

## CHAPTER I

### INTRODUCTION

#### **1.1 Background of the Study**

In the current era of globalization, technology plays an important role in English language teaching (Turgut, 2017a). Professionals in information and communication technology are showing growing interest in mobile pedagogy, as highlighted by Burden et al. (2019). The Technological Pedagogical Content Knowledge (TPACK) framework assists educators in effectively delivering subject content by incorporating technology into teaching and learning activities (Koehler & Mishra, 2009). TPACK provides a structure for seamlessly embedding technology into classroom instruction. It builds upon Shulman's (1986) concept of Pedagogical Content Knowledge (PCK) by incorporating a technological component into instructional expertise. Koehler and Mishra (2009) delineate TPACK as comprising seven components: Technology Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK).

Shulman (1986) first proposed Pedagogical Content Knowledge (PCK), defined as teachers' expertise in delivering particular subject content in an effective manner. Subsequently, Koehler and Mishra (2009) extended this idea by integrating technological knowledge into pedagogical practices, thereby formulating the Technological Pedagogical Content Knowledge (TPACK) framework. TPACK holds significant value as it equips educators to incorporate technology seamlessly into teaching and learning activities. Educators proficient in TPACK are anticipated to leverage technology purposefully, thereby enhancing student comprehension, boosting motivation, and advancing academic performance (Tilaar, 2015). Furthermore, Ulva Imita et al. (2018) demonstrated that applying the TPACK framework substantially improved students' scientific literacy and social competencies.

The advent of TPACK constitutes a pivotal advancement within educational scholarship, particularly in the domain of technology-enhanced pedagogy. Drajadi et al. (2018) reported that Indonesian educators have exhibited enhanced proficiency in leveraging technology for instructional purposes through the TPACK framework. TPACK synthesizes technological, pedagogical, and content knowledge, representing indispensable competencies for contemporary educators. As Yurinda and Widyasari (2022) contend, teachers adept in TPACK demonstrate superior capacity to integrate technology into classroom practices and tailor instructional activities to students' specific needs.

In the landscape of 21st-century education, learners are expected to cultivate not merely academic proficiency but also digital literacy and critical thinking competencies. Consequently, educators must purposefully embed technology within pedagogical strategies to foster efficacious learning outcomes. Within the English as a Foreign Language (EFL) context, the application of TPACK is especially salient, as it enables instructors to design interactive, student-centered learning environments augmented by technological tools. This imperative assumes greater urgency for novice English teachers, who continue to refine their instructional expertise and navigate the integration of technology into classroom instruction.

Supriyadi et al. (2018) assert that the evolution of information technology and its influence on education is inevitable. In contemporary education, educators are required to incorporate technology seamlessly into teaching and learning activities. They must develop instructional models and strategies tailored to students' traits and learning requirements. Utilizing online applications and digital media can bolster classroom teaching and heighten student involvement in educational tasks (Oh & Reeves, 2014). Thus, teachers hold a crucial responsibility in elevating students' academic achievement and equipping them for 21st-century learning demands.

Teaching demands specialized pedagogical and professional competencies (Bwalya & Rutegwa, 2023). A key strategy for enhancing educational quality involves training capable student teachers who transition into novice educators (Safrina & Maula, 2019). Kim and Roth (2011) define novice teachers as those with

up to five years of classroom experience. These early-career educators are engaged in refining their teaching abilities, acclimating to school settings, and refining their pedagogical approaches through practical experience.

Novice teachers hopeful to achieve professional status must cultivate four core competencies outlined in the Republic of Indonesia Law No. 14 of 2005 on Teachers and Lecturers: pedagogical, professional, social, and personal competencies. Echoing Wau (2016), educators, including those in their early careers, should comprehend and enhance these competencies to facilitate robust teaching practices. Instruction encompasses multifaceted processes, including the selection of learning resources, orchestration of classroom dynamics, and formulation of suitable pedagogical strategies (Kleinsasser et al., 1995). Consequently, numerous educators view technology integration in teaching and learning to enhance classroom engagement and promote productive learning experiences. In Indonesia, governmental initiatives similarly promote technology adoption in education to elevate the quality and efficacy of instructional processes. Koehler and Mishra (2009) emphasize that such integration ought to foster interactive, purposeful, and learner-centered education. Technology-rich learning settings motivate students to engage actively, collaborate, and nurture creativity, critical thinking, and self-directed learning abilities. Aligning with Yurinda and Widyasari (2022), the application of information and communication technologies boosts instructional efficiency and underpins effective classroom delivery. Hence, novice English teachers are urged to strengthen their TPACK proficiency to adeptly incorporate technology into EFL instructional settings.

Integrating technology into instructional practices has gained widespread adoption across educational contexts. Drajadi et al. (2018) highlights that technology aids student learning and promotes more dynamic classroom interactions. Mali and Salsbury (2021) describe technology integration as the employment of digital resources—including the internet, computers, interactive media, and online platforms—to enhance teaching and learning processes. Such integration enables educators to boost students' motivation, involvement, and overall classroom experiences.

However, various studies have identified obstacles to TPACK implementation in EFL environments. Ulya et al. (2023) observed that while TPACK application in Indonesia yields beneficial learning outcomes, educators encounter both technical and pedagogical hurdles. These include time constraints, technical issues, and challenges in harmonizing technology with pedagogical and content knowledge. Prior research further reveals that certain teachers prioritize the mechanical aspects of technology over pedagogical strategies and learning goals. Accordingly, examining how novice English teachers apply TPACK in their classroom practices holds considerable significance.

Improving teacher quality can enhance school quality and education outcomes (Opfer & Pedder, 2011). To produce well-trained English teachers, novice teachers must be provided with knowledge and teaching experiences (Kusuma, 2021). Teachers who lack knowledge of how to integrate technology in the classroom may underuse or overuse it. Limited use of technology in the classroom is attributed to teachers' inability to integrate it into their teaching and learning (Niess, 2011). Technology should support teachers in combining teaching strategies and subject knowledge, rather than just focusing on technology skills for effective classroom integration. Equipping teachers with technology tools and instructional strategies is crucial for effectively delivering subject content. To effectively integrate technology into teaching strategies and subject content, teachers must have both technology skills and the necessary knowledge and skills (Ramorola, 2013).

Koehler and Mishra expanded on Shulman's concept of Pedagogical Content Knowledge (PCK) to include Technological Knowledge. Technological Pedagogical Content Knowledge (TPACK) relates to the three components of PCK: Technological Content Knowledge (TCK), and Technological Pedagogical Knowledge (TPK). Implementing these three elements of knowledge in classroom practices can enhance students' learning outcomes. The TPACK concept and its components are key criteria for integrating technology and building technological innovation in teaching and can guide teachers' professional development (Koehler & Mishra, 2009).

One of the ways for teachers to continually maintain and develop their abilities is through professional development. Teacher professional development is a teacher's lifelong effort and commitment in the pursuit of improving instruction. Quality of educational practice through the development of knowledge and skills through formal and informal activities. On the other hand, as stated by (Harwell, 2003) Professional development is a sustained engagement. This is not a one-time program, but an ongoing process aimed at developing teachers' knowledge, skills, and personality.

To help learners become competent and knowledgeable, comprehend what teachers are doing, and communicate effectively, ELT departments work hard to train their teacher nominees. There is an unavoidable process of complying with all of these challenges because teachers have to deal with a variety of learner groups, institutions, programs, curricula, materials, procedures, and social-cultural circumstances from the start of their profession (Inderawati et al. 2022). A new strategy to keep up a high caliber of instruction and an experienced team is through training programs for teachers. These programs, which cater to the requirements and preferences of both experienced and novice teachers, can mentor educators into exciting and challenging professions, introducing them to cutting-edge research in the field and assisting them in conducting productive in-class research, collaboration with peers, and self-reflection (Haryono et al., 2017)

It is known that the knowledge, abilities, and perspectives of experienced teachers are different from those of novice teachers (Rodríguez & McKay, 2010). Consequently, it may be said that their requirements for professional growth are different from those of novice teachers. Teachers who have little to no mastery of knowledge are considered novices. According to Gatbonton (2008), these are frequently student teachers with less than 2 years of classroom experience. Although identifying experienced teachers is more difficult, it is possible to do so by looking up their years of teaching experience. As a case study, Gatbonton (2008) noted that teachers with five years or more of classroom experience are considered experienced. Additionally, Darasawang (2006) also differentiated between experienced teachers and novice teachers based on some common characteristics. Professional or experienced teachers truly understand the subject matter, rich and

elaborate knowledge base, a better understanding and use of language learning strategies, and others (Anggraini, 2019). Compared to novice or inexperienced teachers, in line with Richter et al. (2013), they plan more effectively and digest material more selectively. The skilled educator can quickly adjust to changing circumstances, meet the requirements of their students, and improvise. So, all the important things might influence how teachers can implement TPACK based on their experience in teaching.

TPACK has a positive and significant impact on every teacher, including novice teachers. These results are in line with the research of Koehler & Mishra (2008), who state that a teacher's three main types of knowledge, namely technology knowledge, pedagogy, and content knowledge, have a significant impact on novice teachers and professional development. According to Yurinda and Widyasari (2022) every teacher, including novice teachers, needs to comply with standards for technological competence because it relates to the quality of education in Indonesia. Therefore, Yurinda and Widyasari (2022) stated that to be effective in the digital age of education, novice teachers need to acquire pedagogical skills and content knowledge in addition to being technologically proficient. As a novice teacher who was born in the digital era of globalization and who can use technology well, it is hoped that they can develop this technology into a TPACK framework, which will be implemented during the learning process.

Based on (Koehler & Mishra, 2009), Technological pedagogical content knowledge (TPACK) includes three sets of knowledge and their intersections: The first is Technological Knowledge (TK) refers to teachers' ability to use different educational technologies; the second is Pedagogical Knowledge (PK) deals with the teacher's ability to use certain teaching strategies to improve student learning; the third is Content Knowledge (CK) refers to their knowledge and skills on the subject thing; fourth is Technological Pedagogical Knowledge (TPK) includes their ability to use technology-supported teaching strategies; fifth is Technological

Content Knowledge (TCK) refers to the teacher's knowledge of using technology to enhance student learning; sixth is Pedagogical Content Knowledge (PCK) is their knowledge of using different teaching strategies to represent the topic; Technological Pedagogical and Content Knowledge (TPACK) requires

teachers to help their students acquire content using specific technologies through specific instructional strategies.

## **1.2 Problem Identification**

A study by Martin (2015) explain to determine teachers' readiness to implement teaching practices that utilize innovative educational technologies. This study only explains teachers' readiness for innovative educational technologies, and this study does not explain technological considerations that novice teachers must have.

Research by Sintawati and Indriani (2019) focused on investigating teachers' three elements of TPACK and the interaction between each element of TPACK and its relationship with Industrial Revolution 4.0. This research does not examine how TPACK influences teachers' technological considerations and technological innovation in the EFL context; also, this study is not focused on novice English teachers.

Yurinda and Widayari (2022) stated that teachers must have a standard to master technology to achieve learning outcomes and quality of education in Indonesia. In this research, technological considerations and technological innovation are already implemented by the teacher. But the teacher here is not for the novice teacher.

A study by Kusuma (2022) technological consideration is the preservice teachers had various reasons and concerns regarding implementing several social media platforms during ERT. The most implemented are WhatsApp and YouTube because of easy access, school, supervisors' requests, and participants' learning experiences. However, the participants in this research rarely tried to use other platforms such as Instagram and Facebook, because of concerns that the students might not focus on learning. The platforms require high internet bandwidth, the participants do not know how to use them for teaching, the students lack social media accounts, and supervisors limit the use of social media for teaching. So, technological innovation in this research is still needed.

Previous research on TPACK has predominantly examined experienced or expert educators, with inadequate attention devoted to novice English teachers. This

creates a population gap, as novice educators who are still improving their instructional competencies and technology integration abilities have been underexplored in existing TPACK literature. Moreover, much of the earlier work has addressed TPACK application in broad educational contexts, while few studies have targeted its use specifically within English as a Foreign Language (EFL) setting. Such a context gap underscores the need to investigate how novice English teachers incorporate technology into English language instruction.

Additionally, previous investigations have largely centered on overall technology integration and educators' TPACK proficiency, overlooking in-depth analysis of technological considerations, innovations, and the obstacles faced by novice English teachers in TPACK implementation. Accordingly, the present study seeks to investigate novice English teachers' application of TPACK through technological considerations and innovations in EFL classrooms, besides the challenges they face in this process.

According to the research above, what must be updated in this research is how novice teachers can consistently use technology in the learning process. How novice teachers can apply technological considerations and how novice teachers build technological innovation in their teaching and learning process. Because many professional teachers and novice teachers are found to use technology in learning, but it does not relate to the content being taught. Especially for novice teachers who have more ability and understanding to use technology, have they already made students more communicative by using technology in their teaching and learning process. Also, novice teachers have already used technology related to the material or content they taught.

For this study, the researcher purposefully chose several junior high schools in Buleleng Regency as research locations. These institutions were selected due to the presence of novice English teachers who regularly incorporated technology into their classroom teaching. To uphold participant confidentiality and ethical standards, the schools' identities were kept anonymous. Initial observations and casual conversations with educators revealed that English instruction in various classrooms remained predominantly teacher-directed, with substantial dependence on textbooks as primary resources. Furthermore, novice English teachers displayed

diverse degrees of technology use in their practices. While some had started inserting digital tools into lessons, such efforts often lacked alignment with pedagogical strategies and instructional goals. These findings underscore the value of investigating novice English teachers application of TPACK through technological considerations and innovations within EFL settings.

In educational research, technological consideration refers to the deliberate and reflective process by which teachers evaluate and select technological tools based on their alignment with instructional goals, pedagogical approaches, and the specific needs of learners, rather than using technology subjectively. This concept emphasizes the importance of integrating technology in a way that meaningfully enhances teaching and learning, requiring teachers to critically assess not only what digital tools are available but also how these tools can support effective pedagogy and content delivery. Such thoughtful decision-making is essential for technology to function as an enabler of learning, rather than a mere accessory to traditional instruction. Technological consideration thus reflects teachers' ability to make pedagogically sound decisions that integrate both technological and instructional demands of classroom practice.

On the other hand, technological innovation in education refers to the strategic adoption and implementation of new or adapted technology-based practices that transform traditional teaching methods and create more engaging, interactive, and effective learning environments. Technological innovation goes beyond simple use of digital tools; it involves leveraging technology in ways that foster novel instructional approaches, enhance learner engagement, and address emerging educational challenges. Such innovation may encompass the application of emerging technologies (AI, immersive media) as well as creative pedagogical redesign that reconfigures how content is delivered and how students interact with learning materials and each other. Recent literature emphasizes that educational innovation should be authentic and context-sensitive, focusing on meaningful changes rather than novelty for its own sake, and aligning technological integration with learner needs and educational objectives(Çelik & Baturay, 2024).

Preliminary observations across the research sites reveal that TPACK implementation by novice English teachers plays a crucial role in enhancing EFL

classroom effectiveness. While certain educators have begun incorporating technology into their instruction, its application frequently deviates from pedagogical principles and learning goals. In many classrooms, activities continue to center on textbooks and teacher-led approaches. Consequently, novice English teachers must cultivate proficiency in blending technology, pedagogy, and content knowledge within their practices. Successful TPACK application enables the development of dynamic, engaging, and learner-focused environments that address students' needs and foster active involvement. These circumstances emphasize the need to explore novice English teachers' technological deliberations and innovations in EFL settings.

### **1.3 Research Limitation**

This research focused on exploring the implementation of TPACK by novice English teachers in relation to technological considerations and technological innovations in the EFL context.

### **1.4 Research Question**

The research question that must be answered:

- a. How do novice English teachers implement TPACK through technological considerations and technological innovations in the EFL context?
- b. What challenges do novice English teachers encounter in implementing TPACK in relation to technological considerations and technological innovations?

### **1.5 Research Objective**

Based on the research questions, the specific objectives of this research are:

- a. To analyze how novice English teachers implement TPACK through technological considerations and technological innovations in the EFL context.
- b. To find out the challenges that novice English teachers encounter in implementing TPACK in relation to technological considerations and technological innovations.

## **1.6 Research Significance**

The following are positive contributions that can be obtained from this research.

The significance of the study is explained as follows:

### **1.6.1 Theoretical Significance**

The results of this study are expected to be able to provide theoretical ideas related to the challenges encountered by novice English teachers related to technological considerations and technological innovations.

### **1.6.2 Empirical Review Significance**

The study was expected to provide information to the following readers:

#### **a. For the Government**

For the government, especially the Ministry of Education, the research is expected to provide information and anything that needs to be considered in the implementation of TPACK related to technological considerations and technological innovations for novice English teachers to be successful.

#### **b. For Novice Teachers**

This research is expected to provide additional information or serve as a solution for novice teachers, especially English teachers, when preparing themselves for challenges related to technological considerations and technological innovations in the EFL context.

#### **c. For Students**

This research aims to assist educators in creating more attractive and learner-centered activities by means of competent technology integration. Consequently, students are anticipated to demonstrate greater motivation, creativity, and engagement in classroom participation.

#### **d. For Other Researchers**

This research is also expected to be useful for other researchers, namely those interested in helping find the challenges that novice teachers, especially English teachers, face related to technological considerations and technological innovation in the EFL context.

## **1.7 The Definition of Key Terms**

To avoid misunderstanding the use of some terms, the definition of key terms can be seen as follows:

### **1.7.1 TPACK**

TPACK (Technological Pedagogical Content Knowledge) is an essential component that teachers should be able to integrate to become professional teachers and improve learning outcomes. Teachers should be able to combine knowledge about pedagogy, material content, and technology (Koehler & Mishra, 2009).

### **1.7.2 Novice Teachers**

Novice teachers are described as newly qualified teachers with less than five years of teaching experience. Novice teachers still have limited in mastering knowledge and have problems with their confidence while teaching in the classroom. Unless the school they attend allows them, novice teachers are required to take part in the introductory and mentorship program (Kim & Roth, 2011).

### **1.7.3 EFL Context**

Teaching English as a foreign language (EFL) refers to instructing and teaching the language in nations where it is not the official language. Same as the term used to describe the study of English by non-native speakers in countries where English is not the dominant language (Pinner, 2014) .

### **1.7.4 Technological Considerations**

Technological consideration is described as how teachers consider technology in their classrooms. Teachers should consider what kind of technology is suitable for their teaching and learning process. To design technology-integrated lessons, teachers should consider identifying goals, analyzing learners, planning activities, and creating media/ICT-based resources (Chai et al., 2017).

### **1.7.5 Technological Innovations**

Technological innovation is a new or improved product or process whose technological characteristics are significantly different from before. The teachers should have innovation in their teaching and learning. They should upgrade or renew their technology skills, or create media that is fun for learning.