The Effects of a Task-Based Learning Approach and a Graphic Organizer Technique on the Development of Teacher Professional Competency in English Reading and Writing Skills of Student Teachers

Soranabordin Prasansaph

PRASANSAPH_S@su.ac.th, Department of International Language Teaching, Faculty of Education, Silpakorn University, Thailand

ABSTRACT

This study attempted to examine: 1) the professional competencies in English reading comprehension of student teachers before and after instruction using a task-based learning approach combined with graphic organizer techniques, 2) the professional competencies in English writing of student teachers before and after the same instructional method, and 3) the self-assessment of these competencies before and after the intervention. The sample comprised 30 student teachers majoring in Early Childhood Education and Mathematics at the Faculty of Education of a university located in Thailand during the academic year 2023. These participants were obtained through cluster random sampling using sections as the sampling units. The research employed an experimental design, specifically a one-group pretest-posttest design. The experiment began with a pretest, followed by 18 instructional sessions aimed at enhancing the professional competencies in English reading and writing through a task-based learning

approach combined with concept graphic organizer techniques. Key research instruments included: 1) three learning units for developing professional competencies, 2) tests measuring these competencies, and 3) self-assessment questionnaires. Data were analyzed using basic statistics, including mean, standard deviation, and paired t-tests. The results revealed that: 1) the professional competency in English reading of student teachers significantly improved after the intervention ($p < 0.05$), 2) the professional competency in English writing also significantly improved post-intervention ($p < .05$), and 3) student teachers' self-assessments of their competencies in both English reading and writing were significantly higher after the intervention ($p < 0.05$).

Keywords: Task-Based Learning Approach, Graphic Organizer Techniques, Professional Competency, English Reading and Writing Skills, Student Teachers

Introduction

The challenges related to English reading and writing skills among student teachers in Thailand have garnered significant attention from academics and stakeholders in the education system. Student teachers at the Faculty of Education of a university in Thailand are no exception. Developing these skills is crucial for preparing quality educators and enabling effective communication and knowledge transmission to students. Key issues include a lack of confidence in using the language, difficulties in constructing sentences and using correct grammar, and deficiencies in organizing and presenting ideas coherently (Deocampo, 2020). Classroom instruction in English writing often falls short of helping student teachers achieve the desired level of proficiency (Chuenchaichon, 2020).

The mastery of English, often regarded as the lingua franca of the globalized world, is indispensable for personal, academic, and professional success. English language proficiency encompasses various competencies, among which reading comprehension and writing skills are paramount. These skills form the bedrock of effective communication, critical thinking, and academic achievement (Crossley, 2020). In the context of teacher education, particularly for those specializing in English as a Foreign Language (EFL), the development of robust reading and writing competencies is crucial. Effective reading skills enable student teachers to access and comprehend academic literature, stay updated with current research, and integrate new knowledge into their teaching practices (Jampaklay et al., 2022). Similarly, proficient

writing skills are essential for creating lesson plans, developing teaching materials, and communicating effectively with students and colleagues (Chaya, 2022).

This research explores the effects of a Task-Based Learning (TBL) approach and a Graphic Organizer (GO) technique on enhancing the professional competency in English reading and writing skills of student teachers.

The significance of English knowledge cannot be overstated. In an increasingly interconnected world, English serves as the primary medium of communication across diverse fields such as business, science, technology, and education. Proficiency in English enables individuals to access vast repositories of knowledge, engage in international discourse, and participate in global opportunities (Alharbi & Yakout, 2020). This linguistic proficiency is essential not only for personal and professional growth but also for fostering cross-cultural understanding and collaboration (Kim, 2020). For student teachers, possessing a strong command of English is not merely a prerequisite for their academic endeavors but also a critical component of their professional identity and effectiveness as educators (Garone & Van de Craen, 2020). Their ability to teach English effectively hinges on their own proficiency in the language, particularly in reading and writing (Curle et al., 2024). Reading proficiency allows them to comprehend and synthesize educational research, curriculum guidelines, and diverse instructional materials (Kintsch, 2020). Writing proficiency is equally important, as it enables them to articulate lesson plans, create educational resources, and communicate professionally within the educational community (Hyland, 2020). Hence, the development of advanced reading and writing skills is integral to their role as effective educators, capable of fostering their students' language development and academic success (Garone & Van de Craen, 2020).

English reading comprehension is a multifaceted skill that involves decoding text, understanding context, inferring meaning, and critically analyzing content (Snow, 2020). It is a dynamic process requiring the integration of linguistic knowledge, cognitive strategies, and background information (Kintsch, 2020). For student teachers, reading comprehension is essential for academic success, as it enables them to engage with scholarly texts, stay abreast of pedagogical advancements, and develop informed teaching practices (Flowerdew & Wang, 2020). Effective reading comprehension allows student teachers to critically evaluate educational theories, apply research findings to their teaching methodologies, and adapt instructional strategies to meet the diverse needs of their students (Curle et al., 2024).

Moreover, reading comprehension is foundational to their ability to impart knowledge to their students, fostering a learning environment where

critical thinking and analytical skills are nurtured (Kim, 2020). By developing strong reading comprehension skills, student teachers can model effective reading strategies, create engaging and meaningful learning experiences, and support their students' literacy development (Garone & Van de Craen, 2020). This competence is particularly important in the context of EFL teaching, where understanding and interpreting texts accurately is crucial for both teachers and learners (Alharbi & Yakout, 2020). Hence, the emphasis on enhancing reading comprehension skills among student teachers is vital for their professional growth and the academic success of their future students (Curle et al., 2024).

Similarly, English writing skills are fundamental to effective communication and academic achievement. Writing is a complex process that entails the organization of thoughts, the articulation of ideas, and the precise use of language (Hyland, 2020). This multifaceted skill involves multiple stages, including planning, drafting, revising, and editing, each requiring a distinct set of cognitive and linguistic abilities (Flower & Hayes, 2021). For student teachers, writing proficiency is vital for producing academic assignments, conducting research, and engaging in professional discourse (Bazerman, 2020). High-quality writing enables them to articulate their arguments clearly, present research findings effectively, and contribute to scholarly conversations within their field (Graham & Perin, 2020).

Moreover, their ability to teach writing effectively is directly influenced by their own writing skills. Proficient writing enables them to model good practices for their students, provide constructive feedback, and develop curriculum materials that support language learning (Richards & Renandya, 2021). Effective writing instruction involves demonstrating how to construct coherent arguments, use evidence appropriately, and refine drafts to improve clarity and precision (Grabe & Kaplan, 2020). Student teachers with strong writing skills can also design engaging writing activities that foster their students' creativity and critical thinking (Harris et al., 2020).

In additions, writing proficiency is crucial for developing lesson plans, creating assessment tools, and communicating with colleagues and parents. The ability to write well allows student teachers to document their instructional strategies, reflect on their teaching practices, and collaborate with peers to enhance educational outcomes (Gallagher, 2021). Hence, enhancing writing skills among student teachers is not only essential for their academic and professional success but also for the effective teaching of writing to their future students (Fitzgerald & Shanahan, 2020).

The reading and writing competencies of student teachers are pivotal to their success and effectiveness in the classroom. As future educators, their ability to read critically and write effectively underpins their capacity to design and deliver engaging lessons, assess student progress, and contribute to the

academic community. However, developing these competencies requires targeted instructional strategies that address the unique challenges faced by EFL student teachers. Task-Based Learning (TBL) and Graphic Organizer (GO) techniques have emerged as promising approaches in this regard.

Task-Based Learning (TBL) is an instructional approach that emphasizes the use of authentic tasks to promote language learning. It is grounded in the principle that language acquisition is most effective when learners are actively engaged in meaningful activities that require the use of the target language. TBL encourages student teachers to use English in real-world contexts, thereby enhancing their language proficiency and pedagogical skills. Research has shown that TBL can significantly improve language learners' communicative competence, problem-solving abilities, and collaborative skills (Macaro et al., 2020; Jin et al., 2020).

Recent research underscores the effectiveness of the Task-Based Approach (TBA) in enhancing reading comprehension and writing skills competency among undergraduate students. Tran (2021) investigated the impact of task-based learning on non-English major students, revealing notable improvements in reading comprehension and writing coherence through collaborative and structured tasks. This finding is corroborated by Vu and Nguyen (2021), who observed that peer editing and group discussions within the TBA framework significantly enhanced student engagement and language proficiency. Similarly, Nguyen (2022) highlighted that task-based writing activities, such as summaries and reports, improved writing accuracy and organization, thereby emphasizing the importance of meaningful task design in language instruction. Pham (2021) further demonstrated that task-based reading activities, including problem-solving and role-playing, substantially boosted reading comprehension and retention among EFL students. Additionally, Putri and Ratmanida (2021) validated these results, showing that collaborative reading exercises and real-life tasks effectively enhanced reading skills and overall language competency. Collectively, these studies provide compelling evidence for the integration of TBA in language education to foster enhanced reading and writing skills among undergraduate students.

Graphic Organizers (GOs), on the other hand, are visual tools that help learners organize and represent information. They facilitate comprehension by illustrating relationships between concepts, structuring ideas logically, and aiding memory retention. GOs are particularly effective in enhancing reading comprehension and writing skills, as they provide a clear framework for organizing thoughts and planning written work. Studies have demonstrated that the use of GOs can lead to significant improvements in learners' understanding and retention of textual information, as well as their

ability to produce coherent and well-structured written texts (Jones, 2020; Smith & Miller, 2018).

Recent studies have consistently demonstrated the effectiveness of Graphic Organizers (GOs) in enhancing reading comprehension and writing skills among undergraduate students. Sathongeay and Prasansaph (2020) found that the use of graphic organizers significantly improved students' critical reading skills by helping them organize and synthesize information more effectively. Al Halim (2022) reported that integrating graphic organizers into writing instruction enhanced students' ability to plan and structure their essays, leading to improved writing quality and coherence. Similarly, Evmenova et al. (2021) emphasized the benefits of computerized graphic organizers in essay planning, which facilitated better organization and clarity in students' writing. Research by Lopez and Campoverde (2022) indicated that graphic organizers helped students with dyslexia improve their reading comprehension by providing a clear framework for organizing their thoughts. Maharani (2022) observed that graphic organizers were instrumental in improving students' writing of recount paragraphs by providing a clear framework for organizing their thoughts. Additionally, Pratama et al. (2021) highlighted that graphic organizers aided in teaching writing by offering visual support that enhanced students' understanding of text structure and coherence. Collectively, these studies provide robust evidence supporting the use of graphic organizers as a valuable tool in enhancing both reading comprehension and writing skills in higher education.

Current research on Task-Based Learning (TBL) and Graphic Organizers (GOs) has predominantly examined their individual effects on improving English reading and writing skills. TBL has been found to significantly enhance student engagement and language proficiency through interactive and task-oriented activities, while GOs have proven effective in aiding students to organize and synthesize information, thereby improving reading comprehension and writing coherence. Despite these findings, there is a notable gap in the literature regarding the integration of TBL with GOs to develop these skills in student teachers. No existing studies have explored the combined use of these instructional strategies to enhance the professional competencies of student teachers in English reading and writing. Addressing this gap, the proposed research seeks to investigate the synergistic effects of integrating TBL and GOs on improving the English reading and writing skills of student teachers, thereby preparing them more effectively for their professional roles.

This research aims to investigate the combined effects of TBL and GO techniques on the development of student teachers' reading and writing competencies. It seeks to determine whether the integration of these instructional strategies can enhance the professional competency of student

teachers, thereby preparing them to meet the demands of their future roles as educators. By examining the impact of TBL and GOs on reading comprehension and writing skills, this study contributes to the existing body of knowledge on effective pedagogical practices in teacher education.

The subsequent sections of this article will provide a detailed literature review, outlining the theoretical underpinnings and empirical evidence supporting the use of TBL and GOs in language education. The methodology section will describe the research design, participants, data collection instruments, and procedures employed in the study. The results and discussion sections will present and analyze the findings, highlighting their implications for teacher education and language pedagogy. Finally, the conclusion will summarize the key insights gained from the research and offer recommendations for future practice and research in this field.

Literature Review

Theoretical Underpinnings of Task-Based Learning (TBL)

Task-Based Learning (TBL) is grounded in the principles of communicative language teaching (CLT) and cognitive psychology. This approach emphasizes the use of authentic tasks to facilitate language learning, arguing that learners acquire language more effectively when engaged in meaningful communication (Ellis et al., 2020). TBL is based on the interaction hypothesis, which posits that language acquisition occurs through interaction and the negotiation of meaning (Long, 2021). Additionally, TBL aligns with Vygotsky's sociocultural theory, which underscores the importance of social interaction and collaborative learning in cognitive development (Lantolf & Thorne, 2020).

Tasks in TBL are designed to reflect real-world activities that learners might encounter outside the classroom. These tasks focus on meaning, require learners to use language to achieve specific outcomes, and integrate various language skills (Ellis et al., 2020). Engaging in these tasks helps learners develop both linguistic and pragmatic competencies. Recent research has demonstrated that TBL can significantly enhance learners' fluency, accuracy, and complexity in language use (Skehan, 2021; Willis & Willis, 2020). This evidence underscores the efficacy of TBL in fostering a comprehensive development of language skills, making it a robust approach in contemporary language education.

Empirical Evidence Supporting TBL in Language Education

Numerous recent studies have demonstrated the effectiveness of Task-Based Learning (TBL) in improving language proficiency. For instance, a study by Skehan (2021) found that learners who engaged in task-based activities exhibited significant improvements in oral fluency and complexity. Additionally, Bryfonski and McKay (2019) reported that TBL promotes greater learner engagement and more authentic use of language compared to traditional, form-focused instruction.

In the context of English as a Foreign Language (EFL) education, TBL has been shown to enhance learners' communicative competence and confidence in using English. According to East (2021), TBL encourages learners to take risks and use language creatively, resulting in more dynamic and interactive classroom environments. Moreover, TBL has been found to be particularly effective in developing learners' higher-order thinking skills, such as problem-solving, critical thinking, and collaboration (Ellis et al., 2020).

Theoretical Underpinnings of Graphic Organizers (GOs)

Graphic Organizers (GOs) are visual representations that help learners organize and structure information. The theoretical basis for GOs can be traced to dual coding theory and cognitive load theory. Dual coding theory posits that information is processed through two channels: verbal and non-verbal (Clark & Paivio, 2020). GOs leverage this theory by combining visual and textual elements to enhance comprehension and retention.

Cognitive load theory, proposed by Sweller (2011), suggests that instructional design should aim to reduce extraneous cognitive load and optimize germane cognitive load to facilitate learning. GOs achieve this by providing a clear and organized visual framework that reduces the cognitive demands associated with processing complex information. By visually mapping relationships between concepts, GOs help learners to integrate new information with their existing knowledge (Mayer & Fiorella, 2021).

Empirical Evidence Supporting GOs in Language Education

Research has consistently shown that GOs are effective tools for improving reading comprehension and writing skills. Recent studies have confirmed that the use of GOs significantly enhances students' comprehension of descriptive texts (Kang, 2021). Similarly, another study demonstrated that GOs helped students to better understand and recall

textual information, leading to improved academic performance (Robinson & Kiewra, 2020).

In the realm of language education, GOs have been found to facilitate both comprehension and production of language. For example, a study reported that EFL learners who used GOs while reading academic texts showed better comprehension and recall compared to those who did not use GOs (Hwang, 2022). In terms of writing, GOs have been shown to aid in the planning and organization of ideas, resulting in more coherent and well-structured essays (Lee, 2019).

Integrating TBL and GOs in Language Education

The integration of Task-Based Learning (TBL) and Graphic Organizers (GOs) offers a robust approach to language education, enhancing both the learning process and outcomes. TBL provides meaningful contexts for language use, while GOs help learners organize and synthesize information, leading to improved comprehension and retention.

Recent studies underscore the effectiveness of this integration. For instance, Kang et al. (2021) demonstrated that combining TBL and GOs significantly improved EFL learners' reading comprehension and writing skills. Learners found that GOs helped them better understand and organize information during task-based activities, resulting in more effective learning outcomes.

Additionally, integrating TBL and GOs promotes greater learner autonomy and motivation. Engaging in authentic tasks and using GOs to structure their learning encourages learners to take responsibility for their learning process, fostering a deeper understanding of language and content (Evmenova et al., 2020). This approach aligns with contemporary educational practices that emphasize learner-centered instruction and the development of higher-order thinking skills, such as problem-solving, critical thinking, and collaboration (Fan & Chen, 2021).

The theoretical foundations and empirical evidence supporting the use of TBL and GOs in language education highlight their effectiveness in enhancing learners' reading comprehension and writing skills. TBL provides contexts for meaningful language use, while GOs offer visual frameworks for organizing and synthesizing information. Integrating these strategies can lead to significant improvements in language proficiency, particularly in the context of EFL education (Golparvar & Khafi, 2021).

Reading Comprehension Skills

Reading comprehension is a critical skill that entails the ability to decode text, understand context, infer meaning, and critically analyze content. It is integral to academic success as it enables individuals to engage with complex texts, assimilate new knowledge, and develop informed opinions. Recent studies emphasize that reading comprehension involves complex cognitive processes that are essential for learning across disciplines (Sparks et al., 2020).

In the context of English as a Foreign Language (EFL) instruction, comprehension skills are particularly crucial as learners must navigate linguistic and cultural differences to understand and interpret texts accurately. According to recent research by Lin and Hedgcock (2021), EFL learners often face challenges in reading comprehension due to limited vocabulary and unfamiliar cultural references. These challenges necessitate instructional strategies that not only focus on language skills but also on cultural literacy to enhance understanding and interpretation of texts.

Research highlights the importance of explicit instruction in reading strategies, such as predicting, questioning, clarifying, and summarizing, which have been shown to significantly improve EFL learners' reading comprehension (Gibbons, 2022). Moreover, the integration of digital tools and resources has been found to support reading comprehension by providing interactive and engaging ways for learners to interact with texts (Chen & Tsai, 2021).

The instruction of reading comprehension is underpinned by several key theories, notably the Bottom-Up, Top-Down, and Interactive models. The Bottom-Up Theory emphasizes the sequential decoding of linguistic information, starting from the recognition of individual letters and sounds, progressing to word decoding, and culminating in sentence and text comprehension (Johnson, 2021). This approach focuses on developing phonemic awareness and decoding skills, essential for beginners in reading. On the other hand, the Top-Down Theory highlights the importance of the reader's background knowledge, expectations, and cognitive strategies in understanding texts (Smith, 2022). Readers use their prior knowledge and context to make predictions and infer meanings, making the comprehension process more holistic and context-driven (Brown & Lee, 2023).

The Interactive Model posits that reading comprehension involves a dynamic interplay between bottom-up and top-down processes, where readers simultaneously utilize linguistic knowledge and contextual information to make sense of texts. Recent research validates this model, highlighting that effective reading comprehension requires integrating word

recognition skills and background knowledge to construct meaning (Kindeou et al., 2020; Cain, 2021).

Cognitive Load Theory (CLT) emphasizes managing cognitive resources during reading instruction to prevent overload and enhance learning efficiency. Recent research underscores the significance of optimizing cognitive resources through instructional strategies designed to minimize unnecessary cognitive load (Sweller et al., 2019; Kalyuga, 2020). CLT emphasizes balancing intrinsic, extraneous, and germane cognitive loads to facilitate effective learning (Sweller et al., 2019).

Instructional strategies based on these theories, such as activating prior knowledge, using context clues, and balancing decoding practice with comprehension activities, provide a comprehensive approach to developing reading skills, particularly in the context of English as a Foreign Language (EFL) instruction (Cain, 2021; Kalyuga, 2020).

Task-Based Learning (TBL) and Graphic Organizers (GOs) have proven highly effective in enhancing students' comprehension and engagement. TBL emphasizes the use of meaningful tasks that mirror real-life activities, encouraging students to apply their reading skills in practical contexts, such as researching topics, summarizing information, and presenting findings. This approach not only improves reading comprehension but also promotes higher-order thinking skills and learner autonomy (East, 2021; Hanghøj et al., 2022).

Incorporating GOs further supports reading skills by providing visual frameworks like concept maps, Venn diagrams, and storyboards, which help students organize and interpret textual information. These tools enable students to represent relationships between concepts, identify main ideas and supporting details, and structure their thoughts coherently, aiding in comprehension and retention. When combined with TBL, GOs scaffold learning tasks, guiding students through reading, analyzing, and synthesizing information in a structured manner, thus enhancing reading skills, critical thinking, and collaborative learning (Kao, 2020; Jiang & Grabe, 2021).

Reading assessment methods within the context of TBL and GOs are designed to evaluate both the process and outcomes of students' reading comprehension and engagement. TBL assessment emphasizes performance-based tasks that mirror real-world applications of reading skills, such as summarizing articles, conducting research projects, or participating in debates based on their readings (Golparvar & Khafi, 2021; D'Mello et al., 2020). These tasks focus on the students' ability to extract and synthesize information, evaluate content critically, and apply their understanding in practical scenarios, providing a comprehensive evaluation of reading proficiency.

Incorporating GOs into assessment activities enhances this process by allowing teachers to visually gauge students' comprehension and organizational skills through tools like mind maps, flow charts, and concept diagrams. For instance, students might create a concept map outlining the main ideas and supporting details of a text, demonstrating their ability to identify key information and understand relationships between concepts. This visual representation provides clear evidence of students' cognitive processes and understanding, making it easier for teachers to identify specific areas needing support and fostering metacognitive skills as students reflect on their learning strategies (Fan & Chen, 2021; Jiang & Grabe, 2021). By integrating TBL and GOs in reading assessments, educators can obtain a multifaceted view of students' reading abilities, encouraging higher-order thinking and problem-solving skills essential for academic and real-world success.

Writing Skills

Writing skills involve the organization of thoughts, articulation of ideas, and precise use of language, making them fundamental to effective communication and academic achievement (Adams & Chuah, 2022). These skills are essential for producing academic assignments, conducting research, and engaging in professional discourse (Kurniasih et al., 2023). In EFL contexts, writing proficiency enables learners to express their thoughts coherently and engage in scholarly discourse, which is crucial for their academic and professional development (Graham et al., 2020).

The teaching of writing skills is informed by several foundational instructional theories. The Product Approach emphasizes the final written product, focusing on accuracy and adherence to conventions. This approach often involves analyzing model texts to understand structure and style, with an emphasis on producing polished, error-free writing (Hyland, 2020). In contrast, the Process Approach highlights the importance of the various stages of writing—planning, drafting, revising, and editing—viewing writing as a recursive process where each stage can be revisited multiple times to improve the text (Dong, 2023).

Additionally, the Genre Approach concentrates on teaching specific text types or genres, guiding students to comprehend and employ the conventions and purposes of different writing forms (Hyland, 2020). This approach helps students understand the social context and communicative purpose behind various genres. Social Constructivist Theory further enriches writing instruction by emphasizing the role of social interaction and collaboration, advocating for peer review sessions and collaborative writing activities that allow students to construct knowledge together and provide

mutual feedback (Huang et al., 2021). Each of these theories offers unique insights and strategies for developing comprehensive writing skills.

Instruction of writing skills through Task-Based Learning (TBL) and Graphic Organizers (GOs) provides a robust framework for enhancing students' writing proficiency. TBL emphasizes completing meaningful tasks that mimic real-life writing situations, promoting authentic language use and practical application of writing skills through collaborative projects, research assignments, and problem-solving activities (Ellis, 2020). GOs, such as mind maps, flowcharts, and Venn diagrams, support idea organization and visualization, aiding students in structuring their thoughts coherently and logically (Jiang & Grabe, 2021). These tools facilitate the planning and outlining stages, helping learners develop well-organized texts. Integrating TBL and GOs in writing instruction enhances writing skills, critical thinking, creativity, and collaborative learning, providing a comprehensive approach to writing pedagogy (Dong, 2023; Huang et al., 2021).

Assessment of writing skills often employs two primary approaches: holistic and analytic, each suitable for different contexts. Holistic assessment offers an overall judgment of writing quality based on general impressions, making it efficient for standardized testing and large-scale assessments (Kessler, 2020). Conversely, the analytic approach evaluates writing based on specific criteria such as content, organization, grammar, vocabulary, and mechanics, providing detailed feedback on strengths and weaknesses (Adams & Chuah, 2022). This method uses rubrics to break down writing into parts, aiding in targeted instruction and actionable feedback (Fathi et al., 2021). Holistic scoring is quick and ideal for high-stakes tests, while analytic scoring is thorough and instructional. Combining both approaches leverages the efficiency of holistic scoring and the diagnostic precision of analytic methods for a balanced assessment strategy.

The Importance of Grammar in Developing Writing Skills

This research aims to assess English writing competence with a primary focus on grammatical knowledge, aligning with the standards set by the Teachers' Council of Thailand. Grammar is fundamental to writing skills, providing the structural framework necessary for clear and effective communication. Mastery of grammatical rules enhances the readability of texts, facilitating comprehension and engagement (Dragomir & Niculescu, 2020). In academic writing, a strong command of grammar is crucial for articulating complex ideas and arguments (Shin et al., 2021).

Indirect tests of writing, such as multiple-choice questions or error correction exercises, focus on grammar knowledge for several reasons. First, grammar forms the foundational backbone of writing proficiency, essential

for constructing correct and meaningful sentences. Evaluating grammar allows educators to assess students' foundational language skills, which are critical for effective writing (Sundari & Mulyadi, 2021). Second, grammar-focused assessments are practical and efficient, allowing for objective measurement and easy administration and scoring on a large scale. This efficiency is valuable in standardized testing environments (Hancock & McLeod, 2021).

Third, indirect grammar tests effectively identify common errors and knowledge gaps that may not be as easily detected in direct writing assessments. Pinpointing specific grammatical weaknesses enables educators to tailor instruction, improving overall writing proficiency (Dragomir & Niculescu, 2020). A solid grasp of grammar is also crucial for mastering other writing aspects, such as syntax, coherence, and cohesion, which are indirectly assessed through grammar tests. Emphasizing grammar underscores its role in linguistic accuracy and high-quality writing, supporting the development of proficient and effective writers (Shin et al., 2021).

Methodology

Research Design

This research, investigating the effects of a task-based learning approach combined with a graphic organizer technique on the development of teacher professional competencies in English reading and writing skills among student teachers, employed a quasi-experimental research design. Specifically, a one-group pretest-posttest design was utilized to quantitatively assess the impact of the intervention.

The study gathered data on three main aspects: teacher professional competencies in English reading comprehension, teacher professional competencies in English writing, and self-assessment of professional competencies in both reading and writing. The intervention aimed to enhance these competencies by integrating task-based learning with graphic organizer techniques.

The research methodology involved administering pretests to evaluate the initial competency levels of the student teachers. Following the implementation of the intervention, posttests were conducted to measure any changes in competency levels. The collected data were then analyzed to compare pre- and post-intervention results, thereby determining the effectiveness of the combined instructional approaches.

Participants

The population for this study comprised second-year student teachers enrolled in a four-year program at the Faculty of Education at a university near Bangkok, Thailand, during the 2023 academic year. This population included student teachers from various disciplines: Thai Language, Elementary Education, Early Childhood Education, Social Studies, Mathematics, Physics, Chinese Language Teaching, Art Education, and English, totaling 467 individuals.

To determine the sample, the researcher employed cluster random sampling, a method where groups, rather than individuals, are randomly selected. Specifically, sections were used as the sampling units. Cluster sampling is an effective method for studies involving large populations, allowing for practical and representative sampling. This method ensures that the selected sample accurately reflects the diversity within the larger population (Cochran, 1977). From this population, a cluster sample of 30 second-year student teachers was selected, consisting of 14 student teachers specializing in Early Childhood Education and 16 student teachers specializing in Mathematics.

Research Instruments

In this study, the researcher developed three key instruments for data collection: a learning module, a test, and a self-assessment questionnaire, all focused on teacher professional competencies in English reading and writing. These instruments were designed to comprehensively evaluate the participants' skills and self-perceived abilities, thereby providing a robust framework for assessing the effectiveness of the intervention.

Learning Modules on Teacher Professional Competencies in English Reading and Writing

The development of this learning module began by surveying student teachers' interests in various reading topics, which align with the teacher education curriculum (TQF 2) for relevant disciplines and the framework for assessing professional competencies in knowledge and teaching experience according to teacher professional standards. Additionally, these topics were consistent with the test blueprint developed by the Subcommittee on Testing for Teacher Licensure of the Teachers' Council of Thailand. Students were asked to rank their preferences from a list of 10 topics. The top three topics selected—Education, Technology, and Health—were subsequently used as the themes for the reading modules.

The completed learning modules were reviewed for linguistic accuracy by native English-speaking experts. Furthermore, three specialists evaluated the modules for quality and accuracy, assessing the content validity using the Index of Item-Objective Congruence (IOC), with values ranging from 0.67 to 1.0, which means the instruments were valid.

Test of Teacher Professional Competencies in English Reading and Writing

In this study, the researcher developed a multiple-choice test with four options per question to measure teacher professional competencies in English reading and writing. The test consisted of 60 items and was used as both pre-test and post-test instruments to gather data on the participants' English reading and writing skills. The development and validation process involved several steps.

First, the researcher examined the framework for assessing professional competencies in knowledge and teaching experience according to the 2022 teacher professional standards and the test blueprint for English language proficiency for communication, issued by the Subcommittee on Testing for Teacher Licensure of the Teachers' Council of Thailand. Objectives were established, and a test specification table was created, dividing the test into two parts.

Part 1 comprised 30 multiple-choice questions (items 1-30) designed to assess English reading competencies, focusing on the ability to identify main ideas, details, infer meanings from context, identify pronoun references, make inferences, identify the author's purpose, and summarize the content.

Part 2 also consisted of 30 multiple-choice questions (items 31-60) aimed at assessing English writing competencies, with an emphasis on indirect measurement through grammatical knowledge. This section included seven areas: 1) past simple and past continuous, 2) past simple and past perfect, 3) passive voice (present simple, past simple, present perfect, future with will), 4) conditionals, 5) relative clauses, 6) infinitives and gerunds, and 7) connectors. The focus on grammatical knowledge aligns with the testing approach used by the Subcommittee on Testing for Teacher Licensure of the Teachers' Council of Thailand for teacher licensure examinations.

The quality and content validity of the test were evaluated by three experts using the Index of Item-Objective Congruence (IOC), with values ranging from .67 to 1.0. A tryout of the test was conducted with 40 non-sample student teachers to analyze item difficulty (p) and discrimination (r). The results indicated item difficulty values between .55 and .80 and discrimination values between .35 and .80. The test's reliability was calculated to be .95, indicating a high-quality instrument suitable for use in the study.

Self-Assessment of Teacher Professional Competencies in English Reading and Writing

In this study, the researcher developed a self-assessment instrument to evaluate teacher professional competencies in English reading and writing. This instrument was administered to the student teacher participants both before and after the implementation of the task-based learning approach combined with graphic organizer techniques. Self-assessment instruments are valuable in educational research as they promote reflective practice, enabling participants to critically evaluate their own skills and identify areas for improvement (Andrade & Du, 2007).

The self-assessment was adapted from the Likert scale concept, featuring a five-point scale ranging from 1 to 5. A rating of 1 indicates the lowest level of competency (equivalent to Beginner), while a rating of 5 indicates the highest level of competency (equivalent to Expert).

The self-assessment consists of 30 items divided into two sections: 15 items assessing English reading competencies and 15 items assessing English writing competencies. It underwent a thorough evaluation for quality and accuracy by three experts, who analyzed its content validity using the Index of Item-Objective Congruence (IOC), yielding values between .67 and 1.0. The overall reliability of the self-assessment was found to be .97, indicating a high level of reliability suitable for use in this study.

Data Collection

Upon receiving approval from the Human Research Ethics Committee of a university near Bangkok, Thailand, the researcher proceeded to develop and validate the research instruments for data collection. The entire data collection process was conducted personally by the researcher. The participants, who were student teachers, were informed about the objectives of the study and the procedures involved in the task-based learning activities combined with graphic organizer techniques, which comprised three learning modules.

Initially, the participants were administered a pre-test to measure their baseline competencies in English reading and writing, which took 90 minutes. Following the pre-test, the participants completed a self-assessment of their professional competencies in English reading and writing before engaging in the task-based learning activities combined with graphic organizer techniques.

The instructional activities were designed to enhance the participants' competencies and involved three learning modules, each conducted over two sessions of three periods, totaling 18 periods. Upon

completion of the instructional activities, the participants were administered a post-test to assess their competencies in English reading and writing after the intervention. They also completed a post-instruction self-assessment of their professional competencies.

The use of pre-test and post-test instruments is beneficial as it allows for the measurement of changes in participants' knowledge and skills over the course of the study, providing a clear indication of the intervention's effectiveness (Cohen et al., 2018). Similarly, pre- and post-self-assessments encourage reflective practice, enabling participants to critically evaluate their own progress and identify areas for further development (Andrade & Du, 2007).

Following data collection, statistical methods were employed to analyze the data, interpret the results, and present the findings of the study.

Data Analysis

Upon completing data collection, the researcher conducted an analysis to calculate the mean and standard deviation of the scores obtained from the pre-test and post-test. This analysis aimed to compare the teacher professional competencies in English reading and writing before and after the intervention, addressing research questions 1 and 2. To test hypotheses 1 and 2, which posited that the professional competencies in English reading and writing of student teachers would be higher after the intervention, the researcher employed a paired-samples dependent t-test.

The researcher analyzed the data collected from the self-assessment of English reading and writing competencies before and after the intervention. This analysis involved calculating the mean and standard deviation of the self-assessment scores. The interpretation of the self-assessment results was based on the mean scores. Subsequently, the researcher used a paired-samples dependent t-test to test the hypothesis that student teachers would self-assess their professional competencies in English reading comprehension and writing higher after the intervention than before.

Research Results

This study aimed to compare the professional competencies of student teachers in reading and writing English, as well as their self-assessment of these competencies. The findings were as follows:

Comparison of Professional Competencies in English Reading Comprehension of Student Teachers Before and After Instruction Using Task-Based Learning and Graphic Organizer Techniques

Based on Hypothesis 1, which posits that the professional competencies in English reading comprehension of student teachers would be higher after instruction using task-based learning combined with graphic organizer techniques, the researcher analyzed the pre-test and post-test scores. The mean scores were compared, and a paired dependent t-test was conducted to determine the significance of the differences. The results are presented in the following table:

Table 1

Comparison of Student Teachers' Reading Competencies Before and After TBL and GO Instruction

Test	N	Full Score	Mean	S.D.	t	df	p-value
Pre-test	30	30	12.50	3.03	14.64*	29	.000
Post-test	30	30	21.57	2.27			

*Significant at the .05 level

Based on the data presented in Table 1, it revealed that the average pre-test score of the sample group of 30 student teachers, who were instructed using task-based learning combined with graphic organizer techniques, was 12.50 with a standard deviation of 3.03 out of a possible 30 points. The average post-test score was 21.57 with a standard deviation of 2.27. The t-test value was 14.64 ($p < 0.05$).

These statistical results, which demonstrate a significant improvement in the professional competencies in English reading comprehension of student teachers, indicate that the instruction using task-based learning combined with graphic organizer techniques was highly effective. This improvement, being statistically significant at the .05 level, provides strong support for Hypothesis 1 of the study, suggesting that the intervention had a meaningful impact on enhancing the reading comprehension skills of the student teachers.

Comparison of Professional Competencies in English Writing of Student Teachers Before and After Instruction Using Task-Based Learning and Graphic Organizer Techniques

According to hypothesis 2, which posits that the professional competency in English writing among pre-service teachers is higher after

being instructed using a task-based learning approach combined with graphic organizer techniques, the researcher conducted an analysis. This involved comparing the average scores from pre- and post-intervention tests. A paired t-test was employed to determine the significance of the differences. The results are presented in the following table.

Table 2

Comparison of Student Teachers' Writing Competencies Before and After TBL and GO Instruction

Test	N	Full Score	Mean	S.D.	t	df	p-value
Pre-test	30	30	8.33	1.35	39.46*	29	.000
Post-test	30	30	20.10	2.30			

*Significant at the 0.05 level

From Table 2, it was found that the average pre-test score of the sample group of 30 student teachers, before instruction using task-based learning combined with graphic organizer techniques, was 8.33, with a standard deviation of 1.35 out of a total score of 30. The average post-test score, after instruction using the same techniques, was 20.10, with a standard deviation of 2.30. The t-test result was 39.46 ($p < 0.05$). These statistics indicate that the professional competency in English writing among the student teachers significantly improved after instruction using task-based learning combined with graphic organizer techniques. This finding substantiates hypothesis 2, affirming that the competency levels in English writing, post-instruction, were markedly higher than the pre-instruction levels, with a statistically significant difference at the .05 level.

Analysis of Student Teachers' Self-Assessment of English Reading and Writing Competencies Before and After TBL and GO Techniques

In accordance with Hypothesis 3, which posits that student teachers will self-assess their professional competencies in English reading comprehension and writing higher after receiving instruction through a task-based learning approach combined with graphic organizer technique compared to before the instruction, the researcher conducted an analysis of pre- and post-intervention self-assessment data. The means were compared, and the differences were tested using a paired dependent t-test. The results are presented in Table 3:

Table 3

Comparison of Student Teachers' Self-Assessed Competencies Before and After TBL and GO Instruction

Test	N	Full Score	Mean	S.D.	t	df	p-value
Pre-test	30	30	2.06	.17	54.37*	29	.000
Post-test	30	30	3.66	.18			

*Significant at the 0.05 level

From Table 3, it is evident that the mean self-assessment score for the 30 student teachers regarding their professional competencies in English reading comprehension and writing was 2.06 with a standard deviation of 0.17 before the instruction. Following the instruction, the mean self-assessment score increased to 3.66 with a standard deviation of 0.18. The paired dependent t-test yielded a value of 54.37 ($p < 0.05$), indicating that the post-instruction self-assessment scores were significantly higher than the pre-instruction scores at the .05 significance level. This result substantiates Hypothesis 3, demonstrating that the instructional intervention significantly enhanced the student teachers' self-assessed professional competencies in English reading comprehension and writing.

Discussion

The primary objective of this research was to compare the professional competencies in English reading and writing skills of student teachers before and after instruction using a Task-Based Learning (TBL) approach combined with the Graphic Organizer (GO) technique. The findings indicated a significant improvement in these competencies post-instruction, with results showing a statistically significant difference at the .05 level. This improvement can be attributed to several factors. Firstly, the task-based learning approach has been widely recognized for its effectiveness in enhancing language skills through real-world tasks and active learning. According to Willis and Willis (2020), task-based learning promotes language acquisition by engaging learners in meaningful communication and problem-solving activities, which is more effective than traditional rote learning methods. Secondly, the incorporation of graphic organizers aids in the visualization and organization of information, which supports cognitive processing. According to Sung and Chen (2021), graphic organizers help students structure their thoughts, making complex information more accessible and enhancing comprehension and retention. This technique aligns with recent studies on cognitive theory, suggesting that visual aids can

significantly improve learning outcomes by facilitating better integration of new information with existing knowledge (Mayer, 2020).

Moreover, the combination of task-based learning and graphic organizers creates a synergistic effect that leverages the strengths of both methodologies. Recent research by Tseng and Yang (2021) demonstrated that integrating task-based learning with visual aids not only enhances language skills but also boosts learners' confidence and motivation. This is particularly relevant for student teachers, as it equips them with practical skills and strategies they can apply in their future classrooms. The results of this study are consistent with previous research findings in the field, reinforcing the efficacy of combining TBL and GOs to enhance reading skills and professional competencies in student teachers. Richards and Rodgers (2021) demonstrated the effectiveness of task-based instruction in improving language proficiency, while Novak and Gowin (2021) highlighted the benefits of graphic organizers for knowledge organization and retention. This study builds on these foundations, providing empirical evidence of the synergistic effect of these approaches on student teachers' competencies.

Additionally, this research corroborates the findings of Alqarni and Hamouda (2022), who reported significant improvements in learners' English reading abilities following task-based learning activities, with statistical significance at the .05 level. This consistency suggests that task-based learning effectively enhances reading skills across different educational contexts. The results are also in agreement with studies by Chen et al. (2021) and Nguyen (2022), which demonstrated that task-based learning significantly improves university students' English reading abilities, again with statistical significance at the .05 level. These findings underscore the robustness of task-based learning as a pedagogical strategy for language acquisition. Experts in the field have long advocated for the effectiveness of task-based learning in promoting language skills. Nunan (2020) argues that task-based learning engages students in meaningful tasks requiring active language use, thereby facilitating better retention and application of language skills. This approach is particularly relevant for reading comprehension, where learners must process and interpret information in real-world contexts. Furthermore, the consistency of this study's findings with those of previous research highlights the reliability and validity of task-based learning in diverse educational settings. Long (2021) emphasizes that task-based learning not only improves language skills but also enhances learners' cognitive and metacognitive abilities, enabling them to become more autonomous and effective language users.

The integration of Task-Based Learning (TBL) with graphic organizers significantly enhances the grammatical competencies of student teachers. This pedagogical approach facilitates deeper engagement by

enabling students to apply their knowledge through meaningful tasks and encouraging connections between linguistic concepts. TBL immerses learners in practical language use, enhancing their ability to internalize grammatical structures. Recent studies corroborate this, emphasizing that task-based learning promotes language acquisition by engaging learners in meaningful communication and problem-solving activities (Ellis, 2020; Willis & Willis, 2020). This method aligns with Vygotsky's sociocultural theory, emphasizing hands-on learning and social interaction in cognitive development (Vygotsky, 1978). Empirical evidence from this study shows significant improvements in grammatical skills among students participating in TBL activities.

Graphic organizers, as highlighted by Novak and Gowin (2021), provide visual representations that help learners organize and integrate new information, enhancing understanding and retention. Sweller's Cognitive Load Theory supports this, suggesting that visual aids reduce cognitive load, allowing for more efficient learning (Sweller, 2020). Experts like Long (2021) emphasize that TBL not only enhances language skills but also develops cognitive and metacognitive abilities, making learners more autonomous. Integrating graphic organizers with TBL provides a structured way to connect linguistic concepts, deepening students' grammatical understanding.

The results of this research indicate that student teachers demonstrated significant improvement in their professional competencies in English reading and writing skills after receiving instruction through a Task-Based Learning (TBL) approach combined with a Graphic Organizer (GO) technique, with statistical significance at the .05 level. This finding aligns with recent studies, such as those by Richards and Rodgers (2021) and Tseng and Yang (2021), which highlight the effectiveness of TBL in enhancing language acquisition through task-based activities that promote meaningful language use. The inclusion of GOs further supports cognitive processing by helping students organize and visualize information, as discussed by Sung and Chen (2021). This combined approach not only enhances language skills but also fosters greater learner engagement and autonomy, equipping student teachers with practical strategies for their future classrooms.

Additionally, this research is consistent with the findings of Alqarni and Hamouda (2022) and Nguyen (2022), who reported similar improvements in learners' English reading abilities following TBL activities, with statistical significance at the .05 level. Scholars such as Littlewood (2020) and Samuda and Bygate (2021) have highlighted the importance of task-based approaches in promoting not only language proficiency but also critical thinking and problem-solving skills, further validating the results of this study. The integration of TBL with GOs provides a structured method to connect linguistic concepts, thereby deepening students' understanding and retention, which is essential for their professional development as teachers.

Conclusion

Based on the findings from the research study examining the effects of task-based learning combined with concept mapping techniques on developing student teachers' professional competencies in English reading comprehension and writing, the following conclusions can be drawn:

Firstly, the professional competency of student teachers in English reading comprehension showed a significant improvement post-instruction, utilizing a task-based learning approach integrated with concept mapping techniques. This enhancement is evidenced by a statistically significant increase at the 0.05 level.

Secondly, the professional competency of student teachers in English writing exhibited a marked improvement following the implementation of the task-based learning approach combined with concept mapping techniques, as indicated by a statistically significant increase at the 0.05 level.

Lastly, student teachers' self-assessment of their professional competencies in both English reading comprehension and writing demonstrated a significant increase post-instruction. This improvement, attributed to the task-based learning approach and concept mapping techniques, is reflected by a statistically significant enhancement at the 0.05 level.

Pedagogical Implications

The results of this study offer significant pedagogical implications for various stakeholders, including teachers, student teachers, faculty of education, and curriculum developers. The demonstrated efficacy of Task-Based Learning (TBL) combined with Graphic Organizer (GO) techniques in enhancing the professional competencies of student teachers provides a robust foundation for improving language education practices.

For practicing teachers, the findings underscore the importance of incorporating TBL and GO techniques into their instructional practices. These methods not only enhance students' language skills but also foster critical thinking, problem-solving abilities, and learner autonomy. Recent studies confirm that meaningful tasks engage students in active language use, facilitating better retention and application of skills (Kim & McDonough, 2021). Teachers can utilize these strategies to create more dynamic and interactive classrooms, thus improving overall student engagement and learning outcomes.

Student teachers stand to benefit significantly from these instructional strategies. The improvement in their professional competencies in English reading and writing, as demonstrated by the study, suggests that these methods are effective in preparing them for their future teaching roles. By integrating TBL and GO techniques into their practice, student teachers can develop a deeper understanding of language instruction and acquire practical skills that they can apply in their own classrooms. This aligns with contemporary interpretations of Vygotsky's sociocultural theory, emphasizing the role of social interaction and hands-on learning in cognitive development (Daniels, 2020).

For faculties of education, the study's findings highlight the need to incorporate TBL and GO techniques into teacher education programs. Given the significant improvement in pre-service teachers' competencies, these strategies should be emphasized in the curriculum to better prepare future educators. Faculty members can design courses that integrate these methods, providing student teachers with the theoretical knowledge and practical skills necessary for effective language instruction. This approach not only enhances language proficiency but also promotes cognitive and metacognitive development, as supported by recent pedagogical research (Gass & Mackey, 2021).

Curriculum developers should consider the implications of this research when designing language education programs. The integration of TBL and GOs can provide a structured framework that facilitates deeper engagement and understanding among learners. By incorporating these techniques into the curriculum, developers can create more effective language learning experiences that support the development of critical language skills. The alignment of these methods with Sweller's Cognitive Load Theory and Mayer's cognitive theory of multimedia learning further supports their inclusion in educational programs (Sweller, 2020; Mayer, 2020).

In conclusion, the significant improvement in pre-service teachers' professional competencies in English reading and writing skills, as demonstrated by this study, provides strong evidence for the effectiveness of Task-Based Learning and Graphic Organizer techniques. These methods not only enhance language skills but also support cognitive development and learner autonomy. The pedagogical implications for teachers, student teachers, faculties of education, and curriculum developers are profound, suggesting that these strategies should be integrated into language education practices to improve teaching and learning outcomes. Future research should continue to explore the long-term impacts of these instructional approaches on both teacher development and student achievement.

Recommendations for Further Studies

This study encountered certain constraints. Firstly, the sample size was limited to 30 student teachers due to the Teachers' Council of Thailand regulations, which stipulate that each teacher education class must not exceed this number. Additionally, the instructional units used in the research were primarily focused on topics related to education, health, and technology. Furthermore, the English writing competency test employed did not include essay writing; instead, it used a multiple-choice format to assess grammar proficiency, aligning with the writing competency assessment framework of the Teachers' Council of Thailand.

To expand upon the findings of this study, the following avenues for further studies are recommended:

Incorporating a mixed-methods approach that combines quantitative and qualitative data would offer a more comprehensive understanding of the effects of TBL and GO techniques. Qualitative data from interviews, observations, and reflective journals could provide deeper insights into the experiences and perceptions of student teachers.

Comparative studies that evaluate the effectiveness of TBL and GO techniques against other instructional methods would be valuable. This could involve comparing these strategies with traditional teaching methods, digital learning tools, or other innovative pedagogies to identify their relative strengths and weaknesses.

Investigating the integration of TBL and GO techniques with educational technology could be another fruitful area of research. For example, exploring how digital graphic organizers and online task-based activities impact language learning outcomes would be relevant in today's increasingly digital educational landscape.

Acknowledgments

About the Author

Soranabordin Prasansaph: a lecturer at the Department of International Language Teaching (ILT), Faculty of Education, Silpakorn University,

Thailand. His research interests encompass curriculum and instruction development, the teaching of reading and writing skills, teacher education, and linguistic studies.

References

Adams, D., & Chuah, K. M. (2022). Artificial intelligence-based tools in research writing: Current trends and future potentials. *Artificial Intelligence in Higher Education*, 169-184.

Al Halim, M. L. (2022). The effect of graphic organizers on writing skills in English language teaching. SAGA: *Journal of English Language Teaching and Applied Linguistics*, *5*(1), 45-60.

Alharbi, M. F., & Yakout, S. M. (2020). English language proficiency and academic performance of nursing students speaking English as a second language. *Nursing in the 21st Century*, *17*(4), 5-11.

Alqarni, I. A., & Hamouda, A. (2022). Effects of task-based language teaching on EFL learners' reading comprehension. *Journal of Language and Linguistic Studies, 18*(1), 15-28.

Bazerman, C. (2020). *What writing does and how it does it: An introduction to analyzing texts and textual practices*. Routledge.

Bryfonski, L., & McKay, T. H. (2019). TBLT implementation and evaluation: A meta-analysis. *Language Teaching Research*, *23*(5), 603-632.

Brown, P., & Lee, S. (2023). Interactive reading models and their application in education. *Educational Review*, *45*(2), 134-149.

Cain, K. (2021). *Theories of reading comprehension*. SpringerLink.

Chen, H., & Tsai, S. (2021). Digital tools for reading comprehension in EFL contexts: A meta-analysis. *Journal of Educational Technology & Society*, *24*(2), 100-112. https://doi.org/10.1007/s11423-020-09878-0

Chen, J., Lee, K., & Lee, H. (2021). The impact of task-based learning on reading comprehension skills. *International Journal of English Language and Literature Studies*, *9*(3), 45-60.

Chaya, K. (2022). *Academic literacy and EFL teacher education*. Thammasat University Press.

Clark, J. M., & Paivio, A. (2020). Dual coding theory and education. *Educational Psychology Review*, 32(1), 85-103.

Cochran, W. G. (1977). *Sampling Techniques* (3rd ed.). John Wiley & Sons.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.

Crossley, S. A. (2020). Linguistic features in writing quality and development: An overview. *Journal of Writing Research*, *11*(3), 415-443.

Curle, S., Yuksel, D., Aizawa, I., Thompson, R., & Rakhshandehroo, M. (2024). English language proficiency as a predictor of academic

success. *Journal of English for Academic Purposes*, 50, 100962.

Daniels, H. (2020). *Vygotsky and pedagogy*. Routledge.

Dong, Y. (2023). Revolutionizing academic English writing through AI-powered pedagogy: Practical exploration of teaching process and assessment. *Journal of Higher Education Research*, *4*(2), 52-57.

D'Mello, S. K., Southwell, R., & Gregg, J. (2020). Machine-learned computational models can enhance the study of text and discourse: A case study using eye tracking to model reading comprehension. *Discourse Processes*, *57*(5-6), 1-21.

Deocampo, M. F. (2020). Issues and challenges of English language teacher-trainees' teaching practicum performance: Looking back and going forward. *LEARN Journal: Language Education and Acquisition Research Network*, *13*(2), 486-499.

Dragomir, I. A., & Niculescu, B.-O. (2020). Different approaches to developing writing skills. *Sciendo*. https://doi.org/10.2478/raft-2020-0024

East, M. (2021). *Task-based language teaching from the teachers' perspective: Insights from New Zealand*. John Benjamins Publishing.

Ellis, R. (2020). *Task-based language learning and teaching*. Oxford University Press.

Ellis, R., Skehan, P., Li, S., Shintani, N., & Lambert, C. (2020). *Task-based language teaching: Theory and practice*. Cambridge University Press.

Evmenova, A. S., Regan, K., Boykin, A., Good, K., Hughes, M., MacVittie, N., Sacco, D., Ahn, S. Y., & Chirinos, D. (2021). Emphasizing planning for essay writing with a computer-based graphic organizer. *Exceptional Children, 82*(2), 170-191.

Fan, C. Y., & Chen, G. D. (2021). A scaffolding tool to assist learners in argumentative writing. *Computer Assisted Language Learning, 34*(1-2), 159-183. https://doi.org/10.1080/09588221.2019.1660685

Fathi, J., Derakhshan, A., & Torabi, S. (2021). The effect of peer and teacher assessments on EFL learners' self-regulated learning. *Educational Psychology*, 41(6), 633-648.

Flower, L., & Hayes, J. R. (2021). A cognitive process theory of writing. In *Theoretical models and processes of writing* (6th ed.). Routledge.

Flowerdew, J., & Wang, S. H. (2020). Relationships among English language proficiency, self-efficacy, motivation, motivational intensity, and achievement in an ESP/EAP context. *Journal of Psycholinguistic Research*.

Gallagher, K. (2021). *Write like this: Teaching real-world writing through modeling & mentor texts*. Stenhouse Publishers.

Garone, A., & Van de Craen, P. (2020). The role of language skills and internationalization in nursing degree programmes: A literature

review. *Nurse Education Today, 49*, 140-144.

Gass, S. M., & Mackey, A. (2021). *The Routledge handbook of second language acquisition.* Routledge.

Gibbons, P. (2022). *Scaffolding language, scaffolding learning: Teaching English language learners in the mainstream classroom.* Heinemann.

Golparvar, S. E., & Khafi, A. (2021). The role of L2 writing self-efficacy in integrated writing strategy use and performance. *Assessing Writing, 47*, 100504. https://doi.org/10.1016/j.asw.2020.100504

Grabe, W., & Kaplan, R. B. (2020). *Theory and practice of writing.* Routledge.

Graham, S., Hebert, M., & Harris, K. R. (2020). Teaching writing to children who find it challenging. *Reading and Writing, 33*(7), 1671-1693. https://doi.org/10.1007/s11145-019-10077-7

Graham, S., & Perin, D. (2020). Writing next: Effective strategies to improve writing of adolescents in middle and high schools. *Journal of Educational Psychology*, *112*(4), 633-651.

Hancock, A., & McLeod, L. (2021). The role of grammar in improving writing skills. *Language Learning Journal, 49*(3), 345-359.

Hanghøj, T., Kabel, K., & Jensen, S. H. (2022). Digital games, literacy and language learning in L1 and L2: A comparative review. *L1-Educational Studies in Language and Literature*, *22*(2), 1-44.

Harris, K. R., Graham, S., Friedlander, B., & Laud, L. (2020). Bringing powerful writing strategies into your classroom. *Journal of Educational Research*, 113(1), 17-28.

Huang, X., Liu, X., Hu, Y., & Liu, Q. (2021). The effect of online collaborative prewriting via DingTalk group on EFL learners' writing anxiety and writing performance. In W. Jia, et al. (Eds.), *Emerging Technologies for Education*. SETE 2021 (pp. 48-60). Springer.

Hwang, W. (2022). The effectiveness of graphic organizers in enhancing EFL learners' reading comprehension and recall. *TESOL Quarterly*, *56*(1), 89-104.

Hyland, K. (2020). *Second language writing* (3rd ed.). Cambridge University Press.

Jin, T., Liu, X., & Lei, J. (2020). Developing an effective three-stage teaching method for collaborative academic reading: Evidence from Chinese first-year college students. *Journal of English for Academic Purposes, 45*, 100853.

Jiang, X., & Grabe, W. (2021). Graphic organizers in reading instruction: Research findings and issues. *Reading in a Foreign Language, 33*(1), 34-55.

Johnson, K. (2021). Decoding skills in early reading development. *Journal of Literacy Research, 53*(4), 341-356.

Jones, A. (2020). The impact of graphic organizers on student achievement in reading and writing. *Journal of Educational Research*, *113*(2), 162-174.

Kang, H., Lim, H., & Noh, Y. (2021). The effects of task-based learning and graphic organizers on EFL learners' reading comprehension and writing skills. *Journal of Language Teaching and Research*, *12*(4), 564-578. https://doi.org/10.17507/jltr.1204.05

Kang, J. (2021). The impact of graphic organizers on reading comprehension of descriptive texts. *Journal of Educational Research*, *114*(2), 145-158.

Kao, C. W. (2020). The effect of a digital game-based learning task on the acquisition of the English article system. *System*, *95*, 102373.

Kalyuga, S. (2020). Cognitive load theory: Researching and developing educational tools. *Educational Psychology Review*, *32*(3), 585-605. https://doi.org/10.1007/s10648-019-09502-7

Kessler, M. (2020). Technology-mediated writing: Exploring incoming graduate students' L2 writing strategies with activity theory. *Computers and Composition*, *55*. https://doi.org/10.1016/j.compcom.2020.102542

Kim, Y., & McDonough, K. (2021). *Task-based language teaching: Theory and practice*. Cambridge University Press.

Kindeou, P., McMaster, K. L., & Christ, T. J. (2020). Reading comprehension: Core components and processes. *Educational Psychologist*, *55*(3), 147-163. https://doi.org/10.1080/00461520.2020.1765393

Kintsch, W. (2020). *Comprehension: A paradigm for cognition*. Cambridge University Press.

Kurniasih, K., Cahyono, B. Y., Astuti, U. P., & Suryati, N. (2023). Online writing class: EFL university students' perception of teachers' strategies in alleviating their writing anxiety. *Computer Assisted Language Learning Electronic Journal (CALL-EJ), 24*(1), 1-24.

Lantolf, J. P., & Thorne, S. L. (2020). *Sociocultural theory and the genesis of second language development*. Oxford University Press.

Lee, S. (2019). Using graphic organizers to improve writing skills: Planning and organizing essays. *Journal of Writing Research*, *11*(3), 321-338.

Lin, G., & Hedgcock, J. (2021). *Teaching readers of English: Students, texts, and contexts*. Routledge.

Lopez, J., & Campoverde, J. (2022). Development of reading comprehension with graphic organizers for students with dyslexia. *Journal of Technology and Science Education, 8*(2), 105-114.

Long, M. H. (2021). *Second language acquisition and task-based language teaching*. Wiley-Blackwell.

Maharani, M. M. (2022). Graphic organizers to improve students' writing on recount paragraphs. *Metathesis: Journal of English Language, Literature, and Teaching, 2*(2), 211-221.

Mayer, R. E. (2020). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (pp. 31-48). Cambridge University Press.

Mayer, R. E., & Fiorella, L. (2021). Principles of multimedia learning: Dual coding and cognitive load theory in practice. *Educational Technology Research and Development*, *69*(3), 445-463.

Novak, J. D., & Gowin, D. B. (2021). *Learning how to learn*. Cambridge University Press.

Nunan, D. (2020). *Task-based language teaching*. Cambridge University Press.

Nguyen, T. T. T. (2022). The impact of task-based approach on the development of writing skills among undergraduate students. *Journal of Language and Education Research*, *8*(1), 45-61.

Nguyen, T. T. T. (2022). Task-based language teaching to enhance reading skills of university students. *International Journal of Linguistics, Literature and Translation, 5*(2), 30-40.

Nguyen, T. T. T. (2022). The effects of task-based instruction on reading comprehension of non-English major students at Tra Vinh University in the Mekong Delta. *International Journal of TESOL & Education*, *2*(4), 1-20. https://doi.org/10.54855/ijte.22241

Pham, U. M. N. (2021). The effects of task-based instruction on reading comprehension among EFL students at Van Lang University. *International Journal of TESOL & Education*, *1*(2), 15-44. https://i-jte.org/index.php/journal/article/view/19

Pratama, S., Rahmawati, I. N., & Irfani, B. (2021). Graphic organizer as one alternative technique to teach writing. *English Education: Jurnal Tadris Bahasa Inggris*, *10*(2), 334-357.

Putri, R. G., & Ratmanida. (2021). The effects of using task-based language teaching on students' reading comprehension at SWAN 1 Bangkinang Kota. *Journal of English Language Teaching*, *10*(4), 578-587.

Richards, J. C., & Renandya, W. A. (2021). *Methodology in language teaching: An anthology of current practice*. Cambridge University Press.

Richards, J. C., & Rodgers, T. S. (2021). *Approaches and methods in language teaching*. Cambridge University Press.

Robinson, D. H., & Kiewra, K. A. (2020). Graphic organizers and their impact on learning: A meta-analysis. *Review of Educational Research*, *90*(5), 723-753.

Samuda, V., & Bygate, M. (2021). *Tasks in second language learning*. Palgrave Macmillan.

Sathongeay, S., & Prasansaph, S. (2020). Effects of using graphic organizers technique to enhance undergraduate students' English critical reading skills. *Rajapark Journal*, *13*(31), 209-220.

Shin, J., Chon, Y. V., & Kim, H. (2021). Revisiting the importance of grammar in writing: Perspectives from the field. *English Teaching, 76*(3), 85-109. https://doi.org/10.15858/engtea.76.3.202109.85

Skehan, P. (2021). *Language learning tasks: Engaging students in meaningful communication*. Routledge.

Smith, R. (2022). The role of background knowledge in reading comprehension. *Reading Psychology, 41*(3), 589-602.

Smith, R., & Miller, T. (2018). Visual tools for learning: The effectiveness of graphic organizers in improving reading comprehension and writing skills. *Educational Psychology Review, 30*(3), 657-679.

Snow, C. E. (2020). *Reading for understanding: Toward an R&D program in reading comprehension*. RAND Corporation.

Sparks, R., Patton, J., & Murdoch, A. (2020). The role of reading comprehension in education. *Reading Research Quarterly, 55*(1), 105-122. https://doi.org/10.1002/rrq.309

Sundari, H., & Mulyadi, D. (2021). The role of grammar in EFL writing skill development. *Indonesian Journal of Applied Linguistics, 11*(1), 117-126. https://doi.org/10.17509/ijal.v11i1.34616

Sung, K. Y., & Chen, C. (2021). Graphic organizers in reading comprehension: A study on EFL students. *Journal of Educational Research, 114*(2), 89-105.

Sweller, J. (2011). Cognitive load theory: Recent theoretical advances. *Cognitive Psychology Review*, 23(2), 69-85.

Sweller, J. (2020). *Cognitive load theory and educational practice*. Springer.

Sweller, J., Ayres, P., & Kalyuga, S. (2019). *Cognitive load theory*. Springer.

Tseng, W. T., & Yang, C. C. R. (2021). Task-based language learning with visual aids: Enhancing learners' engagement and outcomes. *Language Learning & Technology, 25*(2), 89-108.

Tran, Q. H. (2021). Enhancing reading comprehension and writing skills through task-based learning: A study on non-English major students. *International Journal of TESOL & Education, 1*(3), 176-191. https://i-jte.org/index.php/journal/article/view/10

Vu, T. T. T., & Nguyen, H. T. T. (2021). Task-based language teaching to enhance reading and writing skills of EFL students. *International Journal of Linguistics, Literature and Translation, 4*(8), 151-159. https://doi.org/10.32996/ijllt.2021.4.8.22

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Willis, D., & Willis, J. (2020). *Doing task-based teaching*. Oxford University Press.