Cognitive Apprenticeship (CA) in TEFL: Investigating Teachers' Attitudes

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Abstract

Teaching English as a Foreign Language (TEFL) aims to develop long- life learners. Students need to be able to develop their language skills autonomously. Cognitive apprenticeship (CA) aims to enable students to acquire the skills needed to be experts in the field. CA ensures a dynamic interaction between students and their teachers while performing the learning tasks. The teacher organizes the learning environment to maintain using different interactive methods to offer the content. Sequencing of the content and skills developed is considered. The social learning opportunities prepares students to be responsible students. Teachers' attitude towards CA affects its application. This research discussed cognitive apprenticeship (CA) as a means to organize EFL instruction. Then, it investigated EFL teachers' attitudes towards CA. Results of the Chi- square Test indicated that EFL teachers had positive attitudes towards CA.

Key words: cognitive apprenticeship, EFL, attitudes & social learning

ملخص :

يستهدف تدريس اللغة الإنجليزية كلغة أجنبيه إعداد متعلم قادر على التعلم مدى الحياه. يحتاج المتعلمون إلى امتلاك القدرة على تنمية مهارات اللغة ذاتيا. تهدف التلمذة المعرفية إلى تمكين المتعلمين من اكتساب المهارات التي تؤهلهم ليصبحوا خبراء في اللغة الإنجليزية. كما تؤكد التلمذة المعرفية على التفاعل الدينامي بين المعلم و المتعلمين أثناء أداء المهام التعليمية. يقوم المعلم بتنظيم بيئة التعلم لضمان توظيف طرق التدريس التفاعلية في تقديم المحتوى الدراسي. وتتضمن طرق التدريس كل من النمذجة، الإرشاد، الدعامات المعرفية، التفكر، و الاستكشاف. كما يتم مراعاة التتابع في تقديم المحتوى. و تمكن فرص التعلم في سياق اجتماعي المتعلمين من تحمل مسؤولية تعلمهم. و تؤثر اتجاهات المتعلمون نحو التلمذة المعرفية أدائهم التدريسي لذا، يناقش هذا البحث التلمذة المعرفية كوسيله لتنظيم تدريس اللغة الانجليزية كلغة أجنبيه.

الكلمات الدالة: التلمذه المعرفية، تدريس اللغة الإنجليزية كلغة أجنبيه، التعلم في سياق اجتماعي

Introduction

The dream of a new educational system in Egypt becomes true. The Minister of Education states that the new system is applied at public and experimental primary schools in September 2018. The new system depends on administering a unified content based on themes that cover different subjects. Ethics and skills are top priorities and performance tests replace memorization tests in this system. Such a new system requires the implementation of a different teaching- learning model.

Education aims to form students' personalities, in addition to activating their minds. It socializes them to be responsible members of the community by developing their knowledge and shared values (UNDP, 2010). The transformation required in Egyptian education involves improving the learning experiences and outcomes of schooling. It means shifting the orientation of Egyptian schooling from the acquisition and repetition of knowledge to the development and demonstration of skills (OECD, 2015).

Cognitive apprenticeship (CA) aims to fill the gap between formal and informal learning. It sheds light on the application of formal learning in different situations (Lyons, McLaughlin, Khanova, & Roth, 2017). Teachers, as experts, guide students' learning in light of Vygotsky's zone of proximal development (Yilmaz, 2011). According to CA , teachers should design learning experiences that allow them to express their thinking strategies and guide students to apply such strategies independently (Du & Zhang, 2008). Traditional apprenticeship includes three components: modeling, scaffolding, and coaching. Cognitive apprenticeship has additional components: articulation, reflection, and exploration (Chan, Miller, & Monroe, 2009).

Brown, Collins, and Duguid (1989) suggest the first model of CA. It includes six steps: modeling, coaching, scaffolding, articulation, reflection, and evaluation. Teachers model how they think to their students. Students imitate such ways of thinking and teachers observe them. Teachers decrease their guidance so that students can be independent. Students articulate their ways of thinking. They reflect on their thoughts and compare them to the teachers' thoughts. Finally, students explore skills and knowledge to

develop their understanding. Dennen and Burner (2008) conclude that coaching and scaffolding aim to assist and support students' cognitive activities.

Collins et al. (1991) developed the previously mentioned CA model. They identified four CA components: content, methods, sequence, and sociology. Thus, the model offered by Brown, Collins, and Duguid (1989) was limited to the methods component. Content covers the knowledge and thinking strategies required to be an expert. Methods refer to the strategies used to develop skills needed to produce an expert. Sequence reflects organization, complexity, and diversity of the learning activities. Sociology highlights the social characteristics of a CA based learning environment, such as cooperative learning, situated learning, and motivation.

Applying CA requires making thinking visible and offering meaningful learning contexts (Collins et al., 1991). Applying cognitive apprenticeship is difficult since the cognitive processes are internal. The four dimensions of CA maintain that the learning environment develops students' thinking skills to be experts (Pinelli et al.,2018). Cognitive apprenticeship takes traditional apprenticeship to a higher level because it teaches explicitly the internal processes employed in complex cognitive tasks. Also, it aims to engage students in authentic learning contexts (Akondy & Murthy, 2015).

Cognitive apprenticeship depends on Vygotsky's social constructivist theory, specifically the zone of proximal development (ZPD). Coaching and scaffolding are offered to help students perform the learning tasks. CA creates a meaningful social context for students to observe and learn the experts' real practices (Kasinath, 2009). The zone of proximal development means that a student completes a task with the help of another, an expert. Finally, the student is able to complete similar tasks independently (Brown & Stefaniak, 2016).Teachers develop students' cognitive functions by asking them to explain, compare, contrast, and generalize their knowledge to different situations. Thus, students control their attention and think logically. Students depend on themselves to develop their competence (Shields & Gray, 2004).

Zimbardo and Leippe (1991) state that an attitude is the evaluation of something or someone along a continuum of like-to-dislike or favorable-to-

unfavorable. Maio and Haddock (2012) add that such evaluation is based on cognitive, affective, and behavioral backgrpund. Matsumoto (2009) states that attitudes are evaluation of objects resulted by thoughts. Attitudes affect beliefs and behaviors. Cline, Gulliford, and Birch (2015) discuss the theory of planned behavior, suggested by Ajzen in 1991. Behavior is the result of three major influences: personal attitudes towards the behavior, the subjective norm, and perceived behavioral control. Attitudes are personal views concerning a specific behavior. Subjective norm is the perception of the views of others, such as parents and teachers. Behavioral control means self-efficacy to apply a specific behavior.

Kafele (2013) defines teachers' attitudes as their will to succeed and achieve excellence. Positive attitudes enable teachers to teach effectively and inspire their students. Teachers' attitudes encourage them to plan for students' success and set goals for them to achieve. Teachers become role-models who challenge and engage their students. They self-assess their teaching daily to improve their practice. Teachers care about students' learning, appreciate and respect them, treat them fairly, and commit to their achievement. Such a definition of teachers' attitudes reflects the common features between CA and attitudes.

In sum, CA is an interactive model that aims to develop students' autonomous learning. It covers four main dimensions: content, methods, sequence, and sociology. Content refers to different types of knowledge included in the learning situation. Methods are the various strategies used by teachers and students in the learning situation. Teachers model the skills needed to perform a learning task while students observe them. They guide students to perform a similar learning task and observe them. Teachers offer support that fades away gradually. Students self-evaluate their learning processes. Then, they describe how they performed the task to their peers to exchange experience. Finally, they explore new learning tasks independently. Sequence, the third dimension of CA , refers to the order of difficulty and diversity. Finally, sociology means the social interactions in the learning situation.

The steps included in the CA are also followed when teachers' have positive attitudes towards students. Attitudes depend on cognition and affection. They determine teachers' behaviors in the classroom. The teaching practices reflect teachers' attitudes towards students, content, learning environment, and any other relevant variables. Such attitudes range along a scale of like and dislike. Positive attitudes lead to students' success. Positive attitudes create a win- win learning situation. Attitudes determine the degree of collaboration and level of motivation.

Review of Literature and Related Studies

Cognitive apprenticeship is a theoretical framework for designing learning environments (Kasinath, 2009; Woolley & Jarvis, 2007). CA focuses on teaching the cognitive and metacognitive skills needed in a specific subject. Teachers illustrate the cognitive processes used to handle complex tasks. They have to externalize their internal cognitive processes. The ultimate goal of CA is to enable students to apply their knowledge to new and complex situations (Kasinath, 2009).

Collins (2006) highlights that cognitive apprenticeship is different from traditional apprenticeship as it aims to apply cognitive skills in different contexts. Dennen (2004) adds that apprenticeship is a social learning method where teachers as experts help students achieve their goals. Cognitive apprenticeship focuses on students' cognitive and metacognitive skills. To summarize, CA is a framework for designing learning environments to develop students' cognitive and metacognitive skills to be experts in the field of study (Pinelli et al., 2018).

Cognitive apprenticeship encourages the teacher, as an expert, to visualize thinking. It ensures that the expert guides students' cognitive and meta-cognitive thinking processes (Lyons, McLaughlin, Khanova, & Roth 2017). Brown and Stefaniak (2016) summarize that in cognitive apprenticeship, students learn from an expert. The expert starts by modeling the skills needed to perform a learning task, then offers similar tasks to students. Farrell (2004) adds that CA develops students' motivation as they feel confident to finish the learning tasks.

Cognitivism as a learning theory appeared in the early twentieth century .It offers a new definition of learning (Yilmaz, 2011). According to cognitivism, learning means acquiring and reorganizing the cognitive units. Students actively participate in knowledge acquisition and integration (Simon, 2001). The learning environment should be suitable for students' cognitive structures (Sobel, 2001). Vygotsky's zone of proximal development is based on cognitivism. Vygotsky maintains the role of social interaction in learning. CA is influenced by Vygotsky's theory (Jarvis, Holford & Griffin, 2003; Schunk, 2004).

Yilmaz (2011) discusses the instructional implications of Vygotsky's social cognitive theory. According to Vygotsky, instruction should provide students with authentic situations. Learning is a socially meaningful activity where peers assist each other. Instruction should lead to development through the ZPD. Teaching is tailored to the needs, interests, and previous knowledge of students. The teacher offers meaningful learning contexts (Fenstermacher &Richardson, 2005). Halpern, Donaghey, Lamon, and Brewer (2004) maintain that in the CA based classroom, the teacher acts as an expert modeling different cognitive strategies such as articulation and reflection. Teachers offer student-centered learning activities and students are encouraged to take responsibility of their learning.

Darabi (2005) states that there are four components of cognitive apprenticeship: methods, content, sequencing of material, and sociology. From the part of the student, methods include articulation, reflection, and exploration while they include modeling, scaffolding, and coaching from the part of the teacher. Content covers learning strategies, control strategies, heuristic strategies, and domain knowledge. Sequencing of materials depends on the teacher who increases diversity and complexity while decreasing generalities. Sociology focuses on students' cooperation, intrinsic motivation, community of practice, and situated learning.

Dickey (2007) investigated the integration of a cognitive apprenticeship model in an educational technology course for pre-service teachers at Miami University. Participants were 42 students enrolled in 11 different education programs. Students' reflection and lecturers' observations revealed that the

use of different CA based methods developed participants' skill knowledge. Modeling, coaching, scaffolding, and exploration encouraged participants to integrate technology in their learning and teaching.

CA includes four main components: content, methods, sequence, and sociology. The following section discusses the main components and sub components of CA.

Cognitive Apprenticeship

- **Content**
  - -Domain knowledge
  - -Strategic knowledge
  - -Control strategies
  - -Heuristic strategies
  - -Metacognitive strategies
- **Methods**
  - -Modeling
  - -Coaching
  - -Scaffolding
  - -Articulation
  - -Reflection
  - -Exploration
- **Sequence**
  - -Complexity
  - -Diversity
  - - Global to local skills
- **Sociology**
  - -Situated learning
  - -Community of practice
  - -Intrinsic motivation
  - -Cooperation

- **Content**

According to Brown and Stefaniak (2016), Collins (2006), Chris (2018), and Pinelli et al. (2018), content refers to different types of knowledge and strategies that students need to be experts in a subject. Domain knowledge covers concepts, facts, and procedures. Strategic knowledge supports student's ability to use concepts, facts, and procedures in different learning situations. Strategic knowledge includes heuristics, control, metacognitive, and learning strategies. Heuristic strategies are applicable techniques suggested for accomplishing the learning tasks. Control strategies direct students to solve problems. Metacognitive strategies are thinking about thinking strategies. Learning strategies are strategies for learning domain knowledge. They tackle how to learn new concepts, facts, and procedures.

Harris, Graham, Brindle, and Sandmel (2009) add that metacognitive strategies mean monitoring and diagnosing students' learning. They include planning, monitoring, and evaluating. Planning is identifying the strategies used to achieve the learning outcomes according to available resources. Monitoring refers to analysis of the effectiveness of the strategies used. Evaluation means assessing the learning progress in light of the outcomes achieved.

Saricoban and Behjoo (2017) investigated the effect of metacognitive awareness of reading strategies on developing EFL reading comprehension skills. Participants were 82 first year EFL students at a university in Turkey. Students' metacognitive and reading awareness were measured by two questionnaires. Results indicated the effect of metacognitive awareness in developing EFL reading comprehension skills.

- **Methods**

This component discusses strategies used to engage students in the learning context. They provide cognitive support to students to be able to achieve different learning tasks. This component includes six strategies highlighted in the following.

Modeling

The teacher, as an expert, performs a task and students observe to build a conceptual model of the cognitive processes used. The expert performs an authentic task and verbalizes the cognitive processes to be visible to students. Students watch the teacher modeling the steps needed to perform a task. Teachers as experts model the steps to be followed by students. The teacher orients students for modeling. Successful modeling leads to cognitive independence. The teacher acts as an expert and students as apprentices. Modeling means that a teacher performs a task and describes the thinking processes, skills, and strategies to students while observing (Collins, 2006; Collins, Hawkins, & Carver, 1991; Chris, 2018; Dennen & Burner, 2008, Enkenberg, 2001; Pinelli et al.,2018;Yilmaz, 2011, & Tsai et al., 2017).

Coaching

Coaching means that the teacher monitors students while performing a learning task. The teacher observes students to facilitate the learning process. The teacher offers feedback, hints, guidance, and prompts to enable students adapt the processes and strategies that an expert uses. Coaching aims to help students perform the task like experts. The teacher provides needed assistance by providing individual attention on students' difficulties. The teacher motivates students, provides assistance, and asks questions. The teacher further prepares students to expect difficulties and modify their performance to achieve the learning outcomes (Austin, 2009; Bean & Stevens, 2002; Chris, 2018; Dickey, 2007; Enkenberg, 2001, Kuo, Hwang, Chen, and Chen, 2012; Pinelli et al. 2018; Stalmeijer , 2015; Yilmaz, 2011).

Meng, Tajaroensuk, and Seepho (2013) used the Multilayered Peer Coaching Model to offer professional development for tertiary EFL teachers. Participants were 105 EFL teachers and students at Guiyang University in China. Data collected using tests, observations, teacher's logs, field notes, and questionnaires. Results indicated that the Multilayered Peer Coaching had positive impact on the tertiary EFL teachers' in-service professional development. Both teachers and students benefited from this

model. The model enriched teachers' professional knowledge and competence, in addition to developing students' interest in learning English.

Scaffolding

The teacher provides support to help students perform the learning tasks independently. Scaffolding decreases gradually until students perform the learning task independently. Scaffolding affects students cognitively and emotionally. It develops students' skills and knowledge on the one hand and their motivation and confidence on the other hand. Hints, models, analogies, and demonstrations are offered to support the cognitive development needed for performing the learning tasks. It also focuses on students' success and avoids their failure. In scaffolding, students participate in a learning task under the observation of the teacher who guides and withdraws gradually. Scaffolding targets developing students' skills and strategies to be able to practice independently (Austin,2009; Chris, 2018; Collins, 2006; Enkenberg, 2001; Kuo, Hwang, Chen& Chen, 2012; Pinelli et al.,2018;

Yilmaz, 2011).

According to function, scaffolding may be conceptual, meta-cognitive, procedural, and strategic. Conceptual scaffolding includes hints and recommendations. Meta-cognitive scaffolding provides students with elements to plan, organize, reflect, and regulate their learning. Procedural scaffolding includes support on how to perform a task, action, or process, whereas strategic scaffolding includes elements to support students in how to apply knowledge, principles, and experiences to different situations (Dickey, 2007 ; Enkenberg, 2001)

Yang (2015) investigated the effect of automatic scaffolding and measurement of three-layer concept maps on improving students' writing summaries. The three-layer concept maps consisted of the central idea of the title, the main idea of each paragraph, and the supporting ideas of each paragraph. Participants were 107 EFL university students in Taiwan. They were divided into an experimental and control groups. Automatic scoring of students' summaries revealed that the experimental group outperformed the control one in summary writing skills.

Articulation

Teachers cannot observe students' thinking processes. They encourage students to verbalize their understanding, reasoning, and strategies used in performing the learning tasks through verbalizing their knowledge and thinking processes. Students describe the cognitive processes needed to perform the learning task. They offer justifications for their choices. They think aloud how they performed the task and offer reasons for the strategies used. Articulation makes students' learning processes explicit so that teachers can modify inappropriate use of strategies. Students can express their learning difficulties. Offering logical reasons ensures understanding. Practice makes the articulation process automatic. Students can describe the steps followed to perform the task (Chris, 2018; Collins, 2006; Dennen & Burner, 2008; Enkenberg, 2001; Kuo, Hwang, Chen, & Chen, 2012; Maher , Gilmore, Feldon , & Davis, 2013; Pinelli et al., 2018; Tsai ,Peng, Yong, Wang, &Yu, 2017; Yilmaz, 2011).

Wang (2016) used the think-aloud protocol to show the differences between more successful and less successful EFL readers in the use of reading strategy and comprehension performance. Participants were 10 first year university students in Taiwan. They were divided into five pairs. Each pair participated in four think-aloud reading tasks and answered reading comprehension questions on reading texts. Statistical analysis of the reading scores of the most successful pair and the least successful pair among the five pairs indicated that the most successful scored higher on the comprehension questions and performed think-aloud reading better than the other pairs.

Reflection

Students compare the skills and strategies used to perform the learning task to the ones used by the expert. They compare their cognitive processes to those used by their teachers. Students may compare their actions to their peers' actions. They analyze their performance and externalize their cognitive models. They exchange reflection with the teacher and their peers to enrich their learning. They explain their learning processes and illustrate how to achieve the learning outcomes. They compare their knowledge to

others. Teachers should encourage students to reflect on their learning until reflection becomes a learning habit (Chris, 2018; Collins, 2006; Enkenberg, 2001; Yilmaz, 2011).

Person and Graesser (2004) conclude that reflection helps students relate new knowledge to previous knowledge. It enables students to apply knowledge and strategies to new situations. Reflection enables students to improve their performance (Butterworth & Thwaites, 2013). Students compare their performance to others (Pinelli et al.,2018). Reflection encourages students to self-analyze and assess their learning (Dennen & Burner, 2008).

Faraj (2015) investigated the effect of scaffolding on improving students' writing skills. Scaffolding was offered during the writing processes. Participants were 30 second-year university students, enrolled in the English Department, School of Languages in Iraq. One group pre –post- test design was used. Results of the post- test revealed the development of participants' EFL writing skills. This was attributed to the scaffolding offered by the teacher during the writing processes.

Exploration

Exploration achieves the ultimate goal of cognitive apprenticeship: the generalization of skills and strategies learned. Students should be able to apply the skills to new situations. They should be able to solve real life problems. They should tackle different aspects of the problem from different perspectives. Exploration develops students' autonomy. Students become able to think independently and find new ideas and viewpoints. Teachers should offer students opportunities to explore their strengths and weaknesses (Chris , 2018; Collins, 2006; Kuo, Hwang, Chen, & Chen, 2012; Enkenberg, 2001; Tsai et al., 2017).

Exploration means that the teacher invites students to suggest problems and solve them (Pinelli et al., 2018). Exploration is the formation and testing of students' problems (Dennen & Burner, 2008). Exploration

includes that students should be able to identify their learning goals and evaluate their achievement. Exploration encourages the transfer of knowledge to new situations. They can try different methods and strategies in learning. Within a cognitive apprenticeship framework, students are encouraged to explore new ideas, form hypotheses, and test them. New learning opportunities enable students to apply cognitive processes to new challenges (Maher et al., 2013; Yilmaz, 2011).

Abdolrezapour and Fallah (2015) investigated the effect of reflective teaching on Iranian EFL students' autonomy and intrinsic motivation. Participants were 60 students enrolled in a Language Institute in Iran. They were divided into an experimental and control groups. A reflective teacher, according to the scores on the Reflective Teaching Questionnaire, taught the experimental group 10 sessions on TOEFL preparation while the control group was taught by an unreflective teacher. Statistical analysis of students' scores on the Intrinsic Motivation Questionnaire and the Student Autonomy Questionnaire revealed that reflective teaching developed students' autonomy and intrinsic motivation.

- **Sequence**

Teachers should consider the order of learning tasks according to the skills and concepts needed to become an expert. Sequencing means the gradual increase of complexity and diversity in the learning situation. It includes three main principles:

Increasing complexity: Teachers should gradually increase the difficulty of the learning tasks. Skills and concepts included in meaningful tasks increase gradually to enable students to be experts.

Increasing diversity: Diversity refers to the variety of strategies or skills included in the learning tasks, in addition to their application in various situations. When students' proficiency develops, teachers offer practices in different situations to emphasize the generalization of knowledge.

Global to local skills: Teachers encourage students to think of the whole instead of the parts. Students should understand the whole then focus on the parts. They understand the learning task as a whole then divide it into parts.

They focus on the overall activity to monitor their progress (Brown & Stefaniak, 2016; Chris , 2018; Kuo et al.2012; Pinelli et al.,2018; Stalmeijer , 2015; Yilmaz, 2011)

- **Sociology**

The social learning theory maintains that learning occurs in a social context that depends on modeling and observation. Sociology focuses on the social characteristics of the learning environments (Halpern, Donaghey, Lamon, & Brewer, 2004). Learning is a social process that encourages collaboration. The sociology of the learning environment refers to the real-world contexts of administering the learning tasks. CA aims to develop students' intrinsic motivation to learn and communicate (Loyens, Rikers, & Schmidt, 2006; Stalmeijer, 2015). Cognitive apprenticeship suggests that learning environments should include these sociological aspects:

Situated learning

Situated learning means learning in an authentic context. The learning environment should reflect the nature of the real world. Students perform real learning tasks similar to the ones faced in life (Akondy & Murthy, 2015; Brown & Stefaniak, 2016; Chris, 2018; Pinelli et al.,2018).

Abdallah and Mansour (2015) examined the effectiveness of a virtual task-based situated language-learning environment in developing EFL student teachers' pragmatic writing skills and their technological self-efficacy. Participants were 20 second year EFL students at Assuit Faculty of Education. They were divided into a control and experimental groups. Pragmatic Writing Skills Test, Academic Self-Efficacy Scale, and E-portfolio for formative assessment were administered to the participants. Results indicated the effectiveness of the virtual task-based situated language environment in developing participants' pragmatic writing skills and technological self-efficacy.

Community of practice

Students engage in a community to perform real life learning tasks. They discuss different ways to accomplish meaningful tasks (Chris, 2018). Students deal with different levels of expertise in an authentic learning

environment, they need to be a member of the community of practitioners to exchange ideas (Akondy & Murthy, 2015).

Abdallah (2013) examined the effect of Community of Practice (CoP) design facilitated by Facebook to integrate some new forms of online writing in teacher preparation. Participants were 70 third-year EFL student teachers at Assiut Faculty of Education. The learning tasks were introduced both face to face and online, through Facebook. A design narrative technique was administered to assess the CoP. It was concluded that Community of Practice enhanced the integration of collaborative writing, connective writing, and reflective writing.

Intrinsic motivation

The learning tasks administered in the CA based environment should satisfy students' internal needs. The tasks should be related to a goal of interest to students. Students set personal learning goals. Students participate in the CA environment as they have a personal desire to learn. Students perform the learning tasks to achieve personal goals instead of following external reasons, like getting a good grade or pleasing the teacher (Akondy & Murthy, 2015;Loyens, Rikers,& Schmidt 2006; Stalmeijer , 2015).

Cooperation

Tenbrink (2004) highlights the goals of cooperative learning: academic achievement, acceptance of diversity, and development of social skills. In a cooperative learning lesson, the teacher highlights the learning outcomes and social skills targeted. The teacher illustrates how the groups are formed and introduces the content of the lesson. Students learn through cooperative tasks and the teacher encourages their interdependence. The teacher assists students before assessing their work. The teacher thanks students' for their cooperation.

Farrell (2004) adds that in cooperative learning, students work together to achieve the learning outcomes. The teacher identifies the learning outcomes, highlights students' responsibilities, and provides them with opportunities to achieve the learning outcomes. The teacher's role is to guide, monitor, and assess students. Cooperative learning develops students' knowledge and values.

Espinel and Canaría (2010) examined the effect of cooperative learning on students' speaking skills in English. Participants were 37 seventh graders at a public school in Colombia. Data were collected through interviews, field notes, students'
reflection, and audio recordings. The findings revealed that cooperative learning developed students' speaking skills. Participants enjoyed the experience as it satisfied their preferences and developed their skills and personality traits.

Lowery (2010) examined the effect of reading apprenticeship on developing students' achievement and attitudes. Participants were 104 first year students enrolled at the southern state university. They were divided into an experimental group and a control one. The experimental group received the literature course using reading apprenticeship, while the control group received the traditional method. The researcher administered the Rhody Secondary Reading Attitude Survey and the Accuplacer-Reading Comprehension Test at the beginning and end of the semester. Data analysis of students' results revealed that reading apprenticeship developed students' attitudes, while its effect on achievement was not statistically significant.

To summarize, CA consists of four main components: content, methods, sequence, and socialization. Content refers to domain and strategic knowledge of a specific subject. Methods include six main strategies. Modeling means that the teacher performs a learning task and students observe. Coaching means that the student performs the task and the teacher observes and guides. Scaffolding is the support offered to facilitate the performance of the task. Articulation is the verbalization of the mental processes used to perform the learning task. Reflection is self-assessment of the mental processes and comparing one's processes to the processes used by others. Exploration is the generalization of the skills learned to different tasks. Sequence, the third component of CA, refers to the order of complexity and diversity of the learning tasks. Socialization refers to the authentic social contexts of the learning situations. It may be in the form of situated or cooperative learning. Socialization aims to develop students' intrinsic motivation.

Dennen (2004) states that apprenticeship is a social learning approach that helps students become experts. Teachers offer authentic learning tasks to encourage social engagement among students. Using various methods in the CA makes students believe that there are different levels of expertise. CA enables students to accomplish a task through different degrees of skills. It maintains that learning is a continuous process. Brandes and Boskic (2008) add that CA enables students to build background knowledge, relate new knowledge to prior knowledge, and evaluate the learning process.

Ghaderpanahi (2012) examined the impact of authentic aural materials on developing EFL listening comprehension skills . Participants were 30 female students enrolled in an EFL class at a university in Tehran. Students' scores on the listening comprehension post -test exceeded their scores on the pre- test. Also, data collected from interviews revealed that participants had positive views on the use of authentic materials in EFL listening classes.

Yilmaz (2011) concludes that the ultimate goal of CA is to help students generalize knowledge and skills learned. Students apply them in new contexts similar to the original ones. They explore real- life problems instead of repeating conceptual knowledge. Smith et al. (2003) further add that students learn from one another while performing the learning task as a student may have more knowledge than another. The teacher as an expert fills the gap of knowledge among students and offers support.

Liu (2005) tried to investigate the effectiveness of using CA to construct a web-based learning model on developing student teachers' performance and attitudes on instructional planning. Participants were 24 students enrolled in a Teacher College in Taiwan. They were divided into an experimental and control groups. The experimental group received the web-based cognitive apprenticeship model, while the control one received traditional training. Data were collected using The Instructional Planning Performance Rating Scale and Attitudes toward Instructional Planning Scale. Results of statistical analysis revealed that the experimental group outperformed the control one on their performance and attitudes of instructional planning.

CA develops students' high-order thinking skills (Kuo, Hwang, Chen, & Chen 2012). Evaluation, problem solving, and decision- making are high-

order skills compared to knowledge, recalling, and understanding. High order thinking skills refer to independent application of knowledge in different situations (Butterworth & Thwaites, 2013). Tenbrink (2004) adds that high- order thinking includes reasoning which means applying knowledge to make decisions or form judgements. Butterworth and Thwaites (2013) conclude that high-order thinking includes analysis, evaluation, explanation, inference, problem solving, and reasoning. Analysis means to identify the main parts and constructing them to reflect the same meaning. Evaluation means to judge according to evidence. Inference means to draw conclusions according to information.

Attitudes

Finestone (2004) defines attitudes as beliefs and opinions that drive students to do specific behaviors. Such beliefs are formed by personal experiences. Students either change their attitudes or behaviors to be consistent with each others. Self-awareness increases the consistency between attitudes and behaviors. Gross (2015) adds that attitudes depend on students' knowledge and experience. Diamond (2008) maintains that students' attitudes affect their learning. Pawlak et al. (2003) illustrate that learning connected with a happy or positive emotional experience allows storing information in the long- term memory. In contrast, learning associated with stress and anxiety is stored in short -term memory (Pawlak et al., 2003).

Petty (2012) mentions that attitudes reveal the extent of like or dislike towards a person, object, or issue. Attitudes are formed by cognitive, behavioral, and affective factors. Crano and Prislin (2006) assert that attitudes are the reasons behind people's cognitive and affective reactions. Attitudes guide people's thoughts and behaviors. According to Pickens (2005), attitudes explain people's reactions. They include feelings, thoughts, and actions.

Franzoi (2011) describes attitudes as positive or negative evaluation of objects. Objects include people, things, events, and issues. Describing attitudes depends on words such as like, dislike, love, hate, good, and bad. Attitudes are formed through exposure, conditioning, reference group

influence, and unconscious awareness. Discussion and persuasion change attitudes. Cognitive dissonance is a feeling of discomfort caused by performing actions inconsistent with attitudes.

Petty (2012) explains that an attitude change refers to modifying one's evaluation of a specific object. It reflects shifting form a value to another. Discussing a specific topic generates ideas that change people's attitudes. Matsumoto (2009) highlights that an attitude change refers to any change in students' evaluation. Abraham, Kok , Schaalma , and Luszczynska (2011) suggest some techniques to change attitudes. The teacher should provide general information on a specific behavior. Then, the teacher introduces the positive and negative consequences of the behavior. The teacher describes the feelings associated with the behavior. The teacher encourages students to self-assess the consequences of the behavior. The teacher creates dissonance between students' values and the behavior. Students judge the behavior to end the discrepancy. Merrïenboer, Klink, and Hendriks (2002) emphasize that attitudes are judgments that cause behaviors. Though attitudes are relatively stable, they change.

Changing attitudes requires targeting the cognitive and emotional components (Moore, 2003). Attitudes are influenced by the social world which is simultaneously affected by attitudes. Students' socialization process forms their attitudes. The socialization process includes the formation of values and beliefs during childhood. Family, religion, and culture influence the socialization process (Pickens, 2005).

Fazio and Olson (2003) maintain that attitudes are hypothetical constructs that cannot be measured directly. Students' responses to questions can reflect their attitudes. In contrast, Matsumoto (2009) states that attitudes can be measured directly or indirectly. Direct measurement includes attitude reports. Indirect measurement depends on associations. Attitude-behavior consistency is the degree to which an attitude towards an object matches behaviors. Attitudes can be positive, negative, or neutral and can range from moderate to extreme.

Haddock and Maio (2012) assert that reporting an attitude requires expressing evaluative judgement about an object. The object may be an issue, thing, or person. It includes expressing liking or disliking, approving

or disapproving, and favoring or disfavoring. Gross (2015) further adds that attitude scales use standardized statements to describe the attitude measured. Each statement reflects the same meaning for all respondents and attitudes are quantified in the form of numerical scores.

Haddock and Maio (2012) add that attitude scales ask students to describe their attitudes. Students consciously think about the attitude being measured. Likert scale represents the common measure of attitudes. The scale includes a number of statements. Students select strongly agree, agree, neutral, disagree, or strongly disagree. Likert scales are the most common form of attitude scales. They assign quantitative values to the degree of respondents' evaluative beliefs about a particular person, group, object, or idea.

Commentary

The ultimate goal of TEFL is to prepare students to be experts in English, which can be achieved through CA. Teachers of EFL encourage students to interact with authentic learning tasks to be able to generalize the acquired language skills in real life. CA can organize the EFL learning tasks according to complexity and diversity. The aim of articulation in CA is to encourage students apply knowledge, concepts, and skills in unexpected situations. Learning EFL is an individual process. Students at the same class have different levels of EFL skills. Thus, scaffolding offered in the CA based sessions help to fill the cognitive gaps among students. Different components of CA developed EFL skills.

CA intends to make students watch and do. Learning EFL skills requires observation. CA depends on modelling to enable students observe the integration of different language skills. Coaching allows teachers to observe students' performance in order to offer them immediate feedback. CA focuses on cognitive and metacognitive skills. Such skills in EFL sessions are offered according to a specific sequence using situated language learning tasks. CA also develops students' social skills, such as cooperation.

According to Palaigeorgiou, Siozoz, Konstantakis, and Tsoukalas (2005), attitudes are positive or negative feelings that cause a specific

mental state. Such a mental state affect teachers' actions. Since attitudes determines behaviors, attitude change leads to behavior modification. An attitude has three components: affect, cognition, and behavior. Affect refers to feelings and cognition refers to knowledge towards a specific object. A Behavior is the reaction towards a specific object according to affects and cognition (White, 2007). Attitudes control students' learning motivation. Negative attitudes reduces learning motivation and consequently learning achievement (Merisuo-Storm, 2006). Attitudes are emotional and evaluative acts towards specific objects.

In conclusion, CA develops students' cognitive, affective, and social skills, which are the main components of attitudes. Modeling, coaching, and scaffolding develop students' cognitive skills. Situated learning, community of practice, and cooperative learning develop students' social skills. Reflection and exploration develop students' intrinsic motivation. Students' motivation affects their emotions and feelings, which consequently determine their behaviors. Such behaviors include the ability to verbalize their thinking and compare their thinking processes to others. Students' judge their learning and develop their learning strategies. Attitudes are judgements according to social and cognitive experiences. CA offers social, cognitive, and affective experiences that affect students' attitudes. Finally, CA ensures discussion and cooperation to help students' change their negative attitudes and reduces any discrepancies.

Research Problem

The Global Competitiveness Report for 2013-2014 issued by the World Economic states that Egypt is the last country in the list of the quality of education (World Economic Forum,2013). The Ministry of Education in Egypt aims to achieve education democracy by offering equal educational opportunities for every student (The National Center for Educational Research and Development,2008). Since May 2018, The Ministry of Education in Egypt cooperates with the World Bank for Supporting Egypt Education Reform Project. One of the objectives of the project is to increase the percentage of teachers demonstrating improved teaching practices (The World Bank,2018). This implicitly means that teachers' practices in Egypt need development. CA improves teachers' practices as well as the learning

environment and students' learning. Teachers' attitudes towards CA affect their teaching practices (Chai, Khine, & Teo, 2006). To the best knowledge of the researcher, there is a paucity of research discussing the use of cognitive apprenticeship to develop EFL teachers' teaching practices.

The problem could be summarized as follows:

EFL teachers' teaching practices need improvement. Hence, this research attempts to highlight teachers' attitudes towards CA as a model to improve their teaching practices.

Research Questions

This research provides an answer to the following questions:

-What are EFL teachers' attitudes towards CA?

-What are the reasons underlying teachers' attitudes towards CA?

Research Hypothesis

There were statistically significant differences among the participants' score frequencies at ($\alpha \leq 0.01$) level on the Teachers' Attitudes towards CA Questionnaire.

Research Aim

This research aims at illustrating the components of CA, highlighting the benefits of using CA in EFL classrooms, and exploring teachers' attitudes towards CA.

Research Significance

The significance of this research could be summarized in the following:

1-Investigating EFL teachers' attitudes towards CA.

2- Highlighting the effectiveness of using CA in developing different EFL skills.

3-Providing guidelines for integrating CA in EFL sessions.

Research Delimitations

Several delimitations were identified in this research:

1-Participants were delimited to 20 preparatory stage EFL teachers in North Sinai Governorate.

2-Six participants were involved in semi-structured interviews.

3-Teachers' attitudes towards the CA components: content, methods, sequence, and sociology.

Definition of Terms

Cognitive apprenticeship (CA)

For the purposes of this research, CA refers to a model for organizing the teaching-learning environment. It includes four main components: content, methods, sequence, and sociology. The teacher becomes an expert helping students to be experts too.

Attitudes

In this research, attitudes refer to teachers' judgements on some teaching practices based on CA. Attitudes are feelings formed by knowledge and social experiences. They affect teachers' teaching practices.

Method

The research adopted the explanatory mixed method design. According to Creswell and Clark (2007), the explanatory mixed method design is a two-stage design. The first stage gathers quantitative data from the participants, while the second stage gathers qualitative data from the same participants to enrich and explain the quantitative results. In the first-stage, participants answered a Teachers' Attitudes towards CA Questionnaire to collect quantitative data regarding teachers' overall attitudes towards CA. In the second stage, six of the participants were selected purposely to respond to a semi-structured interview, administered by the researcher. They offered further explanation of their responses on the questionnaire. The data gathered from the interviews provided in-depth information to explain the results of the questionnaire.

Participants

Participants were 20 preparatory stage EFL teachers in North Sinai. They were randomly selected to answer the Teachers' Attitude Questionnaire towards CA. Then, six of the participants were purposely selected according to their willingness to participate in a one to one interview.

Instrumentation

Teachers' Attitudes towards CA Questionnaire.

The items of the questionnaire were suggested by related studies and literature previously discussed, for instance Liu (2005), Lowery (2010), Haddock and Maio (2012), and Gross (2015).

Purpose of the Questionnaire

The purpose of the questionnaire was to provide profiles of EFL teachers' attitudes towards CA.

Construction of the Questionnaire

The questionnaire covered the four main components of CA : Content, methods, sequence, and sociology. Every sub- component of a main component was described in an item as shown below:

First, content

It referred to teachers' attitudes towards the knowledge and skills that students needed to be experts. It covered the following items:

-I enjoy explaining key ideas, vocabulary, and function for each lesson.

-Students' ability to generalize vocabulary and function in different learning situations increase my confidence.

-I like offering students techniques for accomplishing the learning tasks.

-I prefer offering different learning strategies to help students achieve the learning outcomes.

-I enjoy analyzing students' learning metacognitive strategies.

Second, methods

They referred to teachers' attitudes towards the strategies used to offer students cognitive support. Such strategies enabled students to achieve the learning outcomes. This component contained the following items:

-I like verbalizing the cognitive processes of learning tasks to facilitate students' learning.

-Monitoring students while performing a learning task is interesting.

-I prefer guiding students' learning and withdrawing gradually.

-I feel enthusiastic when encouraging students to verbalize their knowledge and thinking processes.

-I am pleased to see students compare their cognitive processes to those used by me.

-I feel confident when students apply the learned skills to new situations.

Third, sequence

It highlighted teachers' attitudes towards organizing the learning tasks gradually according to their complexity and diversity. It tackled the following:

-I enjoy gradually increasing the difficulty of the learning tasks.
-I like offering various learning experiences.
-I feel confident when students think of the whole before its parts.

Fourth, sociology

It tackled teachers' attitudes towards the social experiences offered to students during their learning. It contained these items:

-I enjoy offering authentic learning contexts.
-I like being a member of a community of practice to exchange experience with students.
-I am happy to elicit students' personal desire to learn.
-Developing students' interdependence through cooperative learning tasks interests me.

Validity of the Questionnaire

In order to examine content validity of the questionnaire. It was introduced to jury members who were gently asked to:

- Determine the CA based practices followed by EFL teachers.
- Suggest any additional practices that need to be included in the questionnaire.

According to the recommendations of the jury members, the questionnaire was modified (kindly see Appendix 1).

The questionnaire was piloted on 20 EFL teachers at a public school in North Sinai. The intrinsic validity of the questionnaire was proven through using Cronbach's Alpha. The validity co-efficient value for the questionnaire was (0.972), which is a high value. The discriminatory validity of the questionnaire was calculated by ranking the teachers' grades in descending order, then selecting the Upper Group (top 27% of the sample) and the lower Group (lowest 27% of the sample). The difference between the two groups was calculated to identify the critical ratio, as shown in this table:

Table 1: The Critical Ratio of Teachers' Attitudes towards CA Questionnaire

Critical Ratio	Significance
15.863	Significant at the 0.01 level (2-tailed)

As shown above, the value of critical ratio is greater than the standard score (2.58).The critical ratio is statistically significant at the 0.01 level and questionnaire is discriminatory.

Reliability of the Questionnaire

The reliability of the questionnaire was proven through Split-Half Coefficient (Spearman-Brown). The reliability co-efficient values for the each dimension of the questionnaire and for the whole questionnaire are illustrated in the following table:

Table 2: Reliability Coefficient Values of Teachers' Attitudes towards CA Questionnaire

Dimensions	Split-Half Coefficient (Spearman-Brown)
Content	0.570
Methods	0.860
Sequence	0.954
Sociology	0.974
Total Questionnaire	**0.971**

As shown in the previous table, the coefficient values of the questionnaire and its dimensions are high values of reliability**.**

Administration of the Questionnaire

The questionnaire was administered to 20 EFL preparatory stage teachers. It was introduced with no time limit. They were asked to answer all the items included. The participants were asked about their degree of agreement with each statement of the attitude questionnaire according to a 5-point Likert scale. They were also told that there was no right or wrong answer and their opinions were confidential.

The Semi-structured Interview

Purpose of the interview

It aimed at gathering further information on EFL teachers' attitudes towards CA. It sought justifications from the part of the participants for their answers on the attitude questionnaire. It highlighted the underlying factors behind teachers' attitudes towards CA.

Construction of the Interview

The interview questions were based on participants' answers to the questionnaire. The questions aimed to gather additional explanation of teachers' attitudes towards CA by highlighting the reasons underlying their responses. The questions covered the items with the highest mean scores of strongly disagree and strongly agree. The interview included the following questions:

-Do you think that students should generalize the learnt vocabulary and functions?

-Do you believe that metacognitive learning strategies facilitate students' learning?

-Can you verbalize the cognitive processes of the learning tasks?

-Do you encourage students to compare their cognitive processes to those used by their colleagues?

-How can you develop students' motivation towards EFL learning?

Administration of the Interview

The researcher held the interview with six participants after gathering quantitative data through the Teachers' Attitudes towards CA Questionnaire. Participants were allowed to express their thoughts and feelings according to specific questions, with no time limit. Such questions aimed to clarify the reasons for participants' attitudes towards CA.

Procedures

Participants of the study answered The Teachers' Attitudes towards CA Questionnaire in August 2018. Collecting quantitative data through the questionnaire was followed by the administration of semi-structured interviews. The interviews were administered to six participants to highlight the reasons for teachers' attitudes towards CA.

Data Analysis

Data analysis was conducted using the) were used in data analysis.

Results

In this section, results are presented in terms of the research Statistical Package for Social Science (SPSS), Version 16. Descriptive statistics (means and standard deviations hypothesis:

There were statistically significant differences among the participants' score frequencies at ($\alpha \leq 0.01$) level on the EFL Teachers' Attitudes towards CA Questionnaire.

The Chi-Square Test calculated the participants' score frequencies on the Teachers' Attitudes towards CA Questionnaire as shown in the following table.

Table 3: Chi Square Values for Teachers' Attitudes towards CA

No.	Responses											Chi-Sq.	Sig.at (0.01)	In favor of	Mean	Std.
	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Sum					
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%						
1	8	40%	8	40%	4	20%	0	0%	0	0%	20	16.00	Significant	Agree and Strongly Agree	4.20	0.77
2	14	70%	2	10%	4	20%	0	0%	0	0%	20	34.00	Significant	Strongly Agree	4.50	0.83
3	3	15%	7	35%	6	30%	4	20%	0	0%	20	7.50	Not Significant	Nothing	3.45	1.00
4	0	0%	10	50%	6	30 %	4	20%	0	0%	20	18.00	Significant	Agree	3.30	0.80
5	0	0%	0	0%	0	0%	8	40%	12	60%	20	32.00	Significant	Strongly Disagree	1.40	0.50
6	0	0%	0	0%	0	0%	8	40%	12	60%	20	32.00	Significant	Strongly Disagree	1.40	0.50
7	0	0%	11	55%	9	45%	0	0%	0	0%	20	30.50	Significant	Agree	3.55	0.51
8	0	0%	5	25%	15	75%	0	0%	0	0%	20	42.50	Significant	Neutral	3.25	0.44
9	0	0%	0	0%	8	40%	2	10%	10	50%	20	22.00	Significant	Strongly Disagree	1.90	0.97
10	0	0%	0	0%	3	15%	7	35%	10	50%	20	19.50	Significant	Strongly Disagree	1.65	0.75
11	10	50%	6	30%	4	20%	0	0%	0	0%	20	18.00	Significant	Strongly Agree	4.30	0.80
12	10	50%	6	30%	4	20%	0	0%	0	0%	20	18.00	Significant	Strongly Agree	4.30	0.80
13	0	0%	10	50%	6	30%	4	20%	0	0%	20	18.00	Significant	Agree	3.30	0.80
14	5	25%	0	0%	11	55%	4	20%	0	0%	20	20.50	Significant	Neutral	3.30	1.08
15	0	0%	16	80%	2	10%	2	10%	0	0%	20	46.00	Significant	Agree	3.70	0.66
16	0	0%	5	25%	11	55%	2	10%	2	10%	20	18.50	Significant	Neutral	2.95	0.89
17	11	55%	5	25%	2	10%	2	10%	0	0%	20	18.50	Significant	Strongly Agree	4.25	1.02
18	0	0%	16	80%	4	20%	0	0%	0	0%	20	48.00	Significant	Agree	3.80	0.41

As shown in the previous table, most values of Chi-Sq. are significant at the 0.01 level. Thus, EFL teachers have positive attitudes towards CA. Responses of strongly agree and agree were (55.56%), responses of strongly disagree and disagree were (22.22%), and responses of neutral were (16.66%). The third item was not significant and represents (5.655%).

Discussion of Findings

Statistical analysis of the data obtained revealed that EFL teachers had positive attitudes towards CA. The questions included in the semi-structured interview tried to find explanation for students' attitudes towards CA. The questions explored the factors caused students to select strongly agree and strongly disagree on some teaching practices. Each question and teachers' answers are discussed as follows:

Do you think that students should generalize the learnt vocabulary and functions?

Interviewees' answers revealed that the de-contextualization of English tests, encouraged teachers to enable students generalize vocabulary and functions. Teachers were proud of their students' high scores in monthly and final exams.

Do you believe that metacognitive learning strategies facilitate students' learning?

Interviewees' views highlighted that teachers were not aware of metacognitive strategies. They did not realize their importance in learning EFL. They needed practice on how to plan, monitor, and evaluate students' learning.

Can you verbalize the cognitive processes of the learning tasks?

Interviewees believed that teachers did not know how to verbalize the cognitive processes to offer modelling for their students. They did not encourage their students to discuss their thinking processes. They needed to be able to identify different cognitive processes and enable students to express their cognitive processes without judgements.

Do you encourage students to compare their cognitive processes to those used by their colleagues?

According to the interviewees' opinions, CA made the learning process visible since the teacher articulated the cognitive processes applied to perform the learning tasks and each student described the cognitive processes used in the articulation phase. Students' reflected on their ways of thinking and compared them to others.

How can you develop students' motivation towards EFL learning?

The interviewees illustrated that teachers felt enthusiastic to offer diverse learning experiences to develop students' learning motivation. They organized the learning experiences according to complexity. They offered cooperative learning opportunities to elicit students' desire to learn.

In conclusion, applying CA in Egyptian classrooms may face different obstacles. The limited time of EFL sessions may hinder the application of CA components. It may be difficult to apply modeling, coaching, scaffolding, reflecting, articulation, and exploration to each learning task with every student. The large number of students at public schools entails that teachers exert extra efforts to administer a CA based learning environment. Teachers should be aware of the different levels of skills and knowledge that students have to support them to reach the level of the expert. The new educational system in Egypt aims to offer students deep understanding of different themes. The use of themes instead of units achieves deepness in students' learning and paves the way for the CA application. Results of this research revealed that EFL teachers had positive attitudes towards CA which was in line with Liu (2005) who investigated the effectiveness of using CA to construct a web-based learning model on developing student teachers' performance and attitudes on instructional planning.

Recommendations & Suggestions for further research

In light of the results drawn from this research, the following recommendations are suggested:

-Investigating the use of CA in EFL classrooms.

-Developing the EFL teacher's guides of the preparatory stage according to CA.

-Studying the effectiveness of CA on developing EFL students' achievement.
-Investigating the effect of CA on developing students' EFL learning motivation.
-Comparing the effect of situated learning and community of practice on developing students' EFL speaking skills.
-Studying the effect of articulation on developing students' EFL writing skills.

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Appendix 1
EFL Teachers' attitudes towards Cognitive Apprenticeship Questionnaire

Dear EFL teachers,

This questionnaire is to assess your attitudes towards Cognitive apprenticeship (CA). CA covers content, methods, sequence, and sociology. Content tackles the knowledge and thinking strategies required to enable students to be experts like the teacher. Methods refer to the strategies used to develop skills. Sequence reflects organization, complexity, and diversity of the learning activities. Sociology highlights the social characteristics of a CA based learning environment, such as cooperative learning, situated learning, and motivation.

As a respondent, you will remain anonymous. There are no 'right' or 'wrong' answers. Your opinion is confidential. Please think about how well each statement describes your teaching practices.

Part One: Personal Information

Name : School:

Mobile No. Years of Experience:

Part Two: Kindly tick one option for each item in the questionnaire, the appropriate choice that reflects your attitude towards each statement. Use the scale below to answer the questionnaire items. Strongly Disagree(1), Disagree(2), Neutral (3), Agree (4), and Strongly Agree (5).

NO.	Items	1 SD	2 D	3 N	4 A	5 SA
1	I enjoy explaining key ideas, vocabulary, and function for each lesson.					
2	Students' ability to generalize vocabulary and function in different learning situations increase my confidence.					
3	I like offering students techniques for accomplishing the learning tasks.					
4	I prefer offering different learning strategies to help students achieve the learning outcomes.					
5	I enjoy analyzing students' learning metacognitive strategies.					
6	I like verbalizing the cognitive processes of learning tasks to facilitate students' learning.					
7	Monitoring students while performing a learning task is interesting.					
8	I prefer guiding students' learning and withdrawing gradually.					
9	I feel enthusiastic when encouraging students to verbalize their knowledge and thinking processes.					
10	I am pleased to see students compare their cognitive processes to those used by me.					
11	I feel confident when students apply the learned skills to new situations.					
12	I enjoy gradually increasing the difficulty of the learning tasks.					
13	I like offering various learning experiences.					
14	I feel confident when students think of the whole before its parts.					
15	I enjoy offering authentic learning contexts.					
16	I like being a member of a community of practice to exchange experience with students.					
17	I am happy to elicit students' personal desire to learn.					
18	Developing students' interdependence through cooperative learning tasks interests me.					

Appendix 2
Semi-structured Interview

-Do you think that students should generalize the learnt vocabulary and functions?

-Do you believe that metacognitive learning strategies facilitate students' learning?

-Can you verbalize the cognitive processes of the learning tasks?

-Do you encourage students to compare their cognitive processes to those used by their colleagues?

-How can you develop students' motivation towards EFL learning?