AN APPLICATION OF COGNITIVE APPRENTICESHIP TO PHILOSOPHY INSTRUCTION
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ABSTRACT

The study is a conceptualization of cognitive apprenticeship model of teaching and learning applied to the teaching of philosophy. The study described how cognitive apprenticeship instructional strategies can be applied to facilitate rapid learning of philosophy of education course by especially non- specialized (in philosophy) students. The article united the cognitive apprenticeship model with traditional Apprenticeship-learning techniques and classroom experiences of teachers and students. .The result of this amalgamation is an educational approach that consists of four dimensions; content, method, sequencing and the sociology of a learning environment and offers practical guidelines for developing and implementing philosophy sessions. The study systematically reviewed background concepts, applications and research findings of CA and demonstrating them as reflected in achievements, prevailing practices and literature. The study focused on the method dimension, the proposed model includes instructional and learning strategies such as think aloud modeling, coaching, meta cognitive scaffolding, articulation, reflection, and exploration along with the sociology of learning design elements as ingredients for designing cognitive apprenticeship learning environments for philosophy. The result of the study proposes a cognitive apprenticeship model for philosophy instruction. It incorporates CA instructional strategies along with a situated learning environment. The paper concludes with the charge for an integrative review of the state of research in this area, for a more systematic approach and coordinated program of studies working toward the development, advancement and implementation of guiding principles to support instructional systems design and
pedagogy based on the underlying theories and prevailing practices of cognitive apprenticeship.

Keywords; Cognitive , Apprenticeship, Scaffolding, Modeling, Coaching, Mentoring, Cooperative , learning, Instructional design

INTRODUCTION

To foster student learning, educators regularly engage with a broad range of educational theories and associated teaching strategies. It follows that philosophy literature employs teaching strategies that apply philosophical principles and theories to instruction. For example, Cook and Sittler (2008) cover the pedagogical terrain by presenting case studies that include a mixture of direct and student-centered

instruction. One might ask why instructors need another teaching approach given the rich instruction literature available to date. The application of CA theory brings together complex theoretical perspectives and methods and how they relate to the teaching of philosophy. The author believes that CA offers a flexible framework for planning and implementing philosophical sessions from which all levels of students may benefit. CA has the potential to provide instructors with a structure and alternatives to fall back on or choose from, for what most consider stereotype philosophy classroom lecture. In recent years , cognitive apprenticeship (brown et al.,1988;burger & desoi,1992;collins et al.,1989)has become increasingly prominent as a model of instruction this development is attributable to its potential to help solve the educational problems of brittle skills and inert knowledge that so often arise with traditional schooling (bransford et al.,1989;resnick,1987;whitehead, 1992) professional dialogue on cognitive apprenticeship spans diverse fields of study, learner groups, and settings. The concept of CA - defined as "learning through guided experience on cognitive and meta cognitive rather than physical skills and processes has its roots in social learning theories collins et al (1989,p 465). The body of research on cognitive apprenticeship has been growing steadily and in many ways overlaps with research on other constructivist learning theories and methods. The cognitive apprenticeship model (CAM) has been examined for more than a quarter century as an instructional model from the perspectives of instructors (Larsen, 2015). Studies examining cognitive apprenticeship have researched both the parts and the whole. The parts are generally understood to be the instructional phases outlined by Collins et al. (1989), whereas the whole consists of the process of these events occurring at a specific time and place with unique individuals co constructing the series of apprenticeship moments. Many of the studies of cognitive apprenticeship in higher education are focused on teacher education programs. Two studies in particular exemplify the types of research being conducted on CA in the field of teacher education: de Jager et al. (2002) and Liu (2005) each looked at CA and teacher training. In the First, participants were trained in CA and in the second participants were trained using a CA approach. These studies attempt to identify the critical elements of the CA episodes across settings and with varied populations. While there have been many quantitative studies of CA, The author wanted to gain the kind of in-depth knowledge of the notion of CA as a framework for instructional design, and how the elements and principles of CA connects to the teaching of philosophy. CA focuses on cognitive and meta cognitive skills and processes. The framework for designing learning environment describes four dimensions: context, methods, sequence, and sociology. This study explores the literature surrounding cognitive apprenticeship model theory which unites the longstanding tradition of learning through apprenticeship programs with classroom practices such as modeling, coaching, and scaffolding etc. in order to propose a cognitive apprenticeship model for philosophy instruction. This study involves systematic review of literature and research findings of relevant research papers of both empirical and theoretical research on cognitive apprenticeship.

STATEMENT OF THE PROBLEM

Supporting students, especially non-specialized students, in a course that is philosophical in nature, is always a concern of philosophers. The standard approach to teaching philosophy is usually teacher-centered, which emphasizes a particular learning style with students .lecture-intensive presentations of theory with generous use of overhead transparencies. A primary focus of the learning process is on concepts and its components identification and relationships. With this method, the lecturer tries to impose his/her knowledge upon the students, who more often than not lose the connections of lessons when dealing with various concept and their interrelationships. Secondly, most research in constructivism argue that cognitively, students struggle with a variety of tasks, such as distinguishing critical from insignificant information, choosing , prioritizing and interpreting across multiple texts. Furthermore, many students experience problems in utilizing the knowledge and skill acquired
via formal learning to everyday contexts (Carraher,Carraher, & Schliemann, 1985; Lave, 1979;). According to Bransford and his colleagues, this problem stems from decontextualized formal learning experiences, that is, the learning of facts that are isolated from the contexts in which they derive meaning (Cognition and Technology Group at Vanderbilt, 1990). Highly decontextualized and simplified knowledge promotes understanding that is rigid, incomplete, and naive (Spiro, Feltovich, Jacobson, & Coulson, 1991). The effort to engage students in a genuine learning experience and the application of cognitive apprenticeship in original research is an approach proposed for the teaching and learning of philosophy.

PURPOSE OF THE STUDY

The purpose of this study is ,

* To add clarity and consistency to the fundamental tenets related to the notion of cognitive apprenticeship as a framework for instructional design

* To understand the connection between cognitive apprenticeship and the teaching of philosophy and propose a cognitive apprenticeship model for philosophy instruction.

LITERATURE REVIEW

Background of the study

Cognitive apprenticeship is a way of learning through experience guided by an expert. As a method of teaching, it is aimed primarily at teaching the processes that experts use to handle complex tasks. The focus of this learning-through-guided-experience is on cognitive and meta cognitive skills, rather than on the physical skills and processes of traditional apprenticeships. Cognitive apprenticeship is an instructional design model that emerged from situated learning theory and was introduced in 1989 and developed by Allan Collins and John Seely Brown, they propose an alternative model of instruction that is accessible within the framework of the typical American classroom. It is a model of instruction that goes back to apprenticeship but incorporates elements of schooling. We call this model cognitive
apprenticeship (Collins, Brown, & Newman, 1989). It can be described as an instructional model that

draws upon authentic classroom activities and guided experiences that enable the development of mental skills through reflection, articulation, collaboration and practice that are situated in authentic contexts (Casey,1996). Table 1. below exemplifies the key difference between CA and formal schooling.

CA	**Formal Schooling**
Learning observed explicitly	Learning observed through evaluation
External	Internal
Situated	Abstract

The goal of cognitive apprenticeship is to address the problem of inert knowledge and to make the thinking processes of a learning activity visible to both the students and the teacher. The cognitive and meta cognitive components of learning deal with the processes and strategies used to problem solve and are used in situations which require learners to extend their knowledge to novel or complex situations outside of the classroom. Constructivist approaches to human learning have led to the development of the theory of cognitive apprenticeship. The constructivist learning theory that holds that Learning is a process of internal negotiation of meaning and that Learning occurs best in functional, social, or cultural context. CA is a theory outlining methodology for teaching complex cognitive tasks through guided learning . According to (Driscoll 2000)“ Knowledge is constructed by learners as they attempt to make sense of their experiences.“-. Its basic principles lie in the works of Vygotsky, including his theory of the zone of proximal development. The zone of proximal development simply means the difference between what a learner can do without help and what he or she can do with help. Vygotsky defines the zone of proximal development as “the distance between the actual developmental level as determined by individual problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.” According to Vygotsky’s view, the role of the teacher is to provide assistance to students as they engage in a cognitive task. Teaching is redefined as

"assisted performance." The concept was central to Vygotsky's programme of trying to identify the pedagogic structure(s) needed to assist learners move beyond the stage of mastery that they were capable of on their own. Since Vygotsky's original conception, the definition for the zone of proximal development has been expanded and modified. One consequence of the various reconstructions of Vygotsky's original ideas has been the development of a series of pedagogic strategies such as 'scaffolding', 'modelling' and 'fading' which have been designed to assist teachers to help learners participate in activities slightly beyond their current competence (Brown et al, 1989). (Collins, Brown, & Newman, 1989, p. 457), identified the Principles of CA ,

*Cognitive apprenticeship encourages reflection on differences between novices and expert performance

*Cognitive apprenticeship encourages the development of self-monitoring and correction skills required for the problem solver to alternate among different cognitive activities

* Sequencing: Tasks are sequenced to reflect the changing demands of learning: increasing complexity, increasing diversity, and global before local skills

*Sociology: With exploiting cooperation and the culture of expert practice, cognitive apprenticeship extends situated learning to diverse settings so that students learn how to apply their skills in varied context with intrinsic motivation.

(Ghefaili,2003) believes that there are at least four notions that exert a strong influence in shaping the method of cognitive apprenticeship; Socio-cultural Theory of Learning , Vygotsky's Zone of Proximal Development (ZPD) ,Situated Cognition , Traditional Apprenticeship . While Vanessa P. Dennen and Kerry J. Burne) identified Four key concepts commonly discussed in the cognitive apprenticeship literature thus situatedness, legitimate peripheral participation, guided participation, and membership in a community of practice. This study discusses four elements , Situated cognition , Traditional Apprenticeship ,guided participation, and community of practice. The author believes these elements forms the core concepts underlying CA approaches and strategies.

Situated cognition

Situated cognition has emerged as a powerful perspective in providing meaningful learning and promoting the transfer of knowledge to real-life situations. Situated learning or cognition is active learning that takes place via one's participation in an authentic task or setting (Lave and Wenger, 1991).situated cognition (or learning) refers to the idea that cognitive processes are situated (located) in physical and social contexts (Greeno et al., 1996). Situated cognition emphasizes the importance of context in establishing meaningful linkages with learner experience and in promoting connections among knowledge, skill, and experience. Learning should not be abstract . Activity in which one learns is an integral part of the learning process. Situated learning facilitates the idea of Teaching through guided learning, making progress and desired outcomes explicitly observable which forms the theoretical foundations of CA . As Against the prevalent view of learning that involves the cognitive process in which individuals are respectively engaged in as learners, Lave and Wenger viewed learning as participation in the social world, suggesting learning as an integral and inseparable aspect of social

practice. Situated learning "takes as its focus the relationship between learning and the social situation in which it occurs". At its simplest, situated learning is learning that takes place in the same context in which it is applied. Lave and Wenger (1991).Although the dominant movement during the 1990s has been to a situated perspective of cognition, there has been considerable variation in the understanding just what is meant by situated cognition or situativity theory. Wilson and Myers (2000) assert that the terms situated cognition, situated learning, or situativity enjoy no consensus among researchers. Hence, researchers hold different views and perspective on what is meant by situated learning or cognition .additionally situated cognition has various dimensions and an array of sub theories .the key dimensions of situated cognition identified in this study are Context , Authenticity and activity . Knowledge is anchored and indexed by the context in which the learning activity occurs. (Brown et al., 1989). The Authenticity principle refers to the quality of having correspondence to the real world. Authenticity in education also means coherent, natural, meaningful, and purposeful activities that represent the ordinary practices (Carraher & Schliemann, 2000).Knowledge construction results from activity (Jonassen, 1999). Therefore, knowledge is embedded in activity. Many educators have discovered that sociological elements of contextual learning are germane to teaching higher levels of information, troubleshooting, and diagnosis. (Berryman, 1991a, 1991b; Brookfield, 1987; Flannery, 1993; Grubb, Davis, Lum, Plihal, & Morgaine, 1991; Halasz, 1988; Maynard, 1991; Orey & Nelson, 1994; Rosenbaum, Stern, Agnes, Hamilton, Berryman, & Kazis, 1992).

Community of practice

Community is the joining of practice with analysis and reflection to share the tacit understandings and to create shared knowledge from the experiences among participants in a learning opportunity (Wenger 1998) . A community of practice is a group of people—either formally or informally bound—who engage in and identify themselves with a common practice. cognitive apprenticeships often naturally occur within a community of practice. Wenger (1998) suggested the following trajectories as a model of how membership within a community of practice occurs:

• Peripheral—One who may not become an insider to the community but who nevertheless takes part in community events (e.g., parents who volunteer in the classroom)

• Inbound—A person who is becoming a fully participating member of the community (e.g., a student teacher or brand new teacher)

• Insider—A person who has become a fully participating member of a community (e.g., a teacher)

• Boundary—A person who is not a fully participating member of the community but who participates by bringing a different set of skills or services to the community (e.g., a technology specialist)

• Outbound—A person who is preparing to leave the community (e.g., a teacher who is moving to an administrative position or preparing to retire). The theory of distributed cognition is the theoritical underpinning of the principle of community of practice , the theory (advanced by Hutchins, 1995; Pea, 1993 and others) argues that cognition is not to be found within the head only; rather cognition is

distributed in the world among individuals, the tools, artifacts, and books that they use, and the communities and practices in which they participate (Greeno et al., 1999).

Guided participation

The concept of guided participation refers to the processes and systems of involvement between learners as they communicate and coordinate efforts while participating in culturally valued activity. The "guidance" referred to in guided participation involves the direction offered by cultural and social values, as well as social partners, while "participation" in guided participation refers to observation, as well as hands-on involvement in an activity. Guided participation is the social element of cognitive apprenticeship. Often the guidance is provided tacitly, as one naturally participates in the learning activity. The idea is that students should be led through the experience while actively participating in the process. In other words, instead of telling or showing the learner, the learner learns by doing with help along the way if needed. "As the learner masters increasing numbers of the component skills the master reduces his or her participation, providing fewer hints and less feedback to the learner. Eventually, the master fades away completely when the apprentice has learned to smoothly execute the whole task" (Collins, 2006, p. 48) Collins, A. (2006).

Traditional apprenticeship

Apprenticeship is an inherently social learning method with a long history of helping novices become experts in fields as diverse as midwifery, construction, and law. Over the centuries, apprenticeships have proved to be an effective form of education. By working alongside a master and perhaps other apprentices, young people have learned many skills, trades, and crafts. The apprenticeship system often involves a group of novices, students, who serve as resources for each other in exploring the
new domain and aiding and challenging one another. The expert or teacher is relatively more skilled than the novices, with a broader vision of the important features of the activity.. Traditionally apprenticeship has been associated with learning in the context of becoming skilled in a trade or craft—a task that typically requires both the acquisition of knowledge, concepts, and perhaps psychomotor skills and the development of the ability to apply the knowledge and skills in a context-
appropriate manner—and far predates formal schooling as it is known today. Simply put, it is a process through which a more experienced person assists a less experienced one. An apprenticeship is distinguished from tutoring, mentoring, coaching, and volunteerism by its focus on interaction that is a specific socially and culturally valued activity at which the adult is more skilled (Tisdale 2001). Applying apprenticeship methods to what are largely cognitive skills requires the externalization of processes that are usually carried out internally. Therefore, the thinking and reflection have to be out loud. Observing the processes by which an expert thinks and practices her skills can teach students to learn on their own more skillfully (Collins, Brown & Newman, 1991).

Cognitive apprenticeship is much like traditional or trade apprenticeship, learning occurs as teachers and learners interact socially while focused on completing a task, developing cognitive skills through participating in authentic learning experiences but unlike trade apprenticeship where the process of carrying out a task to be learned is usually easily observable. In cognitive apprenticeship, one needs to deliberately bring the thinking to the surface, to make it visible, whether it's in reading, writing and/or problem solving.CA attempts to Recover all the benefits of traditional apprenticeships, by reconciling formal schooling objectives with traditional methodologies. To achieve this goal, CA united instructional techniques found in traditional craft apprenticeship programs to those practices enacted in a classroom. The resulting method comprises a learning environment that consists of four dimensions

A. Content - Strategies to acquire knowledge that involve not only obtaining the relevant concepts and facts associated with a subject, but also with the best approach for the acquisition of knowledge.

B. Method – Tactics that synthesize modeling, coaching, and scaffolding teaching techniques with methods that promote articulation, reflection, and exploration.

C. Sequencing - Approaches that support the increasing complexity of tasks combined with tools that develop skills necessary to master a subject.

D. The sociology of a learning environment – Policies that create a community of interactive learners.

Within each of the above building blocks are numerous strategies that work to implement the basic CA practice of bringing to light the thought process of an expert.

Instructional strategies and models associated with cognitive apprenticeship

Intentional teaching and learning through cognitive apprenticeship require making tacit processes visible to learners so they can observe and then practice them (Collins et al., 1989).This model is slightly different from Collins et al.'s (1989) five-stage model of cognitive apprenticeship which included Modeling Coaching Reflection articulation exploration. Collins and colleagues' (1989) model generally is considered the foundational one, but other slightly different versions have been proposed. Gallimore and Tharp (1990) identi?ed six forms of scaffolded assistance: (1) instructing, (2) questioning, (3) modeling, (4) feeding back, (5)cognitive structuring, and (6) contingency management. Enkenberg (2001) added scaffolding and explanation as key strategies. LeGrand, Brandt, farmer and Buckmaster (1993) presented a sequential model of modeling (both behavioral and cognitive), approximating, fading, self-directed learning, and generalizing. Liu (2005), who used a cognitive apprenticeship approach to support preservice education, offers instructional designers a three-phase Web-based CA model with a dynamic

relationship between the initial modeling–observing phase and the second scaffolding–practice phase, which then is followed by the guiding–generalizing phase. The similarities across these models are their reliance on instructional strategies that provide learner guidance and engage learners in different types of practice until the guidance is no longer needed.

The proposed study model consists of the following strategies-

(i) Coaching

(iv) Meta cognitive Scaffolding

(vii) Reflection and replay

(iv) Articulation

(v) Mentoring

(vii) Think Aloud Modeling

(viii) Exploration

(ix) Cooperative learning

These cognitive apprenticeship methods and strategies are designed to give students the opportunity to observe, engage in, and invent or discover expert strategies in context. Such an approach will enable students to see how the strategies combine with their factual and conceptual knowledge and how they use a variety of resources in the social and physical environment. The teacher provides guidance in the learning process, directs learning by presenting the environment and technology that stimulates and encourages critical thinking and problem solving skills in learners.

Incorporating CA strategies in philosophy instruction

In adapting cognitive apprenticeship as a method of instruction and learning in a philosophy of education classroom, then, the challenge is to identify the task and its processes and make them visible to students situate the abstract tasks of the school curriculum in contexts that make sense to students i.e. situate abstract tasks in authentic contexts, so that students understand the relevance of the work so also vary the diversity of situations and articulate the common aspects. My entry point for engaging with CA focuses on the method dimension, which encompasses teaching strategies considered by Collins, Brown, and Newman (1989) to be the nucleus of CA. The method component brings into play tactics that synthesize think aloud modeling, coaching, and meta scaffolding teaching strategies with techniques that promote student articulation, reflection, and exploration. Among these strategies, the modeling aspect stands out as a critical component for introducing the students to philosophy literature. Collins, Brown, and Newman state that modeling "involves an expert's carrying out a task so that students can observe and build a conceptual model of the processes that are required to accomplish the task" (1989, 481).this activity is deeply rooted in the apprenticeship process where new apprentices devote considerable time to pre-

practice observation. The teacher models the skill or strategy by verbalizing their thinking at each step. Posing questions and ideas along the way to get students to think about their ideas. the teacher model thinking skills for students so they can "see" what goes on in the teacher's mind , helping the students develop an understanding of a new concept or issue or relationship between concepts or issues. Examples are case studies strategies used in philosophy. According to Vygotsky, subject-matter concepts are transformed into personal concepts through children's ability to use them in daily life. The relation between skill and content has to be presupposed in this transformation of subject-matter concepts into everyday concepts, because everyday or daily-life concepts are learned through and interwoven with practical activities in cooperation with other people. The teacher makes sure to clearly explain the goals and methods of philosophy , describe the concept, then models the desired outcome by using visual and/or auditory instructional techniques while thinking aloud. The teacher can provide examples case studies strategies to show students the expectations and stop frequently to get student input or ask questions. This technique of modeling provides high levels of student-teacher interaction. Incorporating the instructional methods of cognitive apprenticeship-specifically think aloud modeling and scaffolding into philosophy classrooms can also take the form of writing instructions for the students. When preparing writing instructions or assignments instructors can "situate" assignments so that they more closely resemble the writing done in the workplace (e.g., using workplace topics, including collaborative writing and peer review in the classroom), students will be more likely to see
the connection to the real world. Brown, Collins, and Duguid (1989), Gick and Holyoak (1987), and Perkins and Salomon (1988) are among the researchers who agree that learning can be enhanced when content is contextualized-when authentic situations are created during learning that are similar to the situations in which the knowledge will ultimately be applied. Instructors can think aloud to model composing activities for students, instructors must become aware of, and be able to articulate their own writing processes. As instructors attempt to verbalize each thought, step, and strategy that they employ while completing a task, they cannot mention everything because people think more rapidly than they speak (Hayes & Flower, 1980).But, incomplete or not, these verbal protocols provide the only available window into the mind of the expert writer. Studies in the use of think aloud modeling have produced positive results (Bereiter & Bird, Collins et al., 1991; Collins et al., 1987; 1985; Palincsar & Brown, 1984; Schoenfeld, 1985). Students have developed the skills that were modeled and learned to apply the

strategies they were taught. Think aloud modeling reveals the most complete description possible of their cognitive activities and strategies, while providing organizational scaffolds for the students. Instructors describe what they are thinking and doing, why they are doing what they are doing, and verbalize their self-correction processes. As the students try to replicate this CA inspired model, they develop their understanding of meaning and relationship of concepts in context. . I transition into the role of a coach. Coaching, according to Collins, Brown, and Newman, "consists of observing students while they carry out a task and offering hints, scaffolding, feedback, modeling, reminders, and new tasks aimed at bringing their performance closer to expert performance" (1989, 481). To accomplish
this procedure, Instructors consult the students individually, proposing alternative terms, solving problems, and giving encouragement. Students, in turn, work on their assignments using the prompts both visual and verbal as guideline. Instructors also support students by demonstrating the use of scaffolds and explaining the principles and rules that apply to the task. Each successive problem is

designed to be increasingly complex, and the instructor provides less and less assistance as the students gain experience. Ultimately, students develop competency and solve problems and develop their own expertise. . Bereiter and Bird (1985), Collins, Brown, and Newman (1987), Hayes (1990), and Flower (1993) and her colleagues (Flower, Wallace, Norris, & Burnett, 1994) are just some of the individuals who have examined cognitive apprenticeship in writing instruction. Stasz, Ramsey, Eden, DaVanzo, Farris, and Lewis (1993) describe a college-preparatory english course in which the instructor included workplace situations, situated learning, modeling, scaffolding, and coaching. Writing assignments about the literature in context were "situated" in the students' own cultural experiences by requiring them to consider how the literature reflected existing problems in their own lives. By grounding the work in realistic and meaningful contexts and purposes, the instructor made the writing tasks relevant to students as individuals. The instructor included think aloud modeling in his repertoire of teaching techniques. Scaffolding took the form of optional organizational structures for the assignment or writing task on the board or screen. Coaching consisted of providing hints to students, who knew that the hints were directive and not answers in themselves. Rounding out the method dimension are techniques to promote student articulation, reflection, and exploration. Collins, Brown, and Newman
consider articulation to include “any method of getting students to articulate their knowledge, reasoning, or problem- solving process in a domain” (1989, 482). Reflection in the CA context assists learners to compare their own performance with that of a teacher, another student, or their own thought process from the beginning of class. It stands to reason that after students have reflected upon and articulated what they have learned, they are ready for further exploration. Exploration is an outgrowth of the fading process, arising when students are ready to take on variations of the assigned tasks. During the philosophy sessions, I foster articulation by asking students to describe their reading strategy and subsequent results. As the class winds down, The instructor suggest that the students reflect upon what they learned. The instructor inquire if they have located enough meaningful research. At the end of the session, the instructor encourage further exploration by directing the students to additional philosophy resources or to the reference desk for further assistance.

Research on cognitive apprenticeship

Most research findings on cognitive apprenticeship stress the effectiveness of CA as a method of instruction. Educators have implemented CA with positive results in a broad range of educational settings from kindergarten to 12th grade and beyond (Dennen & Burner 2008). I am a teacher-researcher who has used think-aloud techniques to research the thought processes involved when students combine sentences, an activity believed to promote writing skills (Charters, 2003). In my study, I used a combination of interview and think-aloud reports to explore the processes used by five participants, mostly adult ESL students, to solve several sentence combining problems. The results were interpreted through individual narrative and thick description. I found this approach effective. It not only provided a detailed picture of my participants’ thought processes, but also helped to highlight individual differences in response. Meta cognitive scaffolding facilitated and enhanced the learning of philosophy literature by non specialized in philosophy students (Imiere, 2017).Berryman (1991a & 1991b) has identified instructional models

designed to prepare workers for changing workplaces that are characterized by critical and analytical skills. In these contexts, traditional apprenticeship methodology has been transformed into a new educational paradigm. Berryman advocated the development of effective learning environments based on cognitive apprenticeship models for developing advanced-level reasoning and problem-solving skills. The effects of cognitive apprenticeship under various conditions have been studied by Duncan (1996), Elliott (1994), and Fischbach (1993). Duncan reported that cognitive apprenticeship instructional methods were significantly more effective than traditional methods in the area of writing skills at the college level. Elliott's research focused on understanding teacher decision-making in a cognitive apprenticeship setting. Fischbach reported positive effects of using cognitive apprenticeship techniques to enhance problem-solving skills of community college technical mathematics students. Schoenfeld (1980) documented his success of employing modeling, coaching, and scaffolding techniques to teach college students how to solve math problems. Palincsar and Brown (1984) reciprocal teaching of reading exemplifies many of the features of cognitive apprenticeship and explained that it has proved remarkably effective in raising students' scores on reading comprehension tests, especially those of poor readers. It is believed to be equally effective in writing and problem solving. Hendricks (2001) conducted an experimental study to determine whether situated instruction was more likely to result in transferable knowledge than traditional instruction. The content area was causality, with a learning goal focused on students being able to determine whether or not a cause–effect relationship was present in particular research studies. The control group received "abstract instruction" in the form of a lecture and practice activity, whereas the treatment group's "situated instruction" followed the instructional model set forth by Brown,Collins and Duguid (1989), beginning with discussion, then modeling ,and, Finally, coaching and scaffolding to assist the learners in applying the knowledge. Scaffolding was faded and control ceded to individual students as they demonstrated the ability to identify causality ,and , finally, students were asked to reflect aloud, articulating what they had learned. The results demonstrated that students in the treatment group outperformed the control group on a posttest administered at the end of the instruction.

RESEARCH METHODOLOGY

The purpose of this chapter is to introduce the research methodology for this study. This study was conducted using grounded theory with a constructivist approach. The research study sought to conceptualize the framework of the CA model for philosophy instruction , to understand the connection between CA methods and philosophy in terms of context and activity. And build a theory based on the interpretation of the shared knowledge among educators and CA researchers. Interpretive grounded theory, which the constructivist tradition is a part of, aims to: "conceptualize the studied phenomenon to understand it in abstract terms, articulate theoretical claims, acknowledge subjectivity in theorizing, and offer an imaginative interpretation" (Charmaz, 2006, p. 127). The study is designed under an interpretive paradigm, which took the form of a systematic review of secondary qualitative data. This method was chosen by the Researcher because qualitative methodology is more applicable in developing an in-depth understanding of contextual-related problems. A qualitative design is more sensitive to context and flexible to embracing emerging new themes. Ericsson and Simon (1980) stressed the importance of the

theoretical basis of think-aloud methods and related "introspective" research techniques. I recommend that future researchers consider designing and interpreting think-aloud research through a qualitative rather than quantitative lens(charter 2003).The grounded theory approach provides a model for interpretivist research which may overcome many of the limitations of much 'qualitative' enquiry. The richness of data produced through the systematic review of case studies helped better to investigate the adaptation of the cognitive apprenticeship model to classroom implementation of philosophy sessions. As tentative answers to questions are developed and concepts are constructed, these constructions are verified through further data collection." (Schwandt, 2001, p.110)

RESEARCH RESULT

The result of the study proposes a CA model for philosophy instruction. Please see the tables below

Table 2. Content

1	Domain knowledge	subject matter, specific concepts, facts and issues
2	Heuristic strategies	conceptual analysis and definitions
3	Control strategies	meta cognitive skills
4	Learning strategies	knowledge about how to learn new concepts and facts

Table 3. Method

5	Modeling	expert performs a task so that student can observe and build conceptual model.
6	Coaching	expert assists students by giving hints and support.
7	Scaffolding	expert provide support to help students to understand a task
8	Articulation	expert encourages students to verbalize their knowledge and thinking
9	Reflection	expert encourage students to compare their thoughts with others
10	Exploration	expert encourages different opinions, views and perspectives of concepts , issues and the expansion of search

11	Increasing complexity	from simple concepts and issues to more complex concepts and issues
12	Increasing diversity	Include a variety of perspectives and strategies to describe the meaning the concept or issue

13	Global before local	conceptualizing the whole task before executing the parts

Table 4. Sequencing

11	Increasing complexity	from simple concepts and issues to more complex concepts and issues
12	Increasing diversity	Include a variety of perspectives and strategies to describe the meaning the concept or issue
13	Global before local	conceptualizing the whole task before executing the parts

Table 5. Sociology

14	Situated and contextual learning	students learn about the philosophical concepts and methods and apply it to topics presented in class
15	Intrinsic motivation	students connect philosophical enquiry to what has personal meaning
16	Cooperative learning.	encourage students to share information and help each other

CONCLUSION

The cognitive apprenticeship approach has been applied in a good deal of conceptual, quantitative, and qualitative studies in various settings and domains. Cognitive apprenticeship has proved successful in promoting student's higher order thinking skills as well as in shaping the social interactions between teachers and students to goal-oriented problem solving. The author identified attributes of CA across relevant research findings and formulated it into broad features for implementing CA in philosophy instruction. CA has been found to be effective for enhancing learning across various domains or discipline. The of benefits CA for classroom instruction includes the following,

* it encourages authentic activity and assessment and, thus, greater levels of retention and transfer.

*It Motivates and engages learners in higher order cognitive reasoning/ thinking.

*It Makes thinking visible and enhance meta cognition skill and Facilitates learning-through-guided experience.

Cognitive apprenticeships are adaptable to many traditional educational delivery systems including lecture situations. Various features and elements, such as contextual learning, may be used to develop cognitive apprenticeship models in accordance with facilities, students, fields of study, and teacher skills.

The paper concludes with the charge for an integrative review of the state of research in this area, for a more systematic approach and coordinated program of studies working toward the development, advancement and implementation of guiding principles to support instructional systems design and pedagogy based on the underlying theories and prevailing practices of cognitive apprenticeship.

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