Using A Proposed Flipped Learning Strategy to Develop EFL Preservice Primary Stage Teachers' Pedagogical Knowledge of Young Learners

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Abstract

Unlike the traditional teacher-centered lecture model of instruction, flipped learning offers an alternative approach to the educational landscape. It provides several benefits and ample opportunities for communicative language learning and teaching, student engagement, active learning, and increased interaction with the learning material. The current study aims at measuring the effectiveness of a proposed flipped learning strategy in developing EFL primary stage pre-service teachers' pedagogical knowledge of young learners. The research follows the quasi-experimental pre-post control group design. The research sample consisted of (60) male and female Minia University Faculty of Education fourth-year EFL pre-service primary stage teachers divided into two equal groups (30 for each group). A pedagogical knowledge test for young learners was used to measure the participants' level of teaching knowledge of young learners. The study's findings revealed the effectiveness of the proposed flipped learning strategy in developing the pedagogical knowledge of young learners. Data analysis using t-test revealed a statistically significant difference in favor of the experimental group in the post-test of pedagogical knowledge of young learners and all its four components. These components included (1) knowledge of young learners and principles of teaching English to young learners, (2) planning and preparing young learner lessons, (3) teaching young learners, and (4) assessing young learner learning. The findings were discussed, and

recommendations and suggestions for further research were made concerning the ongoing debate regarding the role of flipped learning and pedagogical knowledge of young learners as an essential component of the pre-service primary stage teacher preparation program.

Keywords: flipped learning, pedagogical knowledge, primary stage, pre-service teachers, teacher education

استخدام استراتيجية تعلم مقلوب مقترحة لتنمية المعرفة التدريسية لدى معلمى اللغة الإنجليزية بالمرحلة الابتدائية قبل الخدمة

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مستخلص. على عكس نموذج المحاضرة التقليدي المتمركز حول المعلم، يقدم التعلم المقلوب مدخلاً بديلاً للمشهد التعليمي يوفر العديد من الفوائد والفرص لتعلم وتدريس اللغة تواصلياً، وتوسيع مشاركة الطلاب، والتعلم النشط، وزيادة التفاعل مع المواد التعليمية. وتهدف الدراسة الحالية إلى قياس فعالية استخدام استراتيجية تعلم مقلوب مقترحة لتنمية المعرفة التدريسية لدى معلمي اللغة الإنجليزية بالمرحلة الابتدائية قبل الخدمة. واعتمدت الدراسة على التصميم شبه التجريبي لمجموعتين احداهما تجريبية والأخرى ضابطة. وتكونت عينة الدراسة من (٦٠) معلماً ومعلمة قبل الخدمة بالفرقة الرابعة شعبة التعليم الابتدائى تخصص اللغة الإنجليزية بكلية التربية بجامعة المنيا مقسمين إلى مجموعتين متساويتين (٣٠ لكل مجموعة). وتم استخدام اختبار معرفة المعلم التدريسية بالمرحلة الابتدائية لقياس مستوى المعرفة التدريسية لدى عينة الدراسة . توصلت نتائج الدراسة إلى فعالية استراتيجية التعلم المقلوب المقترجة في تنمية المعرفة التدريسية لدى معلمي اللغة الإنجليزية بالمرجلة الابتدائية قبل الخدمة، حيث كشف تحليل البيانات باستخدام اختبار (ت) عن وجود فرق ذو دلالة إحصائية لصالح المجموعة التجريبية في الاختبار البعدي للمعرفة التدريسية وجميع مكوناته الأربعة. وتضمنت هذه المكونات (١) معرفة خصائص التلاميذ بالمرحلة الابتدائية ومبادئ تدريس اللغة الإنجليزية لهم، (٢) تخطيط واعداد الدروس لتلاميذ المرحلة الابتدائية، (٣) التدريس للتلاميذ بالمرحلة الابتدائية، (٤) تقييم تعلم التلاميذ بالمرحلة الابتدائية من خلال التقييم القائم على التدريس الفعلى. وتمت مناقشة النتائج وتقديم التوصيات ومقترحات لمزيد من الأبحاث تتعلق بالاتجاهات الحالية المرتبطة بدور المعرفة التدريسية للتلاميذ بالمرجلة الابتدائية كمكون أساسى في برنامج إعداد معلم المرجلة الابتدائية قبل الخدمة.

الكلمات المفتاحية: التعلم المقلوب، المعرفة التدريسية، المرحلة الابتدائية، المعلمون قبل الخدمة، إعداد المعلم

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Knowledge of Young Learners

Introduction

Teaching English to young learners is a fundamental investment in this increasingly globalized world. Therefore, in EFL contexts, many countries have been introducing English into primary school curricula (Garton et al., 2011). The introduction of foreign language instruction into primary education has proven to be of paramount importance to young learners. Support for this claim coincides with the critical period hypothesis (Syathroh et al., 2019). Similarly, EFL learning at an early age was perceived as an asset for the young learner with an innate ability to pick up the language in the same way as the native language (Pinter, 2017). Accordingly, young learners are in a period of growth in which they can, when the right conditions are made available, have full native competence when learning a language.

It is worth noting that the overall aim of teaching English in the primary stage in EFL contexts is to familiarize the pupils with oral and written language in a stress–free atmosphere to prepare them for demanding tasks in the successive stages. Johnstone (2009) gave several reasons young learners could benefit from learning a foreign language. Firstly, young learners acquire languages more quickly, especially the sound system, and develop implicit competence since they can rely on natural acquisition processes. Secondly, they are undeniably better at acquiring the sounds and rhythms of the target language. Thirdly, they have lower affective filters than older learners and are more intuitive and less anxious. Fourthly, they have more time to learn the target language and a more prominent capacity to gain awareness about the potential intercultural identity.

Although the proportions of teachers completing teacher education programs for young learners have increased significantly over the decade, research consistently suggests the quality of teaching is still inadequate and fails to meet the demands of English for young learners' pedagogy (e.g., Butler, 2015; Copland et al., 2014; Kang, 2012). Despite the calls for researching the appropriate pedagogy for young learners (Zein, 2017), preparing student teachers to teach young learners English has yet to be given much attention (Dhaif-Allah & Aljumah, 2020).

Theoretical Framework & Review of Literature

This section discusses the study's theoretical framework, drawing on relevant literature and previous research studies. It first discusses conceptualizing young learners' pedagogical knowledge, outlining its essential components. Then, it provides theoretical background on the concept and use of flipped learning in general and specifically in the EFL context. Finally, it reviews related studies implementing flipped learning models and strategies in the EFL pre-service teacher education context.

Pedagogical Knowledge of Young Learners

Several researchers have attempted to delineate the necessary components teachers of English as a foreign language need to be able to successfully teach to young learners, i.e., primary-stage pupils aged 6-12 years old. Zein (2017) identified two dimensions as necessary components of pedagogical knowledge teachers of English need to teach to young learners. These two dimensions included one about the teaching process and another about the learner. The teaching process dimension was how the language dimension was taught, drawing on relevant approaches and methods from education as they applied to language teaching. These included aspects pertinent to language teaching that supported learning, such as lesson planning, syllabus

design, materials development, and program evaluation. They also included aspects of teachers' knowledge and skills such as teachers' awareness, interaction, classroom management, teaching the language skills (reading, listening, speaking, writing) and language aspects (grammar and vocabulary), using the appropriate approaches, methodologies, techniques, and strategies, and assessing language skills (Brown, 2007; Richards, 2015).

The learner dimension relates to whom the language is taught, drawing on relevant theories from second language acquisition. Learners also bring other aspects that vary from one individual to another, such as age, motivations, aptitude, learning styles and strategies, and personal characteristics (Cook, 2008; Richards, 2015). Zein (2017) argued that teachers needed to be aware of these aspects; they needed to use their knowledge and optimize teaching resources to foster learning. Furthermore, teachers of young learners need to know the principles of teaching to young learners. Therefore, it was emphasized (Syathroh et al., 2019) that teachers of English to young learners need to comprehend and apply relevant principles. For example, they need to be able to prepare and design learning materials to apply approaches, methods, and assessment techniques appropriately, considering the constructive alignment among the various curriculum elements.

Other essential components of teachers' pedagogical knowledge of young learners include teachers' abilities to scaffold learning, provide opportunities for practice, and manage the classroom smoothly. Zein (2017) argued that a good understanding of the zone of proximal development helped teachers develop an awareness of the kinds of activities and tasks suitable for children at different ages and developmental stages. Besides, teachers displayed abilities to create enjoyable and engaging classrooms, which were manifested by their abilities to manage the classroom properly, select and develop engaging materials, integrate language skills, and create tasks and

activities that lead to enjoyable and engaging lessons (Nunan, 2011; Pinter, 2009).

Knowledge of students' personal qualities was also asserted in previous literature as an essential component of teachers' pedagogical knowledge of young learners. According to Maulana et al. (2011), psychological knowledge of children's personalities helped teachers develop professional closeness to children. Having such professional closeness also assisted teachers in their ways to motivate children. Similarly, Syathroh et al. (2019) argued that knowledge of students' characteristics was essential to teachers' pedagogical knowledge. Knowledge about young learners' backgrounds helped teachers to determine specific and appropriate materials based on their characteristics. It also helped teachers determine the best approaches, methods, and techniques to be used in the teaching-learning process.

Research evidence suggested that young learners learned best through hands-on experiences and learning by doing, were active while carrying out meaningful learner-centered tasks in which they were engaged in language activities that can be practiced, and preferred to learn in social contexts using the language with each other and with the teacher (Achkasova, 2013; Gautam, 2015). Moreover, the most effective way of teaching language to young learners was the one that was based on their needs and interests (Juhana, 2014). For example, the total physical response method enabled young learners to carry out orders and actions to learn the language in a stress-free atmosphere (Cameron, 2014). Similarly, the activity—based approach gave them confidence and motivation (Bui & Nguyen, 2016).

Previous literature indicated that knowledge of students' needs and characteristics determined the pedagogy suitable for young learners and the relevant implications of teacher education program design. For instance, Zein (2017) investigated the perspectives of twenty-six

teachers on the appropriate pedagogy needed to teach in English for young learners' classrooms. Data were collected through semi-structured interviews. The findings demonstrated that more emphasis was needed on the young learners rather than the language in the English for young learners' classroom. Knowledge of students' needs and characteristics was necessary to equip teachers with appropriate working knowledge in second language acquisition, a prerequisite to developing teaching expertise in English for young learners. Based on these findings, Zein (2017) recommended EFL teacher educators needed to design courses to foster child-friendly pedagogy.

Syathroh et al. (2019) examined the pedagogical knowledge of 40 students in Indonesia who were taking a course on teaching to young learners to identify the characteristics of young learners. They found that young learners needed concrete objects to study. They also benefited from the lessons when they focused on multi-sensory experiences. Besides, young learners love hands-on activities. They generally learned by doing and from the manipulation of objects in their surroundings. Therefore, Syathroh et al. (2019) suggested that teachers of young learners should be able to equip the class with exciting and user¬ friendly resources.

Syathroh et al. (2019) demonstrated that using learning resources is essential to pedagogical knowledge. They highlighted that the availability of teaching resources was one of the crucial factors in creating successful lessons to teach English to young learners. The teachers used flashcards, songs, rhymes, toys, books, audio-visual materials, and digital recourses to support teaching and learning. In their study, the student teachers were trained to provide teaching materials and resources for teaching English to young learners' classes. At the end of the course, the participants showed their projects and demonstrated how to use them in teaching young learners. The findings revealed that the student teachers creatively designed

resources for young learners' classes. The authors underscored the necessity of designing learning resources as a crucial aspect of professional knowledge to create child-friendly pedagogy in English for young learners' classrooms.

Other studies in the EFL context revealed the effectiveness of training pre-service teachers of young learners using a knowledge-based approach to developing their teaching skills. For instance, Dhaif-Allah & Aljumah (2020) investigated the impact of a program on developing the English language teaching skills of pre-service teachers of English for young learners. The study sample consisted of 70 English language primary student teachers at Qassim University. The researchers used the quasi-experimental pre-test post-test control group design, and data were collected quantitatively using questionnaires and observation checklists used for pre-post testing. The program aimed to develop the prospective teachers' knowledge of methods and techniques of teaching English to young learners, to provide them with opportunities to practice teaching English to young learners either in small groups or in micro-teaching sessions, and to train the teachers of English for young learners to choose, adapt and develop teaching materials. Video-based instruction and cooperative learning techniques were also used throughout the program, where students worked together to develop audio-visual materials.

The program consists of ten units covering various areas related to teaching English to young learners and adapting and developing audio-visual materials and other teaching aids. The titles of the units were: needs of young learners in a learning situation, approaches to the teaching of English to young learners, integrating EFL methodology to the teaching of English to young learners, preparing and writing lesson plans, classroom management, ways to keep young learners interested, songs, storytelling and games for young learners, audio-visual and other teaching aids, shared reading activities, and questioning and

assessment of young learners. Results revealed the program's effectiveness in developing the necessary English language teaching skills for pre-service teachers of English for young learners.

The previous review of literature and theoretical framework suggest a greater understanding of children is the missing link in pre-service teacher education (Enever, 2014). Introducing English to young learners has urged many foreign language educators to raise questions about how best way to prepare teachers to teach EFL to young learners (Ashraf, 2018; Yildirim & Orsdemir, 2019). Zein (2017) criticized the provision of generic teacher education programs that expect specialist language teachers to have the versatility to teach at primary, secondary, and even tertiary levels with equal competence. It was highlighted that teachers of English needed to develop appropriate pedagogy for young learners (e.g., Butler, 2015; Zein, 2015; Zein, 2016; Zein, 2017; Dhaif-Allah & Aljumah,2020; Kerr,2020). The following section presents a theoretical framework for using flipped learning as an optimal approach to developing EFL pre-service teachers' pedagogical knowledge.

Flipped Learning

Higher education institutions have undergone an immense transformation of teaching and learning with new approaches, systems, pedagogical methods, and instructional practices to meet the demands of the twenty-first century (Kim et al., 2021). O'Flaherty & Phillips (2015) argued that Flipped Learning (FL henceforth) was one such transformative attempt that higher education institutions were with experimenting to promote learner-centered pedagogical approaches. It represents a sound pedagogical model (Johnson & Marsh, 2016). FL is described as an instructional strategy through which work that was traditionally done in the class is done at home, and what was done as homework is completed in class (Bergmann &

Sams, 2012). Accordingly, FL indicates that learners acquire content knowledge before class through video lectures and additional materials. They expand their knowledge in class by participating in several activities, such as discussions and collaborative work.

Despite its origins in secondary school, English language teachers have widely adopted flipped learning in higher education (Kerr, 2020). Its popularity is partly because university students are more independent than secondary school students who mainly focus on high-stakes university entrance examinations (Jo & Kim, 2016). Besides, university students have more academic freedom while studying for their courses and can take more responsibility for their learning.

The FLIP Model

The F¬L-I-PTM model developed by the Flipped Learning Network (FLN) provides researchers and practitioners with valuable frameworks and guidelines to consider multiple elements of the design of FL (Hamdan et al., 2013). The model suggested four pillars representing its constituents: Flexible environment, Learning culture, Intentional content, and Professional educator. These elements are discussed below.

Flexible Environment

Kim et al. (2021) identified four core aspects of conceptualizing a flexible environment in a FL design. These four elements were: (1) time (before class, during class, after class), (2) space (in-class vs. out-of-class, online vs. offline); (3) types of activities (individual vs. group); and (4) use of technology (technology-mediated vs. face-to-face interaction).

Kerr (2020) argued that the traditional arrangement of chairs and desks with students sitting in rows and the teacher at the front could have

been more conducive to productive, interactive lessons. Moreover, FL is a form of blended learning, given that it usually involves watching videos online before students come to class (Hockey, 2017). Similarly, Kerr (2020) further argues that flipped learning usually leverages digital technology in the work before the class. FL can be facilitated in ELT by making use of online resources. Accordingly, some explanatory or expository online presentations might be viewed in a video before a face-to-face class.

Contrary to a traditional classroom, in an FL class, the focus shifts from post-class to pre-class and in-class activities to encourage students' self-regulation and active participation (Long et al., 2016). Accordingly, students view short video lectures or other learning materials curated by the instructor as a pre-class learning activity. Kim et al. (2021) highlighted the need to align various course elements in FL classes constructively. They recommend that pre-class learning content be relevant and meaningful to in-class learning activities. When students find that what they learn through video lectures in pre-class learning is relevant and meaningful to their learning goals, they become more motivated to complete pre-class activities and engaged during in-class discussions and collaborative learning activities.

FL saves classroom time for achieving more essential learning objectives, given that listening to a teacher's lectures represents a significant proportion of classroom time, which can be flipped with pre-recorded videos (Brame, 2013; Kerr, 2020). Thus, with fewer hours to cover content in the classroom, instructors have more time to apply various learning activities to improve student understanding further (Le Roux & Nagel, 2018).

Kim et al. (2021) provided some guidelines for flexible learning environments in FL classes. They argue that it is necessary to allow students to reflect and elaborate on what they learned from pre-class materials through interaction with other students. During this process, instructors must provide appropriate support to students, such as specifying reflection topics. In addition, instructors need to present meaningful activities in the classroom in connection with the pre-class materials and activities.

Learning Culture

Learning culture is the second component of the FLIP model. FL is a student-centered approach. Kerr (2020) argues that the essence of FL lies in redirecting attention away from the teacher and putting attention on the learner and learning. Kim et al. (2021) found that self-regulated students were satisfied with FL and wanted to continue taking FL courses. FL supports a constructivist learning perspective, focusing on designing a classroom environment where learners can construct meanings (Sohrabi & Iraj, 2016). Davis et al. (2013) similarly argued that FL sought to promote a learning culture grounded in a learner-centered pedagogy where learners constructed knowledge in a self-directed manner by actively participating in various activities, meaning that the primary responsibility for learning was transferred from the instructor to the learner.

In addition to self-regulated learning, FL encourages learners to work cooperatively by providing opportunities for communication between students during class as they work together to carry out tasks and activities. Voss & Kostka (2019) asserted that by using FL, the students are engaged in active learning and negotiating meaning. FL provides more chances for social learning by encouraging the students to work together in pairs and groups in and out of class. Thus, they benefit from each other in all lesson stages, including cooperative planning for classes, cooperative learning during practice activities, peer correction, and feedback. With the teacher's intervention through

the design of appropriate learning opportunities, situations, and tasks, all students can make the most out of a flipped classroom.

Kerr (2020) argues that FL facilitates personalized learning. A key feature of personalized learning is Allowing learners to determine how much time they spend studying and the speed of their progress. In a flipped approach, learners may take the time they need with learning tasks. King (2016) further points out that the possible result of such self-pacing is that students are better prepared for classes. Besides, FL allows for personal choices of study material. Learners work on different materials in preparation for their face-to-face classes.

By being characterized as a student-centered approach, FL maximizes student talk and minimizes teacher talk, a characteristic of effective classrooms. Managing talk time is particularly useful in language classrooms, given that EFL learners only have a few chances to practice using English outside the classroom. As student-student interaction increases in flipped classrooms, teachers talk less and act more as monitors and feedback givers. In doing so, flipped learning has the potential to promote more active learning in a more constructive classroom atmosphere (Kerr, 2020). In such classes, the learners do not have to listen to the teachers for extended periods and are always busy paying attention to the tasks. Disruptive behaviors are rare in such an engaging environment (Bergmann & Sams, 2012). FL lends itself to the realization of such an environment.

FL increases learner engagement by making them responsible for their learning. Kerr (2020) argues that flipped approaches encourage a sense of student ownership of the learning process in a way that contributes to more learner engagement. Johnson & Marsh (2016) similarly argued that students in flipped classrooms could feel responsible for how the knowledge they had gained while preparing for the lesson was applied. Furthermore, the student's level of engagement is heightened when

they find that their efforts for preparing material at home pay off in class discussions and interactions with peers and the teacher.

Using FL helps teachers and students focus more on higher-order thinking skills, such as analytical, critical, and creative thinking skills (Kostka & Marshall, 2017). Typically, teachers need more time for such skills as they devote most of the instructional time, in traditional classrooms, to lecturing or giving explanations. In such situations, students sit in rows listening to the teacher. Thus, they spend most of their time on lower-order thinking skills such as memory and understanding. With the use of FL, this situation is reversed, as a lot of class time is freed up for application, discussion, analysis, evaluation, and creativity. Teachers can take their classes to the next level by reformulating learning objectives that focus on practicing higher-order thinking skills.

Intentional Content

Intentional content is the third element of the FLIP model. While using flipped learning, teachers should think carefully about what to flip. Classroom time is limited and very precious, especially in an EFL classroom. While working independently, the students need access to certain content materials that the teacher carefully selects. In FL, the instructor needs to continuously consider how to develop various learning materials that can help maximize classroom time. Kim et al. (2021) argue that selecting the content to be explained through direct instruction and the content to be learned in a self-directed learning mode through pre-class materials is necessary. They further add that instructors can adapt existing resources and develop new content.

Nowadays, most educational institutions, especially higher education institutions, use digital platforms that provide interactive features, file-sharing options, electronic assessment tools, and online assignment completion and return features. Teachers could make use of these

technological solutions to facilitate the learning process. In addition to using technology, linking class activities is another factor in encouraging learners to take flipping seriously. It may also be helpful if the teacher discusses which content is suitable for students to work on independently. Kim et al. (2021) found video lectures beneficial as they served as a means of cognitively preparing students to acquire knowledge and readiness that enabled them to engage in high-level cognitive activities in class fully.

Professional Educator

The professional educator is the fourth and last element of the FLIP model. While the teacher is less visible in flipped approaches, their role is more important than in traditional classrooms. FL requires a significant reconceptualization of the teacher's role. The use of FL transforms the role of the teacher from indoctrination to scaffolding. When teachers adopt the FL design, they devote most of their time to supervising students' work and providing them with the needed support (Bergmann & Sams, 2012). Social constructivism considers the instructor a facilitator of learner knowledge construction (Ng, 2014). Accordingly, consistent with the social constructivist view, instructors in a flipped learning class continuously observe and evaluate learner activities, provide appropriate feedback, accept constructive criticism, and promote learner competence in self-regulated learning.

It is worth noting that these four elements constitute a promising approach to restructuring the pedagogical process in a proposed FL strategy. When a teacher is faithful in adhering to a flexible environment, a learning culture conducive to self and cooperative learning, intentional content in class and out of class, and a professional educator to scaffold learners, FL provides the necessary conditions for the development of pedagogical knowledge. The next

section reviews previous studies that employed FL to develop areas of the EFL pre-service teachers' profession.

Flipped Learning and Pedagogical Knowledge

Previous literature highlights the need for more research on the effectiveness of FL. It underscored the lack of empirical research in English language learning contexts and the need for more evidence to provide unequivocal support for FL (Webb & Doman, 2016; Turan & Akdag-Cimen, 2020; Kerr, 2020). FL is especially needed in EFL contexts where a teacher-centered approach is common, and students usually have limited opportunities to interact, participate, and practice English during regular classes (Al-Harbi & Alshumaimeri, 2016). This section reviews previous studies in the EFL context that have investigated the effect of flipped learning on various domains of EFL teachers' professional knowledge.

Alsowat (2016) investigated the effect of a suggested EFL flipped classroom teaching model on graduate students' English higher-order thinking skills, engagement, and satisfaction. He also examined the relationship between higher-order thinking skills, engagement, and satisfaction. The sample consisted of (67) graduate female students divided into two groups: an experimental group (N=33) and a control group (N=34) studying an English course at Taif University in the Kingdom of Saudi Arabia. The study used a mixed method design. A pre-post higher-order thinking skills test was carried out. Besides, two 5-Likert scale questionnaires were designed and distributed; an engagement scale and a satisfaction one. The study's findings revealed statistically significant differences between the two groups in the thinking test favoring the experimental group.

Furthermore, there was a significant difference between the pre-and post-administration of the engagement scale in favor of the post-administration. Moreover, students' satisfaction with the flipped

learning model was high. It was concluded that the flipped classroom provided a new methodology for teaching and learning that changed the roles of instructors from front-of-the-class to a more cooperative contribution to the teaching process. Conducting more studies experimenting with new flipped classroom teaching models for language teaching and learning in EFL contexts was recommended.

Shehata (2018) investigated the use of flipped learning to enhance the Faculty of Education English majors' reflective teaching skills and learning autonomy. The researcher used the quasi-experimental pretest-posttest control group design. The study sample consisted of (73) third-year Faculty of Education English EFL majors randomly divided into two groups: an experimental group and a control one. The researcher used the flipped learning strategy with the experimental group, whereas the conventional way of instruction was used with the control group. The study data were collected through a reflective teaching skills test and a learning autonomy scale. Other study instruments included a needs assessment questionnaire of reflective teaching skills and a language proficiency test. The findings revealed that the experimental group improved in the post-testing than the control group in the reflective teaching skills test and the learning autonomy scale. It was concluded that EFL instructors were strongly advised to incorporate flipped learning in teaching micro-teaching courses and other courses concerned with EFL pre-service teacher training.

Masoud (2019) investigated the effectiveness of using a Flipped Learning strategy in fostering fourth-year English majors' achievement in an EFL methodology course and their motivation toward the course at the Faculty of Education, Minia University. The research followed a quasi-experimental pre- and post-test control group research design. A language teaching program based on the flipped learning strategy was developed by the researcher and used

with the experimental group. In contrast, the conventional lecture method was used with the control group. Sixty female and male fourth-year English as foreign language majors were randomly selected and divided into two groups. The study instruments included a pre-post achievement test in the methodology course, a language teaching flipped learning-based program, and a pre-post motivation scale. The findings revealed that the experimental group significantly outperformed the control one in the post-performance of the achievement test. Furthermore, the experimental group significantly improved in the post-performance of the motivation scale.

Fares (2021) investigated the effect of using a flipped learning strategy to develop third-year English majors' oral communication and higherorder thinking skills at the Faculty of Education, Minia University. The study adopted the quasi-experimental research design. Sixty students were randomly selected and assigned to two equal groups: an experimental group and a control one. The experimental group was taught using the flipped learning strategy, whereas the control group was taught using the conventional way of teaching. The study instruments included a listening test, a speaking test, and a higherorder thinking skills test. Other instruments included a needs assessment questionnaire and a speaking rubric. The study revealed that the flipped learning group outperformed the control group in listening, speaking, and higher-order thinking skills tests. It was concluded that the flipped learning program effectively developed EFL majors' oral communication and higher-order thinking skills at the Faculty of Education.

The above-reviewed studies highlighted the effectiveness of flipped learning in developing various competencies of EFL majors at the Faculty of Education, including their higher-order thinking skills, engagement, satisfaction, reflective teaching skills, learning autonomy, oral communication, achievement, and motivation. However, no

previous study, up to the best knowledge of the researcher, addressed the use of flipped learning in developing EFL primary stage preservice teachers' pedagogical knowledge of young learners in the Egyptian context. The current study addresses this gap in the literature by investigating the effect of a proposed flipped learning strategy based on the FLIP model in developing EFL pre-service primary-stage teachers' pedagogical knowledge of young learners.

Context of the Problem

As an instructor of the methodology course to fourth-year EFL preservice primary stage teachers at the Faculty of Education, Minia University, the researcher observed that the student teachers viewed the course as a generic one to provide them with professional knowledge on how to teach without linking the course to the specific needs of primary stage pupils to whom they were prepared to teach. Besides, a teaching knowledge test administered before the start of the course revealed that fourth-year EFL majors at the Faculty of Education, Minia University, underachieved in the pedagogical knowledge test.

Statement of the Problem

Based on the researcher's previous observation of giving the course and based on the findings of the pedagogical knowledge test and its sub-components administered before the start of the course, the problem of the current study could be stated that fourth-year EFL majors at the Faculty of Education, Minia University lacked the necessary pedagogical knowledge domains which were found by previous studies to be essential for EFL teachers to teach successfully to young learners.

Purpose of the Study:

The purpose of the current study is to identify the pedagogical knowledge domains pre-service EFL teachers need to be able to teach English to young learners. Another purpose was to identify the features of a flipped learning strategy to be developed to qualify those teachers with the necessary pedagogical knowledge domains to teach English to young learners. Additionally, the study sought to measure the effectiveness of this strategy on developing pre-service EFL teachers' pedagogical knowledge and its sub-components.

Questions of the Study:

The current study attempts to answer the following questions:

- 1- What is the effect of a proposed flipped learning strategy on developing the participants' pedagogical knowledge of YL (all four domains)?
- 2- What is the effect of a proposed flipped learning strategy on developing the participants' knowledge domain of principles of teaching English to YL?
- 3- What is the effect of a proposed flipped learning strategy on developing the participants' knowledge domain of planning and preparing young learner lessons?
- 4- How does a proposed flipped learning strategy affect the development of the participants' knowledge domain of teaching young learners?
- 5- What is the effect of a proposed flipped learning strategy on developing the participants' knowledge domain of assessing young learner learning through classroom-based assessment?

Hypotheses of the Study

Based on the previous literature review and theoretical framework, the following hypotheses were formulated:

1- There would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the

- experimental group and those of the control one in the post-test of pedagogical knowledge of YL in favor of the experimental group.
- 2- There would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of YL (Knowledge of young learners and principles of teaching English to young learners) in favor of the experimental group.
- 3- There would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of YL (Planning and preparing young learner lessons) in favor of the experimental group.
- 4- There would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of YL (Teaching young learners) in favor of the experimental group.
- 5- There would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of YL (Assessing young learner learning through classroom-based assessment) in favor of the experimental group.

Significance of the Study

The present study attempted to respond to the call for a shift from teacher-centered to learner-centered approaches. It is significant to pre-service teachers as it provides an instructional strategy based on using different activities and tasks. The present study's findings could be theoretically and practically significant for EFL teachers,

curriculum designers, and researchers with valuable insights into the design and implementation of learner-centered flipped learning courses. Finally, to the researcher's best knowledge, this study is the first to explore the pedagogical knowledge of young learners in the Egyptian context. It could lead to more studies investigating the effectiveness of applying the proposed FL strategy on EFL pre-service teachers' various knowledge domains.

Delimitations of the Study

The study was delimited to 60 fourth-year EFL majors (the primary section) at the Faculty of Education, Minia University. The participants were fit for the study given that they need pedagogical knowledge of young learners as prospective teachers in the primary stage. The experiment was carried out during the first term of the academic year 2022/2023, three hours each week for the whole term, in addition to another two weeks for applying the pre-and post-test.

As for topic delimitations, the syllabus was designed in the four parts of the pedagogical knowledge domains of teaching English to young learners. These domains were: (1) Knowledge of young learners and principles of teaching English to young learners, (2) planning and preparing young learners' lessons, (3) teaching young learners, and (4) assessing young learner learning through classroom-based assessment.

Definitions of Terms

Flipped learning

Bergmann & Sams (2012) defined flipped learning as an instructional strategy through which work that was 'traditionally done in the class is now done at home, and what was traditionally homework is now completed in class' (p.13). The FL strategy in the present study is based on the F¬L-I-PTM model developed by the Flipped Learning Network as it provides researchers and practitioners with valuable

frameworks and guidelines to consider multiple elements of the design of FL (Hamdan et al., 2013). The model suggested four pillars that represented its constituents: Flexible environment, Learning culture, Intentional content, and Professional educator.

Pedagogical Knowledge of Young Learners

Zein (2017) defined pedagogical knowledge of young learners as abilities of teachers to articulate the specific references of individual differences in second language acquisition into discrete pedagogical tasks, activities and materials. Syathroh et al. (2019) referred to it as the teachers of English to young learners need to comprehend and apply relevant principles. According to Maulana et al. (2011), it referred to psychological knowledge of children's personalities that helped teachers develop professional closeness to children. In the present study, pedagogical knowledge of young learners refers to the necessary components that teachers of English as a foreign language need to successfully teach to young learners, i.e., primary-stage pupils aged 6-12 years old. These components are (1) Knowledge of young learners and principles of teaching English to young learners, (2) planning and preparing young learners' lessons, (3) teaching young learners, and (4) assessing young learner learning through classroombased assessment.

Material and Method

Design

The research design used in this study was the quasi-experimental pretest post-test control group design in which the participants were randomly assigned to experimental and control groups. Experimental and control groups were exposed to the pre-post means of collecting data. The experimental group was trained in the proposed flipped learning strategy during a Methodology course for EFL pre-service primary school teachers. The control group took the course and

followed the regular teaching method. The control group participants were mainly taught through the lecture and discussion format.

Instruments:

This section discusses the study instrument used to collect data and the learning material used to train the participants.

The Pedagogical Knowledge Test

The pedagogical knowledge test was adopted from Cambridge Assessment English: Teaching Knowledge Test (TKT) for Young Learners (2019) by the University of Cambridge ESOL examinations.

Test Objectives

The pedagogical knowledge test measures achievement in the four parts of pedagogical knowledge: principles of teaching to young learners, lesson planning, teaching to young learners, and assessing young learners.

Test Construction

The test consisted of 80 questions divided into 12 objective tasks through matching and multiple-choice items. The first part on principles of teaching to young learners was assessed through the first two tasks with a total of 13 items. In task 1 (questions 1 to 6), the participants had to match the teacher's comments on the approach to teaching with the young learner's needs and characteristics. In task 2 (questions 7 to 13), the participants had to match the teachers' instructions with the main cognitive strategies they were helping to develop.

Tasks 3, 4, and 5 were used to assess the second part of lesson planning with 21 items. In task 3 (questions 14 to 20), the participants had to match the teacher's comments on a vocabulary lesson plan from a resource book with the lesson plan headings. In task 4 (questions 21)

to 27), the participants had to match the problems teachers have with materials with how to supplement or adapt those materials. In task 5 (questions 28 to 34), the participants had to look at the statements about using additional resources and choose the option to complete each statement.

Tasks 6 to 10 were used to assess the third part on teaching young learners with 33 items. In task 6 (questions 35 to 41), the participants had to match the teacher's classroom language in the examples with the strategies for scaffolding children's understanding and language use. In task 7 (questions 42 to 48), the participants had to match the examples of what fast finishers did in class with the scaffolding strategies for challenging them. In task 8 (questions 48 to 54), the participants had to match the activities' descriptions with the practice activities' types. In task 9 (questions 55 to 60), the participants had to look at the statements about the uses of classroom practice activities and choose the option to complete each statement. In task 10 (questions 61 to 67), the participants had to match the teacher's comments with the classroom management areas to support children's language learning.

The last two tasks assessed part four of assessing young learners with 13 items. In task 11 (questions 68 to 73), the participants had to look at the incomplete statements about assessing children in class and the three options for completing them. Two options would be good teacher decisions about assessing children in class. One of the options would not be a good teacher decision. The participants had to mark the option which would not be a good teacher decision. In task 12 (questions 74 to 80), the participants had to match the teacher feedback examples with the feedback's primary focus.

Test Duration and Marking

The time of the test is 1 hour and 20 minutes. The test is suitable for teachers of young learners and can also be taken by pre-service teachers without any specific entry criteria. Candidate test performance is reported using four bands: (1) limited pedagogical knowledge of young learners' content areas, (2) basic but systematic knowledge of young learners' content areas, (3) broad and deep knowledge of young learners' content areas, and (4) extensive knowledge of young learners' content areas. A candidate is given one mark for each correct item. The maximum score on the test is 80, and the minimum score is 0. A candidate's band is determined based on the score obtained. Band (1) scores range from 0-15, band (2) scores range from 16-39, band (3) scores range from 40-67, and band (4) scores range from 68-80.

The Learning Material

The handbook of teaching to young learners is intended for course providers who are involved in preparing candidates for the TKT (Teaching Knowledge Test): Young Learners module. The syllabus was designed in four parts: (1) Knowledge of young learners and principles of teaching English to young learners, (2) planning and preparing young learners' lessons, (3) teaching young learners, and (4) assessing young learner learning through classroom-based assessment. The four parts addressed 11 areas of pedagogical knowledge. Part one on knowledge of young learners and principles of teaching English to young learners measures four areas of pedagogical knowledge: (a) children's characteristics as language learners (theory focused), (b) developing children's learning strategies through language learning, and (d) developing children's communication strategies through language learning, and (d) developing children's communication strategies through language learning.

Part two, planning and preparing young learner lessons, focus on three areas: (a) lesson plans – components/headings, (b) providing support challenge when selecting and using coursebooks supplementary materials, and (c) additional resources - selecting, adapting, and supplementing. Part three of teaching young learners focuses on three areas: (a) scaffolding children's understanding of language and use of language through teacher language and teaching strategies, (b) using practice activities to consolidate children's language learning, and (c) managing young learners in class. Part four on assessing young learner learning through classroom-based assessment focuses on three areas: (a) purposes of different types of classroom-based assessment, (b) focus of different types of classroombased assessment, and (c) acting on classroom-based assessment evidence. The teacher's handbook and lesson plans were available online for each topic for free classroom use with permission from Cambridge English. https://www.cambridgeenglish.org/teachingenglish/resources-for-teachers/

Procedures of the FL Strategy

Flipped learning offers a loose model in terms of procedures and materials (Kerr, 2020). Furthermore, Kim et al. (2021) argued that although the design of flipped learning appeared simple on the surface, i.e., switching the sequence of pre-class and post-class activities, it encompassed, at a deeper level, multiple levels of design, including lesson, course, program, and intuitional levels. They further highlighted that, for effective FL, beyond simply switching the sequence of lectures and homework, it was necessary to understand and implement the fundamental design principles of flipped learning.

The four pillars of the FL model provide valuable guidelines for designing an FL strategy that could be systematically implemented in class (Flipped Learning Network, 2014). The four pillars of flexible

environment, learning culture, intentional content, and professional educator were used in the present study to determine the steps of the proposed FL strategy as implemented in the course.

Flexible Environment:

Based on the course topics, the researcher identified some YouTube instructional videos addressing these areas. One week before the face-to-face lesson, the teacher uploaded links to the videos on a WhatsApp group created for course purposes. The students watched the videos in their own time, commented, and posted questions for the teacher via WhatsApp, publicly or privately. The participants were also asked to write a summary of the video to be handed in during the face-to-face session.

Learning Culture:

In the face-to-face class, the lesson began by using short oral quizzes to check the students' overall understanding of the material that had been studied. Alternatively, the WhatsApp poll feature was used for written quizzes because it was a fun way to engage students in the proposed out-of-class activities. It also provided the researcher with data about students' engagement with the self-study tasks. This warm-up activity was followed by pair work involving the writing skill. The teacher moved around the classroom, monitoring and supporting as needed. Peer feedback played an essential role in the lessons. While the students were working in pairs, the teacher facilitated the process of peer discussions.

To further use cooperative learning, a characteristic of FL learning culture, the participants were asked to work in groups for in-class activities and out-of-class assignments. As a group assignment, the class was asked to form groups of 4 to 6 participants, choose a course topic, and prepare a presentation to be given in class. Each group was required to give a 15-minute PowerPoint presentation on the selected

topic, corresponding to the lecture topic. All group members had to participate in presenting their work to avoid social loafing.

Intentional Content

The participants were asked to watch a YouTube video at home related to the lecture topic. The video's link was shared with the participants through a WhatsApp group created for the course's educational purpose. Besides, a recorded lecture was available for the participants to watch or download through the WhatsApp group. The recorded lecture was made available for the participants on the WhatsApp group one week before the time of the lecture. The researcher recorded Some of these lectures using the ZOOM video conferencing application, while others were available through online video hubs such as YouTube. As an alternative to using YouTube online videos in some sessions, the researcher used the ZOOM application to create videos to explain specific points unavailable online. In doing so, it was possible to ensure that the content was appropriate for the class, and (2) many learners appreciated hearing their teacher's voice. Audio recordings were also made on the WhatsApp group to explain certain points, to clarify assignment requirements, and to respond to the students' questions and comments.

Professional Educator

The researcher acted as a professional educator by preparing weekly lectures and discussions, providing feedback on group work and presentations, and providing scaffolding to students during individual, pair, group, and whole class discussions. The researcher himself available to all students for individual, small group, and class feedback in real-time as needed. He also conducted ongoing formative assessments during class through observation and data recording to inform future instruction. Furthermore, the researcher was keen to collaborate and reflect with other educators in his institution on the

role of FL in transforming instructional practices. Three were already experts in this area and published research on FL.

Participants

The participants of the present study consisted of sixty male and female third-year English majors at the Faculty of Education, Minia University. The sample consisted of two groups randomly assigned to an experimental group and a control one. To achieve homogeneity of the two groups, they had an equal level of pedagogical knowledge of young learners, as ensured by pre-testing the two groups in the pedagogical knowledge of young learners. Besides, the participants' grade level was controlled. All the participants were fourth-year English majors at the Faculty of Education, Minia University, after excluding grade repeaters from the sample. They were all majoring in primary education, taking the course during the first term of the academic year 2022/2023. The gender was also controlled as the two groups were heterogeneous, including male and female participants in both groups.

Homogeneity of the Study Groups

The experimental and control groups were pre-tested before the experiment to establish the homogeneity of both groups in the level of pedagogical knowledge of YL. The t-test was used to compare the means of scores obtained by the participants in the experimental and control groups in the pre-test of pedagogical knowledge of YL. Data analysis of the results using t-test, as shown in Table (1), revealed that both the experimental and control groups were equal as the results from the experimental group pre-test (M = 25.86, SD = 4.15) and the control group pre-test (M = 27.96, SD = 4.56) indicate no significant difference in the means of scores obtained by the participants, t (58) = -1.86, p = .068. Therefore, the homogeneity of the two groups was established.

Using A Proposed Flipped Learning Strategy to Develop EFL Preservice Primary Stage Teachers' Pedagogical

Table (1): Establishing the Homogeneity of the Research Groups							
Knowledge of	N	Mean	SD	t- value	D F	p. value	
YL							
Experimental	30	25.86	4.15	1 86	58	068	

4.56

- -1.86

58

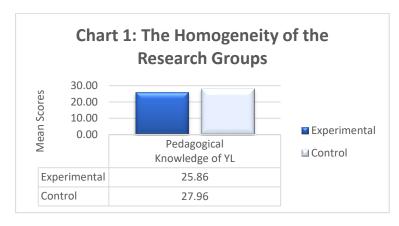
.068

27.96

30

Control

Chart (1) illustrates the experimental and control groups' homogeneity of mean scores in the pedagogical knowledge of YL pre-test. It is worth noting that the control group's mean was higher than that of the experimental group in the pre-test but without a statistically significant difference. The mean scores also show that the overall score of the experimental and control group members lies within band 2 of the teaching knowledge test (band 2 reference range: 16-39). This finding indicates that the participants of the experimental and control had only a basic level (band 2) of pedagogical knowledge according to test scoring bands.



Instructor of the program

The researcher taught the course to the experimental and control groups through the Methodology course given to fourth-year EFL preservice primary school teachers at the Faculty of Education, Minia University, during the first term of the academic year 2022/2023.

^{*} Significant at (0.05) ** Significant at (0.01)

Results

Hypothesis 1

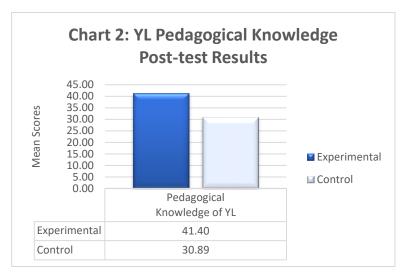
Hypothesis 1 stated that 'there would be a statistically significant difference at the level of (0.05) between mean scores obtained by experimental group participants and those of the control one in the post-test of pedagogical knowledge of YL in favor of the experimental group.' Data analysis of the results in this study using t-test, as shown in Table (2), reveals that there is support for *Hypothesis 1* as the results from the experimental group post-test (M = 41.40, SD = 4.89) and the control group post-test (M = 30.83, SD = 5.67) indicate that the use of the flipped learning proposed strategy resulted in an improvement in pedagogical knowledge of young learners, t (58) = 7.72, p = .000. Therefore, Hypothesis 1 is accepted as the results indicate a statistically significant difference in the means of scores obtained by the participants in the experimental group and those of the control group in the test of pedagogical knowledge of young learners in favor of the experimental group with a large effect size as calculated by Eta squared (d =1.99). It is worth noting that the participants of the experimental group moved from band 2 (basic knowledge) in the pretest of pedagogical knowledge to band 3 (broad and deep knowledge) in the post-test, whereas those of the control group remained in band 2 as was the case in the pre-test.

Table (2): The Results of the Post-test of Pedagogical Knowledge of YL

Pedagogical	N	Mean	SD	t-	D	p.
Knowledge				value	\mathbf{F}	value
Experimenta l	30	41.40	4.89	7.72	58	.000**
Control	30	30.83	5.67			

^{*} Significant at (0.05) ** Significant at (0.01)

Chart (2) illustrates the participants' improvement level in the post-test of pedagogical knowledge of young learners in favor of the experimental group.



Hypothesis 2

Hypothesis 2 stated that there would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of YL (Knowledge of young learners and principles of teaching English to young learners) in favor of the experimental group. Data analysis of the results in this study using t-test, as shown in Table (3), reveals that there is support for Hypothesis 2 as the results from the experimental group post-test (M =5.87, SD = 2.14) and the control group post-test (M = 4.00, SD = 1.53) indicate that the use of the flipped learning proposed strategy resulted in an improvement in teaching knowledge of young learners (Knowledge of young learners and principles of teaching English to young learners), t (58) = 3.88, p = .000. Therefore, Hypothesis 2 is accepted as the results indicate a statistically significant difference in the means of scores obtained by the participants in the experimental group and those of the control group in the test of pedagogical knowledge to young learners (Knowledge of young learners and

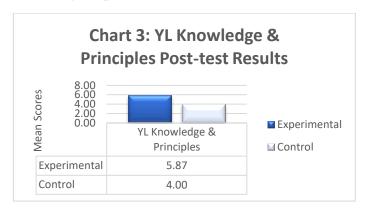
principles of teaching English to young learners) in favor of the experimental group with a large effect size as calculated by Eta squared (d = 1.00).

Table (3): The Results of the Post-test of YL Knowledge & Principles

YL	N	Mean	SD	t-	D	<i>p</i> .
Knowledge				value	\mathbf{F}	value
& Principles						
Experimenta	30	5.87	2.14	3.88	58	.000**
l				3.00	30	.000
Control	30	4.00	1.53	_		

^{*} Significant at (0.05) ** Significant at (0.01)

Chart (3) illustrates the participants' improvement level in the post-test of pedagogical knowledge of young learners (Knowledge of young learners and principles of teaching English to young learners) in favor of the experimental group.



Hypothesis 3

Hypothesis 3 stated that 'there would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of young learners (Planning and preparing young learner lessons) in favor of the experimental group.' Data analysis of the results in this study using *t-test*, as shown

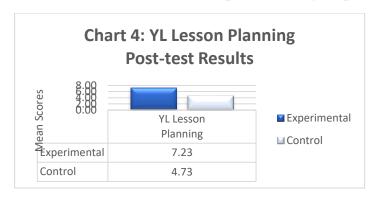
in Table (4), reveals that there is support for *Hypothesis 3* as the results from the experimental group post-test (M = 7.23, SD = 2.92) and the control group post-test (M = 4.73, SD = 1.38) indicate that the use of the flipped learning proposed strategy resulted in an improvement in pedagogical knowledge of young learners (Planning and preparing young learner lessons), t(58) = 4.23, p = .000. Therefore, *Hypothesis 3* is accepted as the results indicate a statistically significant difference in the means of scores obtained by the participants in the experimental group and those of the control group in the test of pedagogical knowledge to young learners (Planning and preparing young learner lessons) in favor of the experimental group with a large effect size as calculated by Eta squared (d = 1.09).

Table (4): The Results of the Post-test of YL Lesson Planning

YL lesson planning	N	Mean	SD	t-value	DF	p. value
Experimental	30	7.23	2.92	- 4.23	58	.000**
Control	30	4.73	1.38			

^{*} Significant at (0.05) ** Significant at (0.01)

Chart (4) illustrates the participants' improvement level in the post-test of pedagogical knowledge of young learners (Planning and preparing young learner lessons) in favor of the experimental group.



Hypothesis 4

Hypotheses 4 stated that 'there would be a statistically significant difference at the level of (0.05) between mean scores obtained by

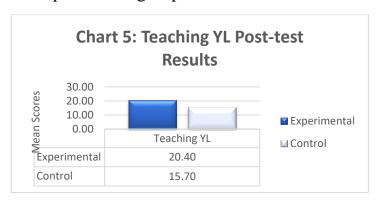
participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of YL (Teaching young learners) in favor of the experimental group.' Data analysis of the results in this study using t-test, as shown in Table (5), reveals that there is support for Hypothesis 4 as the results from the experimental group post-test (M = 20.40, SD = 3.61) and the control group post-test (M = 15.70, SD = 3.80) indicate that the use of the flipped learning proposed strategy resulted in an improvement in pedagogical knowledge of young learners (teaching young learners), t (58) = 4.90, p = .000. Therefore, Hypothesis 4 is accepted as the results indicate a statistically significant difference in the means of scores obtained by the participants in the experimental group and those of the control group in the test of pedagogical knowledge to young learners (teaching young learners) in favor of the experimental group with a large effect size as calculated by Eta squared (d = 1.27).

Table (5): The Results of the Post-test of Teaching YL

Teaching YL	N	Mean	SD	t-value	DF	<i>p</i> . value
Experimental	30	20.40	3.61	- 4.90	58	.000**
Control	30	15.70	3.80	— 4 .70	50	.000

^{*} Significant at (0.05) ** Significant at (0.01)

Chart (5) illustrates the participants' improvement level in the post-test of pedagogical knowledge of young learners (teaching young learners) in favor of the experimental group.



Hypothesis 5

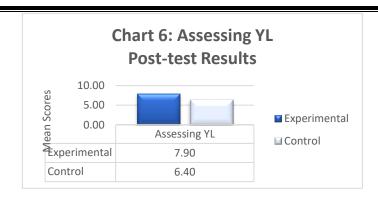
Hypotheses 5 stated that 'there would be a statistically significant difference at the level of (0.05) between mean scores obtained by participants of the experimental group and those of the control one in the post-test of pedagogical knowledge of YL (Assessing young learner learning through classroom-based assessment) in favor of the experimental group.' Data analysis of the results in this study using ttest, as shown in Table (6), reveals that there is support for Hypothesis 5 as the results from the experimental group post-test (M = 7.90, SD =2.04) and the control group post-test (M = 6.40, SD = 1.97) indicate that the use of the flipped learning proposed strategy resulted in an improvement in pedagogical knowledge of young learners (assessing young learner learning through classroom-based assessment), t (58) = 2.89, p = .005. Therefore, Hypothesis 5 is accepted as the results indicate a statistically significant difference in the means of scores obtained by the participants in the experimental group and those of the control group in the test of pedagogical knowledge to young learners (assessing learning through classroom-based young learner assessment) in favor of the experimental group with a large effect size as calculated by Eta squared (d = 0.748).

Table (6): The Results of the Post-test of Assessing YL

Assessing YL	N	Mean	SD	t-value	DF	p. value
Experimental	30	7.90	2.04	- 2.89	58	.005**
Control	30	6.40	1.97			

^{*} Significant at (0.05) ** Significant at (0.01)

Chart (6) illustrates the participants' improvement level in the post-test of pedagogical knowledge of young learners (assessing young learner learning through classroom-based assessment) in favor of the experimental group.



Discussion

The study's findings revealed that the proposed flipped learning strategy significantly improved the experimental group participants' pedagogical knowledge of teaching English to young learners and all its four domains. Therefore, all five hypotheses were accepted. These findings align with previous research studies that investigated the effect of FL on various aspects of EFL pre-service teachers' professional competence (Alsowat, 2016; Shehata, 2018; Masoud, 2019; Fares, 2021). The contribution of this study is that it empirically examined the impact of FL on EFL pre-service teachers' pedagogical knowledge of young learners. Research of this kind in the primary stage teaching methodology was absent in the Egyptian context even after introducing foreign language instruction into primary education and its paramount importance to young learners.

To explain the reasons for the improvement, the flipped learning design fidelity theory sheds light on how FL could positively impact students' learning. Kim et al. (2021) defined design fidelity as the degree to which a class is faithfully designed to be close to an ideal flipped learning class operationalized using the four proxy pillars (i.e., flexible environment, learning culture, intentional content, and a professional educator). Accordingly, high fidelity means that the learning situation was highly like the actual situation in which the learner's knowledge was used, maximizing the likelihood of a learner's

success in transferring knowledge and skills. FL design fidelity is high when the indicators under the four pillars are fully realized. It can achieve the intended goal of helping students become active participants who could engage in high-level cognitive processes toward knowledge integration. In contrast, low fidelity meant that the four pillars were not faithfully integrated into the design of FL; hence, learning experiences were passive, instructor-centered, and distant from what was expected.

It was evident from the study's findings that FL improved the participants' learning in all areas of pedagogical knowledge. Under the design fidelity theory, this improvement could be attributed to the high fidelity of the present experiment to an optimal FL design. Several indicators of the FL pillars were evident while carrying out the procedures in the current study. Through the FL strategy in this study, the four pillars of the flipped learning model were implemented by providing various opportunities to experience a variety of learning methods, such as mini-lectures, learner discussions, presentations, and online learning. Constructive and social constructive learning culture was promoted through weekly group discussions and learners finding answers for themselves. Besides, intentional content was delivered partly as pre-video lectures and partly as suggested in-class discussion topics incorporating pre-learning content into natural classroom settings. Furthermore, the researcher acted as a professional educator by preparing weekly lectures and discussions, providing feedback on group work and presentations, and scaffolding students during individual, pair, group, and whole-class discussions.

Despite the FL model's effectiveness in the present study, its use was challenging. One of the challenges of using FL was the need for more commitment from the students to come to class fully prepared, as required by the researcher. Tomas et al. (2019) reported that when students failed to come to class fully prepared by not completing pre-

class activities (e.g., watching lecture videos), their subsequent participation in class was less engaging and effective. A flipped approach assumes that communicative, group-based activities in the classroom are prepared before the class. Kerr (2020) assumes that if this preparation does not take place, the value of the communicative activity is undermined. An evaluation scheme should be in place to encourage the completion of pre-class work. Such schemes should be part of a broader institutional approach to evaluation. At a class level, the teacher can put fully prepared students to work in groups of students who have not done the work. They will soon discover the learning opportunities they miss by coming to class unprepared.

Despite the importance of students' responsibility for completing preclass activities and other self-regulatory behaviors in FL classes (Huang & Hew, 2018; Han & Klein, 2019; Sun & Xie, 2020), university students had difficulty developing and possessing proper self-regulatory skills (DiDonato, 2013). FL provides a context where learners can demonstrate autonomy, and learners with high selfregulated learning skills will likely succeed in flipped learning (Kim et al., 2021). Therefore, teacher educators who want to implement FL continuously should seek strategies to support students' self-regulated learning skills when designing FL classes. Learning analytics could also be used to obtain additional data, such as log data from the LMS about actual frequencies and time of participating in pre-class learning activities (e.g., watching video lectures, downloading reading materials), to triangulate data concerning students' self-regulated learning behaviors. For example, Lai and Hwang (2016) implemented a self-regulated monitoring platform designed to support their students' goal-setting and self-evaluation behaviors in FL classes.

Producing pre-recorded lecture videos was reported as another obstacle facing instructors in implementing FL (Roehl et al., 2013). Other challenges which face the effective implementation of FL in

class are when students need more technological skills, study skills, or a positive attitude towards using the flipped model. It was found that a great challenge students face during FL classes was the poor study habits and time management skills of some students (Buitrago & Díaz, 2018). Besides, not all students have access to either a suitable device, such as a tablet or a laptop, or a reliable data connection outside the classroom. Some other students may not have the necessary computer skills and will need training, mainly if a platform is being used for the delivery of content. For flipped learning to be effective, many students may need training in study skills both before and during their independent study. It was found that problems with understanding and completing assignments were the most cited challenge that teachers faced (Akçayır & Akçayır, 2018). It was also found that students who were used to more teacher-centered models of language learning found it challenging to adjust to flipped learning (Kostka & Marshall, 2017). To overcome these challenges, it is recommended that FL is done gradually. Teachers can start by flipping a small portion of the lesson before increasing the amount of instruction they flip (Voss & Kostka, 2019).

Implications for Teacher Education

It was asserted that the demand for qualified, competent, and well-trained teachers of English to young learners has become urgent (Dhaif-Allah & Aljumah, 2020). Having competent teachers can be achieved through carefully planned teacher education programs. It has been argued that developing professional knowledge is the most recent orientation to supporting a skillful start to a teaching career (Dhaif-Allah & Aljumah, 2020). It was also emphasized that allowing the current standards for certification in language teaching to assume that initial teacher education programs could generate deep and generative understanding of the teaching and learning process without making specific and explicit references to the pedagogical knowledge of young

learners was an academic travesty at best (Zein, 2017). Therefore, EFL teacher educators should emphasize children's differential psychology and design methodological courses to foster child-friendly pedagogy.

In the context of the English to young learners' classroom, the ability of teachers to articulate the specific references of pedagogical knowledge of young learners into discrete pedagogical tasks, activities, and materials should be the primary concern of FFL teacher educators (Zein, 2017). It is recommended that EFL teacher educators develop tasks, activities, and strategies that enable prospective teachers to transform their understanding of pedagogical knowledge into specific instruction appropriate to the young learners' pedagogy. Teacher educators can deliver pedagogical knowledge through activities that develop teaching expertise, such as engagement in critical reflection, access to past experiences, informed lesson planning, active student involvement, and simulated teaching. In doing so, teacher educators and policymakers, in developing EFL teacher education programs and policies, could deliver meaningful training experiences to teachers of English to young learners.

Recommendations

EFL professionals are strongly advised to incorporate the proposed flipped learning strategy in teaching the methodology courses and other courses. More attention should be given to developing the various domains of pedagogical knowledge of young learners in the training programs for in-service and pre-service teachers. Fostering a flexible environment, constructive and social learning culture, preparing intentional content, and empowering the professional educator should represent the priorities using the flipped learning strategy. Evaluation schemes at the classroom level and the institutional one should be in place to encourage the completion of pre-class work necessary for the success of flipped learning. Besides,

the students should be supported with the necessary technological skills, study skills, and positive attitudes toward using the flipped model.

Suggestions for Further Research

Suggestions for further research include conducting the following studies.

- 1- Using an FL strategy to develop EFL pre-service teachers' pedagogical content knowledge.
- 2- Investigating the effect of FL on developing EFL pre-service teachers' technological skills, study skills, and attitudes.
- 3- The effectiveness of an FL program in developing Faculty of Education EFL majors' joy of learning and willingness to communicate.
- 4- Using a proposed FL strategy to develop EFL pre-service preparatory stage teachers' pedagogical knowledge.
- 5- The effect of FL on developing EFL in-service teachers' professional practical knowledge, skills, and attitudes.

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