CHAPTER III

METHODOLOGY

This chapter presents the study's design, setting, context, instrument the study, technique of data collection, and followed by technique of data analysis.

3.1 Research Design

This study used a narrative review methodology to investigate the benefits and challenges of online collaborative projects for EFL students. The narrative review method aims to identify and summarize previously published articles, avoid duplication of research, and look for new fields of study that have not been researched (Ferrari, 2015). The narrative review model's research flow starts with topic determination, literature search based on related article databases, literature selection, data processing, and conclusions. To fully understand the research subject, descriptive analysis is used to examine the regularly obtained data and provide supporting explanations and evidence so the reader can fully understand them. The research approach used in this research is descriptive qualitative. Qualitative studies are research procedures that focus on meanings, phenomena, and descriptions of data about human experience or socio-culture (Astalin, 2013). Therefore, through in-depth study data collection, a narrative review method with qualitative research was used to investigate the benefits and challenges of online collaborative projects for EFL students.

This narrative review approach is used because there are already related documents in previous journals or scientific articles relevant to the research topic.

These existing articles need to be analyzed or elaborated to produce an in-depth understanding of the phenomena associated with this research. In addition, current technological developments make it easier for this study to find data sources from the internet and other trusted sources by utilizing existing technology. Narrative review research also has many advantages such as being able to obtain many sources of information without consuming a lot of money, time and effort.

3.2 Setting and Context

Data from articles or reviews recognized according to the research focus are used as a data source. The document or data has been searched through trusted databases such as Tandfonline, Sciencedirect, Sagepub, and Onlinelibrary. The limit is articles published between 2013 to 2022 to keep the information current.

3.3 Technique of Data Collection

In collecting data about the benefits and challenges of online collaborative projects, this study used the narrative review method by collecting data from several literature sources. The data sources used in this study are from several international journals, articles, and previous research. This research began by looking for several reference articles by paying attention to the inclusion and exclusion criteria so that they could help focus on the relevance of the research to the topic. Inclusion criteria can be determined by conformity with the research objectives, while exclusion criteria can be identified by not complying with the research objectives (Ferrari, 2015). Based on the results of selecting articles, 30 were included because they met the criteria. Reference articles were obtained

from trusted database searches such as Tandfonline, Sciencedirect, Sagepub, and Online Library using the keyword "EFL context" and "online collaborative projects." The details of the inclusion and exclusion criteria for the reference articles used as data sources are in Table 3.1

Table 3.1. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Term	2013-2022	Articles under last ten years
Subject	EFL students (elementary school, middle school, and university students)	Not EFL context
Language	English	Non-English
Type of research	Research articles, full text	Irrelevant articles

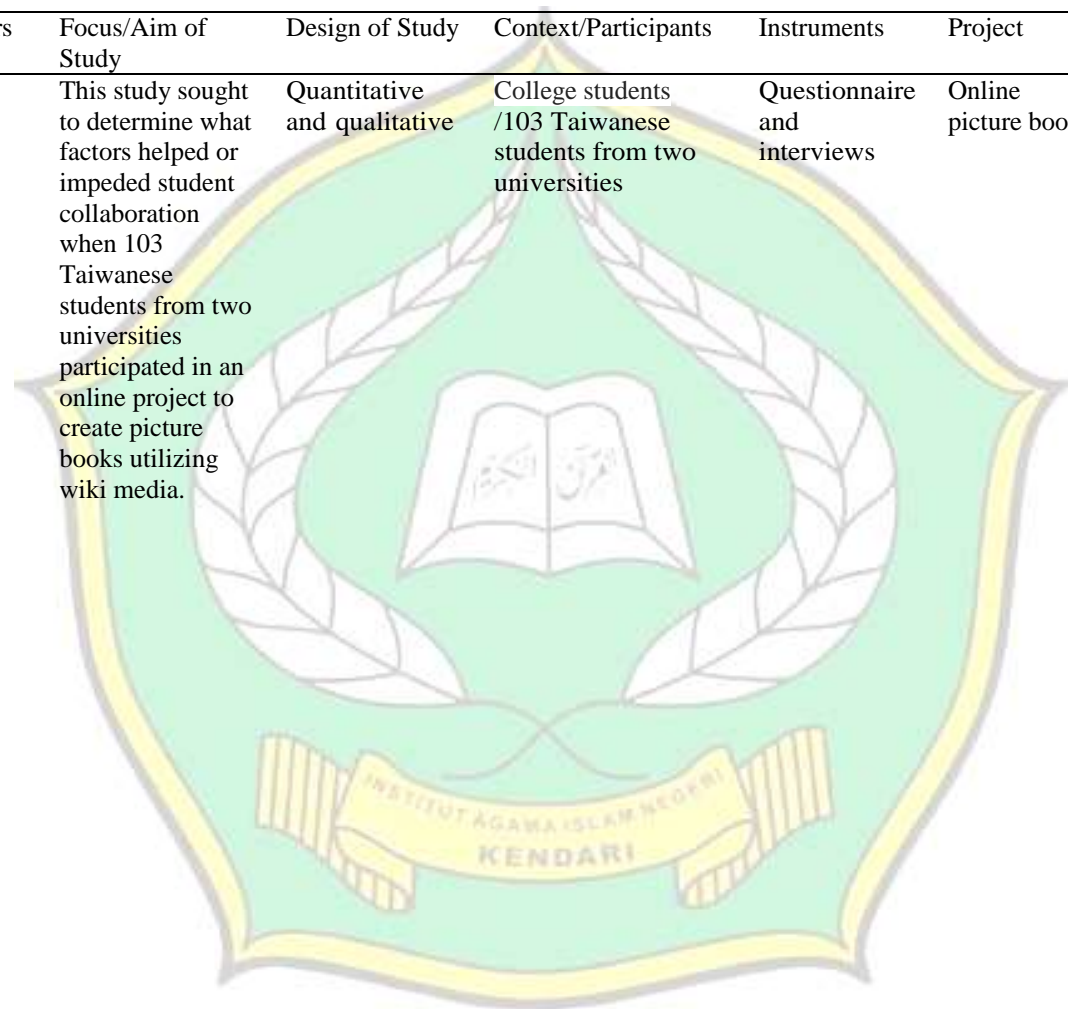## 3.4 Technique of Data Analysis

This study aims to obtain data on the benefits and challenges that EFL students perceived during online collaborative projects. For document analysis, each article or data is read several times to get used to the content of the article or publication. After that, the data found is observed and analyzed more deeply to ensure its suitability. Thirty articles were selected because they met the inclusion criteria or criteria according to the research focus. The articles are included in the synthesis matrix. The synthesis matrix is a table that allows researchers to group and classify arguments from several articles and combine elements to get general conclusions about the whole article (Clark & Buckley, 2017). The synthesis matrix is made by (1) identifying 1-30 pieces of literature relevant to the research focus (2) creating columns to identify several things, such as the name of the researcher, the year of publication of the article, the title of the study, and an overview of the results or findings. See Table 3.1 for the example of a synthesis matrix.

After that, all data in the synthesis matrix was coded with reference to the concept of Engestrom's activity theory (1987). Activity theory is a framework that can be used to understand and design collaborative learning environments. It consists of six components: subject, object, tools, rules, community, and division of labor. In this study, each code of benefits and challenges factors felt by EFL students during an online collaborative project was placed between the components of the activity system. For example, the code "using Google Docs makes it easier for students to collaborate online" is placed between the subject and tool components of the activity system. In other words, this study calculated the incidence of all codes in the component pairs (i.e., subject-tool, subject-object, subject-rule, subject-community, subject- division of labor); likewise, the same procedure was followed for challenge factors.

In addition, color-coding was also carried out using the guidelines of Bianco and Schettini (2018). It aims to reveal research data, including the benefits and challenges that EFL students perceived during online collaborative projects. Data is coded using five colors. Yellow indicates the subject and community component, green indicates the subjects and tools component, purple represents the subject and rules component, red represents the subject and object component, and gray represents the subject and division of labor component. See Table 3.2 for coding analysis. Using a narrative approach, this study analyzes thirty articles. Table 3.2 shows an example of a matrix of selected papers to help understand the trend of article publication within 2013-2022 issues.

Table 3.2. Sample of synthesis matrix

Article code	Title of article	Year	Authors	Focus/Aim of Study	Design of Study	Context/Participants	Instruments	Project	Group	Finding
A1	Discussing the factors contributing to students' involvement in an EFL collaborative wiki project	2013	Lee & Wang	This study sought to determine what factors helped or impeded student collaboration when 103 Taiwanese students from two universities participated in an online project to create picture books utilizing wiki media.	Quantitative and qualitative	College students /103 Taiwanese students from two universities	Questionnaire and interviews	Online picture book	-	**Research Question 1: How are students engaged in the collaborative project when groups are required to accomplish an online picture book using the wiki tool?** • The information in Table 2 suggests that groups of students devised ways to work with their peers that promoted each other's strengths. **Research Question 2: What factors facilitate student engagement in the collaborative project, and what factors hinder it?** • Three factors facilitated their involvement in the project: an even share of the workload, appreciation of different opinions, and constant communication. **Research Question 3:**

Article code	Title of article	Year	Authors	Focus/Aim of Study	Design of Study	Context/Participants	Instruments	Project	Group	Finding
										What are students' perceptions of the project? Do theyenjoy the collaboration? The project was the opportunity of working with students from another school. **Challenges of an online collaborative project** • Asynchronous communication • Time pressure • Personal incapability • Roles not taken seriously by the group were the main issues.
A2	Group communication and interaction in project-based learning: The use of facebook in a Taiwanese EFL context	2014	Chang	The study demonstrates how Facebook's interactive and collaborative capabilities can aid academics studying English as a Foreign Language (EFL) in processing and reassembling data about project-based learning.	Case study	EFL undergraduates/Six undergraduates studying Applied English in Central Taiwan.	Observation	Project-based learning	-	**Research Question 1: What types of communication interaction behaviors do participants exhibit?** The information in Tables 1, 2, and 3 shows that Facebook offers students a space to share and interact with others on topics directly related to their projects and meet their administrative and social needs. Social and

Article code	Title of article	Year	Authors	Focus/Aim of Study	Design of Study	Context/Participants	Instruments	Project	Group	Finding
										emotional support (such as encouraging, reminding, volunteering, caring, praising, and appreciating) shown in this study shows the potential of Facebook in promoting social interactions that can be beneficial for the development of knowledge. **Research Question 2: How do participants behave at various stages?** **Research Question 3: How do student collaborations on Facebook help them process and reconstruct knowledge about the EFL project?** #Solving Problems by Using Technologies #Solving Problems Related to Contacting Native #Solving Problems Related to Academic Knowledge. Because the participating students were not proficient in English, they decided first to discuss the thesis content

Article code	Title of article	Year	Authors	Focus/Aim of Study	Design of Study	Context/Participants	Instruments	Project	Group	Finding
										in Mandarin Chinese, and each team member was subsequently responsible for part of the translation. The finished translation was posted on Facebook, and team members conducted proofreading for each other before handing it to the instructor. Thus, learning occurred socially, and students took advantage of team member expertise. Students reconstructed knowledge by learning new knowledge through collaborating and building on their previous experience

Table 3.3. Sample of the coding procedure

Article Code	Title	Findings (benefits of online collaborative projects)	Components of the activity system	Findings (challenges of online collaborative projects)	Components of the activity system
A1	Discussing the factors contributing to students' involvement in an EFL collaborative wiki project	**Research Question 1: How are students engaged in the collaborative project when groups are required to accomplish an online picture book using the wiki tool?** • The information in Table 2 suggests that groups of students devised ways to work with their peers that promoted each other's strengths. **Research Question 2: What factors facilitate student engagement in the collaborative**	Practicing collaboration skills (Subject ←→ Community)	a. Asynchronous communication b. Time pressure c. Personal incapability d. Roles not taken seriously by the group were the main issues.	a. Delayed or slow response (Subject ←→ Community) b. In-group disagreement (Subject ←→ Rules) c. Incompetence in

Article Code	Title	Findings (benefits of online collaborative projects)	Components of the activity system	Findings (challenges of online collaborative projects)	Components of the activity system
		project, and what factors hinder it? • Three factors facilitated their involvement in the project: an even share of the workload, appreciation of different opinions, and constant communication. **Research Question 3: What are students' perceptions of the project? Do they enjoy the collaboration?** • The <mark>project was the opportunity of working with</mark> students from another school.			certain skills (Subject ←→ Object) d. Delays in project finishing and completion (Subject ←→ Division of Labour)
A2	Group communication and interaction in project-based learning: The use of facebook in a Taiwanese EFL context	**Research Question 1: What types of communication interaction behaviors do participants exhibit?** The information in Tables 1, 2, and 3 shows that <mark>Facebook offers students a space to share and interact with others on topics</mark> directly related to their projects and meet their administrative and social needs. Social and emotional support (such as encouraging, reminding, volunteering, caring, praising, and appreciating) shown in this study shows the potential of Facebook in promoting social interactions that can be beneficial for the development of knowledge.	Supporting appropriate use of tools (features and feasibilities) (Subject ←→ Tools)	-	-
A3	Teaching and learning online: A collaboration between US and Taiwanese students	Taiwanese students valued the opportunity for authentic language learning through writing practice with an American reader who could provide writing models and give feedback. Students benefited from the opportunity for cultural exchange. <mark>The Taiwanese students valued the opportunity to study under the direction of a native</mark> U.S. speaker and particularly enjoyed learning about the American perspective from a peer.	Conforming to collaborative rules (Subject ←→ Rules)	Participants identified five limitations associated with the online teaching and learning experience: vulnerability to <mark>technical failure, constraints of e-mail,</mark> dependence on an unresponsive partner, sense of detachment	Technical issues in the devices (Subject ←→ Tools
A4	The effect of online	**1) Writing pre-test and post-test of the**	Promoting maximum	Many students found online	In-group disagreement

Article Code	Title	Findings (benefits of online collaborative projects)	Components of the activity system	Findings (challenges of online collaborative projects)	Components of the activity system
	collaborative project-based learning on English as a Foreign Language learners' language performance and attitudes.	**experimental group** **2) Writing post-test of the experimental and control groups** • When students did online collaborative PBL, their writing skills improve more than when they worked individually and offline. **3) Overall project scores** • Helped students improve their written projects in the experimental and control groups. 4) Learners' opinions about online collaborative PBL • Online collaborative projects are useful for enhancing communication and interaction with other students. • Improving their English skills taught them more about writing mechanisms, vocabulary, and grammar.	outcomes (Subject ←→ Object)	collaboration time- consuming and frustrating because of time delay and lack of responses from peers.	(Subject ←→ Rules)
A5	EFL learners' intercultural competence development in an international web collaboration project	**The students' intercultural competence development** majorityof the students felt that they benefited from these five months of working together online as they acquired knowledge about three other cultures and developed an increased understanding of what makes intercultural communication successful	Promoting maximum outcomes (Subject ←→ Object)	-	-

In this table, appendix 2, the data coding example was coded using five colors. Yellow type indicates subject and component community, green type indicates subjects and component tools, purple type represents subject and component rules, and red type represents subject and component object, and grey type represents subject and component division of labour.