy skills and integrate digital literacy activities into their instruction of the English language.

5.3 Recommendations

There are several recommendations of this research, they are:

a. The results of this research, which focused on creating an English language learning model based on code literacy, have significant ramifications for subsequent studies in this field. The findings also recommended that linguists or language educators should investigate the possibility of integrating coding skills into language learning in order to enhance students' language competency and capacity for computational thinking skills.

b. Future research should look into how various programming languages and tools affect language learning as well as how diverse language curricula might incorporate code literacy.

c. The effectiveness of Code Literacy-based Language Learning in various contexts will also need to be investigated. This will aid in identifying the most effective methods for putting such models into practice as well as the possible advantages and difficulties of each model.

d. Long-term effects of code literacy on language learning should also be explored in future studies. It is uncertain how long these effects will remain, despite the fact that this research showed that students' language skills significantly improved in a relatively short amount of time. More research is required if code-literacy-based language learning can result in long-term increases in language competency and critical thinking abilities.

e. The potential integration of advance technologies should be investigated, including augmented reality and artificial intelligence, to augment the effectiveness and engagement of the Code literacy-based model.