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TEACHER COGNITION ON READING INSTRUCTION REFLECTIONS

**A Dissertation Presented to the
College of Graduate Studies and Teacher Education Research
Philippine Normal University**

**In Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy in Reading Education**

Ariel Pallaza Villar

March 2017

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DEDICATION

*We may not be perfect but deep inside we know that what we have shared
in your lifetime is truly unconditional love.*

To Papa,

† Rolando A. Villar

(December 29, 1939 – December 22, 2015)

This success is heartily dedicated.



Your memory remains in our hearts.

A.P.V.

ABSTRACT

Name: ARIEL PALLAZA VILLAR

Title: Teacher Cognition on Reading Instruction
Reflections

Key Concepts: Teacher Cognition, Reading Instruction,
Reflective Teaching

Degree: Doctor of Philosophy

Specialization: Reading Education

Advisers: Dr. Merry Ruth M. Gutierrez
Dr. Melchor A. Tatlonghari

This study sought to describe teachers' reflections on reading instruction as basis for the development of a reflection guide. Adhering to a qualitative case study design through content analysis of teachers' journal log entries written after reading instruction totaling to 35 which were collected and then analyzed using within-case and cross-case analysis.

Findings of the study revealed that teachers reflect by utilizing their awareness of knowledge of theories and models in teaching reading, explaining their teaching processes, employing inquiry and action-oriented moves, expressing and sharing perceptions and perspectives and seeking to

explain the reflective experience meaningfully through role modelling the act to others. These four facets of the reflection also were the processes that emerged as the components of teacher cognition that comprised the model for The Reflective Guide in Reading Instruction. Teachers explore these complex domains and processes in order to be aware, to make meaning in their classrooms experiences as a result of verbalizing or writing their thoughts, to share and develop knowledge through these experiences, and finally to exemplify the act to others. The guide eventually will provide an avenue for teachers to enhance their reflective practice. It is recommended that further research studies be conducted utilizing discriminant sampling technique to further validate the study, and to use quantitative measures in finding out about the reflective teaching practices in other subjects and content literacy instruction.

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CHAPTER I

THE PROBLEM AND ITS BACKGROUND

Introduction

“We only think when confronted with a problem.”

— John Dewey (1933)

Nowadays the challenge of reading instruction is on how teachers find the solution to the labyrinth of problems that hinder proficiency in reading. Dewey (1933) explains that the foundation of teacher education poses problems based on sound theoretical foundations on the issue whether the teacher is doing training or the teacher is really promoting learning in the classroom. This highlights that Dewey requires “a movement” in the teaching continuum from a behaviorist to a constructivist perspective. Adler (1990) further clears that with current education set up, a transition is viewed on the image of teachers' work and the task of teacher education as a part of a complex social setting where the teacher must make on-the-spot decisions in the teaching-learning process.

In fact, Gregoire (2003) describes that many teaching situations are the epitome of ill-structured situations because of the problems involved in teaching a classroom of students of widely varying intellectual, social, and affective differences. He notes that the connection of teachers' beliefs in relation to the student outcomes may be the missing link that calls for school and teachers' reform. This situation

presents the need for a facet of in-service teaching that is given less consideration in the teaching-learning process – reflection.

Bolton (2009) explains that it is through reflective practice that practitioners can learn by experiential means in their work, and how to relate this to the wider scope of home, society, and culture. He stressed that it provides strategies to see things openly to frame questions never asked before. It can provide safe and confidential avenues to probe and express experiences that are difficult to communicate. Most importantly, he noted that “it challenges assumptions, ideological illusions, damaging social and cultural biases, inequalities, and questions personal behaviors which perhaps silence the voices of others or otherwise marginalize them.”

Villar (2007) highlights that Dewey (1933) considered critical reflection as the most important quality a teacher may have. Richards and Lockhart (1994) state that “a reflective approach to teaching makes teachers examine their attitudes, beliefs, assumptions and teaching practices, and use the information obtained as a basis for critical reflection about teaching.” Villar (2007) added support by quoting El-Okdah (1998) defining reflective teaching as “an on-going, enquiry-based process involving teachers' commitment, either individually or collaboratively, to critically investigate their behavior and that of their learners as well as other aspects of the teaching performance and their students' learning and then take the correct action toward the change needed.

Farrell (1998) mentioned four main benefits that teachers can gain from reflective teaching practice. First, he noted that impulse and routine behavior could be avoided because in reflective teaching, teachers act in a deliberate, intentional manner eventually avoiding the “I don’t know what I will do today syndrome”. Second, it distinguishes teachers as educated human beings since it is one of the signs of intelligent action. Third, as teachers feel the need to grow beyond the initial stages of survival in the classroom and as they gain experience in a community of professional educators, they reconstruct their own particular theory from their practice. Dewey adds that continuity is significant in every experience as it affects the attitudes and eventually helps the quality of further experiences, by providing certain preference and aversion, and proving the needed action to this end.

Borg (2012) explained that the common notion for the past 40 years in the field of teacher education centers on behaviors. According to him, this is quite a simplistic notion of teaching and learning because the fact beneath the behaviors is beliefs and knowledge and other constructs such as attitudes and feelings. Bailey (1992) and Jackson (1992) support this by explaining that education is complex and multi-faceted and that change can refer to many things such as knowledge, beliefs, attitudes, understanding, self-awareness and teaching practices. Borg (2003a) in Macalinao (2012) also stresses that teaching is a multi-faceted decision-making process and teachers made a wide range of decisions.

However, it has described that reflection is a form of mental processing. It is used to fulfill a purpose or to achieve some anticipated outcome. Its application is to

gain better understanding of relatively complicated or unstructured ideas. Moreover, is it largely based on the reprocessing of knowledge, understanding and, possibly, emotions that are already possessed (Moon,1999). Hatton and Smith (1995) describe reflective action is bound up with persistent and careful consideration of practice in the light of knowledge and beliefs, showing attitudes of open-mindedness, responsibility, and whole-heartedness.

Several proponents provide their insights as Adler (1990) stating that the educational status quo requires that training teachers is substantial for effective practices to occur. They must be guided to develop attitudes and habits of mind to enable them to be more reflective about their instruction. In line with this, teachers as decision-makers have emerged in the setting of teacher education and agreement on the need to prepare them to be reflective practitioners. The idea of the teacher as a reflective practitioner has provided an added dimension to the arena of teacher education. It has been noted that while the image of the reflective practitioner does not contradict with technical proficiency, it brings out that simply knowing how to do something is not enough.

Freire (1970) supported this highlighting that liberating education consists in acts of cognition, not transfer of information. It is a learning situation in which the cognizable object (far from being the end of the cognitive act) intermediates the cognitive actors--teacher on the one hand and students on the other. Accordingly, the practice of problem-posing education entails at the outset that the teacher-student contradiction be resolved. Dialogical relations--indispensable to the capacity

of cognitive actors to cooperate in perceiving the same cognizable object are otherwise impossible.

Gredler (1997) has agreed with the claims given by stating that new and emerging theories functions to restructure and reexamine prior experience about teaching and learning noting theories such the theory of behaviorism and Skinner's operant conditioning principles which have been considered dominant in the first half of the 20th century. These theories have served a role on explaining certain forms of learning behavior. He expounds that newer insights and knowledge in the late 1960's and early 1970's have been reached through further experimentation, showcasing the works of Piaget's (1963, 1967) stages of cognitive development in the early 1960's, and the developments of Bruner's theory of cognitive growth and systematic instruction (1960, 1961, 1985), Gagne's conditions of learning (1984, 1985, 1989), and Weiner's attribution theory (1985). The concerted efforts eventually provided an enough explanation of learning and teaching. While this cognitive revolution emerged in educational setting and was understood in theory, sadly, the application of such theory to teaching practices continued to lag behind. Even at present, practices are often limited to behaviorist theories of the past (Brown, 1994; Resnick and Resnick, 1991).

Bailey (1997) noted that teachers' belief as a facet of reflective teaching plays vital role in their teaching practices that any change in belief leads to change in practices. However, Tracey & Morrow (2006) criticized that teachers are mostly unaware of the required theories and models and other constructs that are vital in

effective instruction therefore resulting in hodge-podge learning in the classroom. Gibbs (1996) in Surgenor (2011) responds to this issue noting “that reflection is process in which lecturers become aware, or are supported to become aware, of the theory and motives behind their own teaching, to reflect on this, and to take some deliberate steps to develop.” Bednar (1992) supported this by stating that classroom teachers' instruction actions should reflect conscious analysis and decision making based upon theoretical knowledge.

Larrivee (2006) has defined self-reflection a separate entity and a distinct level among the many reflective practices. She noted through Hatton and Smith (1995) and other earlier researchers that this form of reflection is “*dialogic*, *personalistic*, and *reflection-within*, respectively, highlighting the dimension of dialogue with oneself.” On a broader view, self-reflection provides an avenue for examining how one’s beliefs and values, expectations and assumptions, family imprinting, and cultural conditioning effect students and their learning. In addition, it is a process of search and discovery that reveals the interconnection of self to situation, of personal to professional. It is understood that the knowledge of oneself is a required condition to understanding others. It could be concluded that when this level of reflection is achieved, a significant change is eminent and could be realized.

Borg (2003) added support on this by highlighting the importance of teachers’ beliefs. He noted that the study of beliefs presents challenges because beliefs are not directly observable and many teachers have never been asked about their

beliefs. This presents the vacuum that illustrates the gap in teaching despite the many milestones in teaching approaches and strategies.

Ostorga (2006) stipulated that the ability to reflect is linked to logical reasoning and epistemological world views (Schraw and Olafson, 2002) which have also been linked to the capacity to engage in reflective thought. Ostorga (2006) further defines “epistemological world views as an individual’s system of values and beliefs about the nature and acquisition of knowledge.” He notes that for teachers, this system of beliefs, also called epistemic stances, characterizes the attitudes towards teaching. Dating back to Dewey (1933) an analysis of this paradigm of reflective thought reveals that three attitudes are prerequisites in the system of reflective thinking: open-mindedness, responsibility, and wholeheartedness.

With these lenses, this paper provides a shift in perspective that despite the existing knowledge of reflective teaching practices, it appears that there are still missing links on how teachers really process reflection and how sources of reflection are structured to give an adequate explanation on how to really execute such practice in teaching. The challenge lies on how to organize and reconfigure these structures and to attempt whether they could possibly be an organized system.

Theoretical Bases

The theoretical bases of this study are grounded on cognitive science and psychology through an interaction among three constructs namely, epistemological beliefs, teacher cognition, and reflective teaching. These eventually provide a new model based on existing theories and models.

A. Epistemological Beliefs about Knowledge and Learning

As a foreground of teacher cognition and reflective teaching, it is well noted that both constructs are rooted in epistemology.

Epistemology is an area of philosophy concerned with the nature and justification of human knowledge (Hofer and Pintrich, 1997). Epistemological beliefs about knowledge and learning have been rooted with Piaget (1950) who used the term *genetic epistemology* to describe his theory of intellectual development, initiating the need for study of developmental psychologists on the realms of philosophy and psychology (Hofer and Pintrich, 1997, p. 88). Hofer and Pintrich (1997) noted that these interests were a vital step in the growing reaction to the dominance of behaviorism, which had removed knowing altogether from learning (Kohlberg, 1971). They added that bringing knowing back into the picture provides the core to emerging theories of moral judgment and development (Giiligan, 1982; Kagan, 1982; Kohlberg, 1969, 1971). On a parallel stream, Pajares (2009) notes:

“...Defining beliefs is at best a game of player’s choice. They travel in disguise and often under alias—attitudes, values, judgments, axioms, opinions, ideology, perceptions, conceptions, conceptual systems, preconceptions, dispositions, implicit theories, explicit theories, personal theories, internal mental processes, action strategies, rules of practice, practical principles, perspectives, repertoires of understanding, and social strategy, to name but a few that can be found in the literature.”

This serves as a take-off on various researches on epistemological beliefs and reasoning to address general issues. Hofer and Pintrich (1997) enumerated them as: (a) refining and extending Perry's developmental

sequence (b) developing more simplified measurement tools for assessing such development (c) exploring gender-related patterns in knowing (d) examining how epistemological awareness is a significant part of thinking and reasoning processes (e) identifying dimensions of epistemological beliefs; and, (f) assessing how these beliefs connect to other cognitive and motivational processes.

However, Hofer and Pintrich (1997) specified that the majority of research in general indicates that there is very little agreement on the actual construct under study, the dimensions it covers, and whether epistemological beliefs are domain specific. It is also noted that beliefs might be linked to disciplinary beliefs, and what the connections might be to other constructs in cognition and motivation. To clarify, there have been no attempts to systematically integrate the early Piagetian-framed developmental work on epistemological beliefs to present cognitive approaches such as theory of mind or conceptual change. This makes the inclusion of epistemological beliefs about knowledge and learning an important piece of research paradigm of the study.

Whitmire (2002) added support noting that Baxter-Magolda (1992) who developed the epistemological reflection model responded to the deficiencies on the earlier models of epistemological development. The Measure of Epistemological Reflection (MER) provided an improvement as it addresses gender biases as it was tested on both men and women.

Whitmire (2002) specifically describing students' perceptions of the nature of knowledge model characterizes the four ways of knowing and their development throughout the college experience (Baxter-Magolda, 1992) ranging from believing that knowledge is simple to complex and contextual.

Whitmire (2002) also cited another model developed by King and Kitchener (1994) composed of stages featuring an examination on "the ways that people understand the process of knowing and the corresponding ways they justify their beliefs about ill-structured problems" (King & Kitchener, 1994).

Levels	Epistemological reflection model	Reflective judgment model
1	<i>Absolute knowing</i> —Knowledge is certain or absolute	<i>Pre-reflective thinking</i> —Representing stages 1–3. Belief that there are right and wrong answers and only authorities know the right answers
2	<i>Transitional knowing</i> —Knowledge is partially certain and partially uncertain <i>Independent knowing</i> —Knowledge is uncertain—everyone has own beliefs	<i>Quasi-reflective thinking</i> —Representing stages 4 and 5. Begin to question previously held assumptions and realize that authorities can be wrong or biased. Realize that there can be more than one "correct" answer to a problem
3	<i>Contextual knowing</i> —Knowledge is contextual; judge on basis of evidence in context	<i>Reflective thinking</i> —Representing stages 6 and 7. Belief that "knowledge must be understood in relationship to the context in which it was generated" (King & Kitchener, 1994, p. 17)

Table 1- Comparison of the of the Stages of Epistemological Development Models (Hofer and Pintrich, 1997)

B. Teacher Cognition

Borg (2009) in Gerami and Noordin (2013) explains that the cognitive psychology has significantly influenced and changed the landscape in educational research on thinking and behavior. Therefore, they explained the shortcomings of the process-product research paradigm in viewing other

critical cognitive areas of teaching (Jackson, 1968; Shavelson and Stern, 1981). Walberg (1977) in Gerami and Noordin (2013) indicated that educational researchers in this effect raised awareness on the crucial role of teachers' mental lives in their instructional choices providing a distinction between what teachers do and what they know and believe (Borg, 2006). On a gradual pace, they added that studies began to look at teaching on a broader context than merely portraying it as proactive or interactive behaviors (Freeman & Johnson, 1998; Elbaz, 1983; Lampert, 1985).

Gerami and Noordin (2013) added that in the early 1990s, research in language education changed its course on the cognitive aspects of teaching and significantly focused on the central role of teachers in helping to improve language teaching (Freeman, 1991a, 1991b; Johnson, 1992a, 1992b; Prabhu, 1990). It is here that the change occurred where teacher cognition inquiry has adjusted where L2 research education has immensely diverted from studying teachers' observable behaviors towards teachers' knowledge and beliefs to improve their instructional practices, pedagogical decisions, and reflections (Woods, 1996; Freeman and Richards, 1996; Williams & Burden, 1997; Freeman & Johnson, 1998; Meijer, Verloop, and Beijaard, 1999). As a result, recently, scholars are unanimous that findings of teachers' cognitions provide positive effects in the expansion and improvement of a theoretical knowledge base of teacher education practices (Carlgren and Lindblad, 1991; Cole & Knowles, 2000; Bartels, 2005).

Borg (2006) in Gerami and Noordin (2013) explains that in teacher cognition studies, the study of teachers' personal responses reveals rationales behind their decisions, and also expose their hidden thoughts and pedagogy which can be interpreted, judged, reviewed and also applied as a universal approach.

Borg (2006) used the term *teacher cognition* to refer to the “unobservable cognitive dimension of teaching describing what teachers know, believe, and think.” He noted that mainstream educational research in the last 25 years has recognized the impact of teacher cognition on teachers’ professional lives, and this has generated a substantial body of research and that a plethora of reviews on teacher cognition has been done.

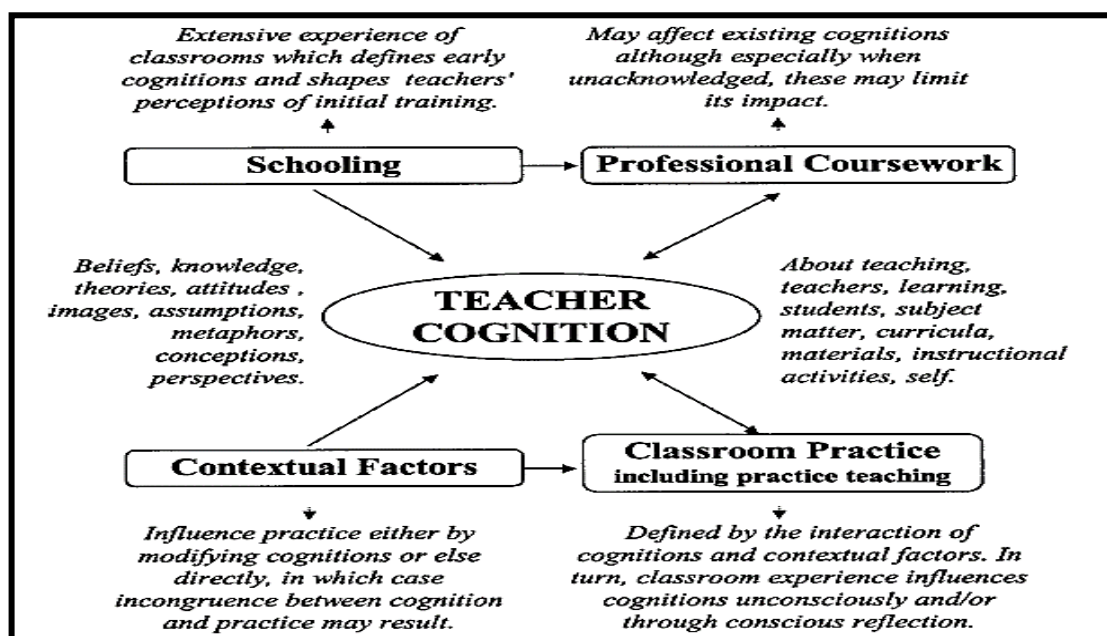


Figure 1 – Simon Borg’s Model of Teacher Cognition as it relates to schooling, professional education, and classroom practice (1997)

Richards (1990) supports this by saying “that teachers have their personal philosophies or maxims of teaching” composing of teachers’ belief systems which involve “the information, attitudes, values, expectations, theories, and assumptions about teaching and learning over time”. It involves a belief system of knowledge and assumptions. Woods (1996) also developed a cognitive model for the study of teachers’ BAK (belief, assumption, knowledge). Three key elements: the classroom events/actions, the planning that precedes these events and actions, and the understanding/interpretation that follows them” comprise the model and Woods (1996) further notes that the planning/expectation of classroom events depends on teachers’ belief system and background knowledge structures, including knowledge of plans, goals, the world, the culture, the language script, and relevant contexts. Classroom actions are carried out with the intention of operationalizing the plan and resulting to the teachers’ understanding and interpretation. The three elements interact with each other and form a coherent psychological system of teacher cognition.

Researchers have elaborated that although there is no difference between abstract concepts of knowledge and beliefs due to their similar features and natures (Verloop, Van Driel, and Meijer, 2001), researchers attempted to provide a unified shelter for both concepts under the term of teacher cognition. They clarified that with respect to language teacher cognition is composed of “beliefs, knowledge, theories, attitudes,

assumptions, conceptions, principals, thinking, and decision-making, about teaching, teachers, learners, learning, subject matter, curricula, materials, activities, self, colleagues, assessments, and context” and that this definition explains that teachers have cognitions about all aspects of their work and that this can be described using various psychological constructs. (Borg, 2006). It is actually Plack and Santasier (2003) that stipulate that reflection allows the interconnections between abstract theory and concrete experiences, as well as observations, past experiences, and judgment, to come to the fore in planning actions. Plack and Santasier (2003) added through Schön that reflection is critical to the learning process, particularly in professional practice and that Shepard and Jensen supported by noting that “reflective practice is the hallmark of professional behavior”.

C. Reflective Teaching

The path of reflective teaching runs on a parallel vein with teacher cognition. Bailey (1997) explained the development of three perspectives that are widely held in research on teaching. The first is the behavioral view, which focuses on what teachers actually do, and attempts to connect their actions to student learning. The second is the cognitive view, which sees skilled teaching as a combination of thinking and doing. Bailey (1997) summarized that recent research on teaching and teacher education has presented a shift of emphasis to teachers' thought processes highlighting that with explanations of the mental activities of teachers, appreciation of the visible behaviors of

teachers have been broadened. Bailey (1997) in Freeman (1996) emphasized the third perspective is the interpretivist view which sees skilled teaching as knowing what to do. They explained that research in this vein has presented “that experienced and effective teachers interpret the available information in their own particular settings, make decisions, and act on them”.

Fat’hi (2011) has provided a cogent explanation on the rise of reflective teaching as a constructivist alternative in teaching noting that there have been lots of shifts in pedagogy over the second half of the twentieth century in second/foreign language teaching and teacher education, and more specifically from 1990 onward (Akbari, 2005; Crandall, 2000; Freeman, 2002; Kumaravadivelu, 2001; Pica, 2000). Fat’hi (2011) noted that these changes epitomize a shift from a positivist-oriented perspective to a constructivist-oriented one and “a shift from transmission, product-oriented theories to constructivist, process-oriented theories of learning, teaching, and teacher learning” have been particularly conspicuous (Crandall, 2000, pp. 34-35). Brown (2000) in Fat’hi (2011) adds that constructivism sprang into being as a dominant paradigm only in the last part of the twentieth century and he points out that constructivists conceive of reality as socially-constructed and it is now an accepted practice to hold various constructions of knowledge. It is therefore considered that this new conception of knowledge has provided teachers a paradigm shift in learning in an entirely different context. Fat’hi (2011) in Cunningham (2001) supported this by stating that constructivism

views learning as an active process where learners reflect upon their current and past knowledge and experiences to generate new ideas and concepts” resulting in “a shift to a constructivist perspective of teaching and teacher learning makes teachers a primary source of knowledge about teaching” (Crandall, 2000, p. 35), and this, in turn, has paved the road for democratic approaches of teaching to come to the fore.

Surgenor (2011) added more explanations on reflective practices through various definitions and models. He noted that in reflective practice, practitioners engage in a continuous cycle of self-observation and self-evaluation in order to understand their own actions and the reactions they prompt in themselves and in learners (also in Brookfield, 1995; Thiel, 1999). He adds that the goal is not necessarily to address a specific problem or question defined at the outset, as in practitioner research, but to observe and refine practice in general on an ongoing basis (Cunningham, 2001)

Epstein and Hundert (2002) in addition explains that reflective practice is the habitual and judicious use of communication, knowledge, technical skills, reasoning, emotions, values and reflection in daily practice for the benefit of the individuals and communities being served. Schön (1987) provides support noting that practitioners frame the problem of the situation, they determine the features to which they will attend, the order they will attempt to impose on the situation, the directions in which they will try to

change it. In this process, they identify both the ends to be sought and the means to be employed.

Bolton (2009) supported this, stipulating that reflective practice provides an inquiry on: what you know but do not know you know; what you do not know and want to know; what you think, feel, believe, value, understand about your role and boundaries; how your actions match up with what you believe; and how to value and take into account personal feelings. He further noted that this form of reflection provides the opportunity for practitioners to explore and experiment with areas of experience difficult otherwise to approach, such as: what you can change in your context; how to work with what you cannot; how to value the perspective of others, however different they are to you; how others perceive you, and their feelings and thoughts about events; why you become stressed, and its impact on life and practice; and how to counteract seemingly given social, cultural and political structures.

Surgenor (2011) expounds that reflecting on teaching is frequently cited as a fundamental practice for personal and professional development (Biggs, 2003; Boud et al., 1985; Lyons, 2002), though for many it remains a slightly woolly, abstract concept with no real practical benefits. However, he explains that with busy schedule of teachers, reflection becomes a less considered practice. He emphasized that teaching changes from one context to the next and because there is no 'teaching template' competent academics

continually reflect on their teaching, critically analyzing and evaluating their own practices, taking the opportunity to learn from each teaching session.

A number of types of reflection have been provided different proponents. Hatton and Smith (1995) distinguish between dialogic and critical reflection and the level of engagement associated with each. They describe dialogic reflection as a less intensive approach that involves 'discourse with the self' to explore a given event or incident. It involves considering the decisions and judgments made and possible reasons for these. This means that the individuals think about what they're going to do in their lecture, about the information they'd like to convey, the methods they intend to use, the level of engagement and so on, in advance of the delivery of the class. Afterwards they then consider how well they achieved their intended goals and which aspects require further attention.

Moon (2004) explains as with all forms of reflection this approach is couched in constructivism and requires individuals to re-evaluate their own personal view of education, teaching and learning. While this is an important first step, and may lead to increased confidence or sense of pride, awareness alone doesn't necessarily result in an improvement of the situation.

Another type of reflection is critical reflection referring to efforts to accounting for the broader historic, cultural, and political values in framing practical problems to arrive at a solution (Hatton and Smith, 1995). This process has been described as Boyd and Fales (1983) as:

“... the core difference between whether a person repeats the same experience several times becoming highly proficient at one behavior, or learns from experience in such a way that he or she is cognitively or affectively changed”. (1983 p.100)

Baumgartner (2001) explains that critical reflection facilitates transformational learning that can happen either gradually or from a sudden or critical incident and alter the way people see themselves and their world.

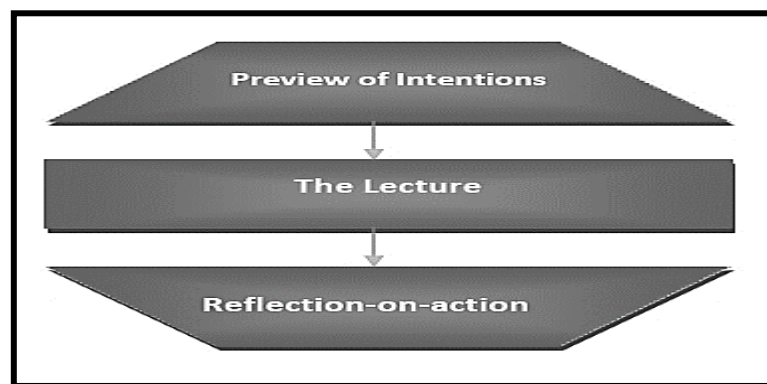


Figure 2 -Transformational Reflection by Brockbank & McGill (2000)

Furthermore, methods of reflection have been established to provide a systematic approach on reflective practices. Biggs and Tang (2007) present that action research involves systematically changing your teaching using ‘on the ground’ evidence that suggests the changes you make are in the right direction and enhancing student learning.

Surgenor (2011) points out that the target of action research is the teacher, not the change that’s being implemented. However, he explains that in action research the term ‘reflection’ is considered misleading. Transformative Reflection (Brockbank and McGill, 2000) (Figure 2) suggests

that teaching is being altered as a result of the reflection and is deemed more accurate. Engaging in action research to improve teaching practice however involves a more explicit theory of teaching (Biggs and Tang, 2007).

Surgenor (2011) added that while many teachers have an implicit theory of teaching there is a need for a more consciously worked-out theory that generates answers to teaching problems. This helps to rephrase the unhelpful and not very useful 'there's something wrong with my teaching' to the more manageable and approachable 'students are only regurgitating what I give to them in class'. The latter also brings it back to the teaching, not the students, and allows the problem to frame in a way that that can be addressed by the teacher.

Johns (2000) developed the concept of guided reflection to help progress reflection from dialogic to critical. The process involves engaging with a series of questions that help teachers to explore and reconsider your motivation or rationale for their actions. These can be designed by a third party or by the individual themselves and serve as a guide through the reflection process. Questions can include: What was I trying to achieve? Why did I do [*activity*] as I did? What were the consequences of [*activity*] etc. It is suggested that this design form a reflective diary, with one side of the page consisting of the descriptive material and the other consisting of the reflection and exploration (Moon, 2004). Maughan and Webb provided the following guide questions:

- a. What is most important/interesting/useful/relevant about the object, event or idea?
- b. How can it be explained (e.g. with theory?)
- c. How is it similar to and different from other issues events?
- d. What have I learned from this?
- e. What does this mean for my future situations?

On a parallel stream, Biggs and Tang (2007) have also provided their own set of questions focusing on critical incidents in teaching. They describe a “critical incident” as a situation in which a teacher thought that his or her teaching or assessment had not gone quite how he or she would have liked it to have gone.

- a. What was the problem? What went wrong? What was the evidence for the problem?
- b. What was (were) the cause(s) of the problem?
- c. How did you deal with the problem then?
- d. How did your solution to the problem relate to your theory of teaching and learning?

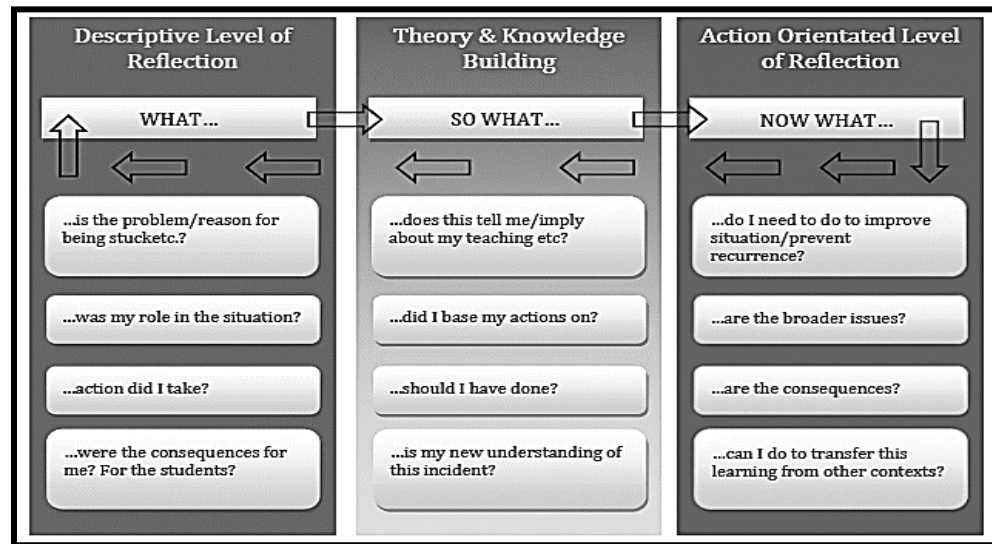


Figure 3 - Rolfe, Freshwater and Jasper's (2001) 'What' Model

Rolfe, Freshwater and Jasper (2001) (Figure 3) proposed the 'What' Model a framework that uses Borton's (1970) developmental model. This model stands on the ground that "the advanced practitioner is not only conscious of what she is doing, but also of how she is doing it". They advocate using three simple questions to reflect on a situation: What? So what? Now what?'

Surgenor (2011) discusses that in the first level, the individual reflects on the situation in order to describe it. In the second level they construct their own personal theory of understanding about the event/incident in order to learn from it. In the final level they reflect on action, about what can be done to improve the incident and about the consequences of such action. It is this final stage that can potentially make the greatest contribution to practice.

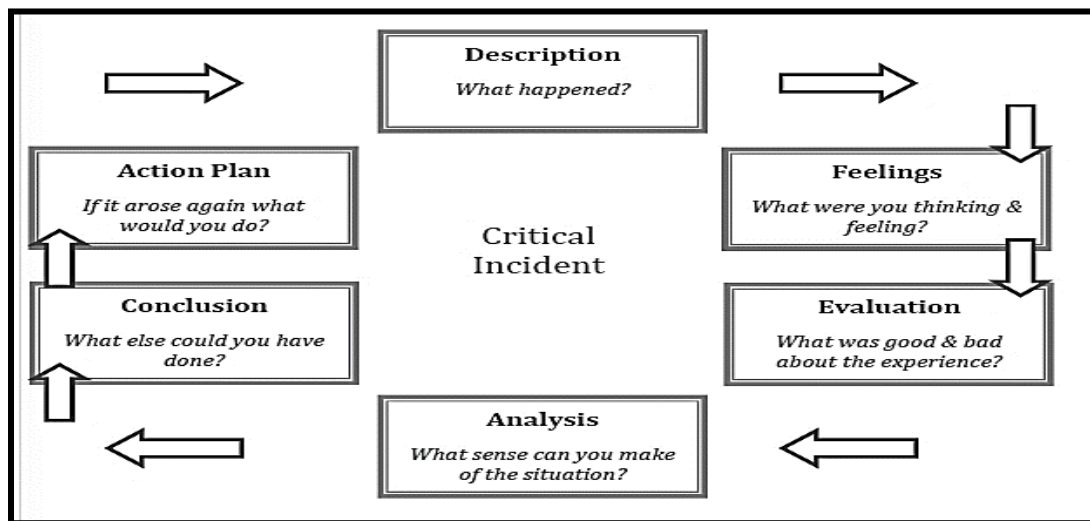


Figure 4 – Gibbs's (1998) Reflective Cycle

Gibbs (1998) (Figure 4) also presents another model called the Reflective Cycle. Surgenor (2011) presents that this model explains that it encourages the practitioner to think about different aspects of a given situation or event, to evaluate it, and establish an action plan for dealing with such a scenario should it arise again. It helps the individuals to consider how they think and respond within a given and provides insight into self and practice (Johns, 2005).

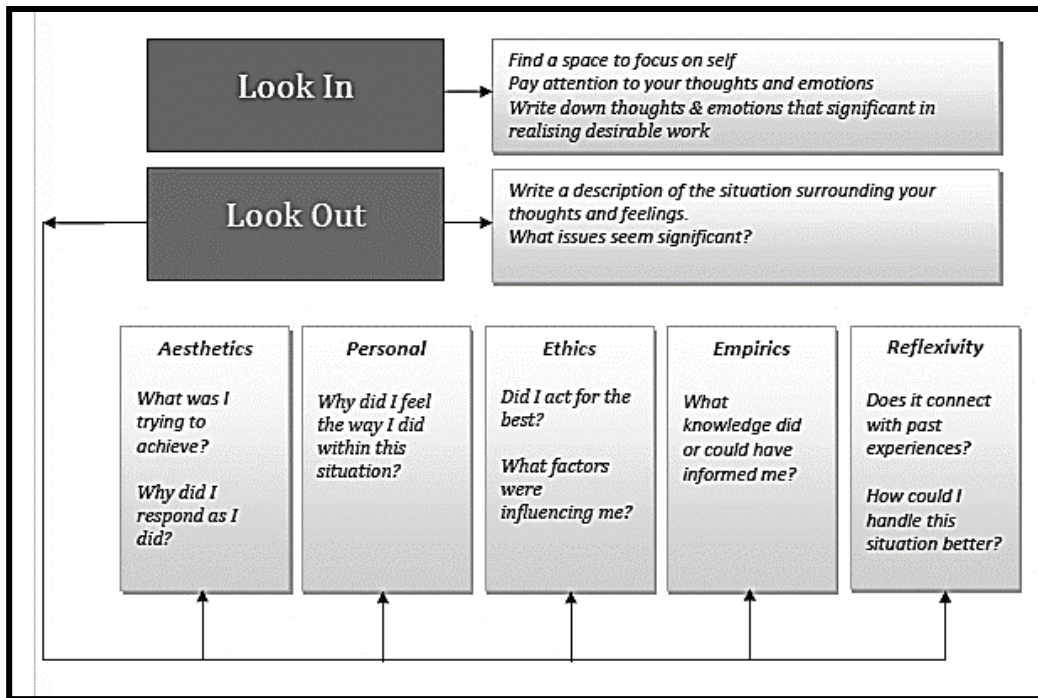


Figure 5 - Johns' (2000) Model for Structured Reflection

Johns' (2000) (Figure 5) also proposed the Model for Structured Reflection. With Johns' model, the focus is on uncovering and making explicit the knowledge that is used in our teaching practice. It can be used as a guide for analysis of a critical incident or general reflection on experience or more complex decision making. He suggests that in addition to guided reflection students should use a reflective diary since noting, reflecting on, and sharing such experiences can lead to greater understanding than by reflection as a lone exercise. The model requires 'looking in on the situation', which includes focusing with oneself and paying attention to one's thoughts and emotions. It then advises 'looking out of the situation' and writing a description of the

situation based on five sources of knowledge, each of which has a number of cues).

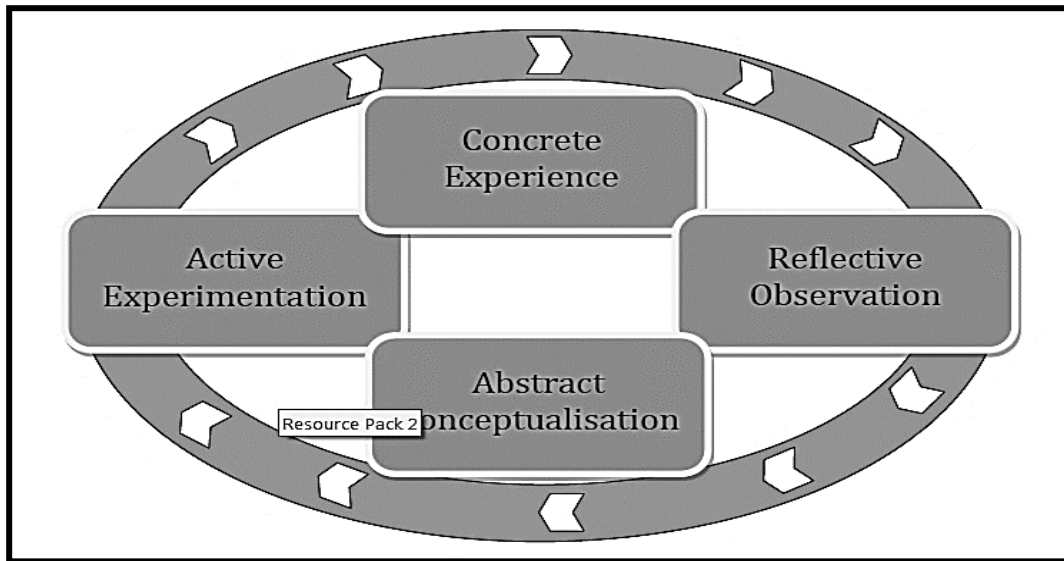


Figure 6 - Kolb's (1984) Model of Experiential Learning

Kolb's (1984) (Figure 6) provided Model of Experiential Learning proposing that active experimentation leads to a transfer of learning from current cycle to a new cycle. There are four main components to the cycle, and the individual can enter the model at any one of these points.

Concrete Experience	This relates to the incident or event prompting the reflection and involves the physical act of being involved in, or having hands-on experience. Although in theory you can enter the model at any stage this tends to be the main point of entry.
Reflective Observation	After the event comes the initial reflection. This entails stepping back and viewing the event or incident from an objective perspective. This should provide some insight into what you did and why you did it.
Abstract Conceptualisation	These initial reflections are then explored in greater detail. Conceptualisation involves interpreting events and actions, looking for connections between these, and the process of applying some theoretical premise to make understand events.
Active Experimentation	Once this deeper understanding has been established the individual translates it into predictions about what is likely to happen next or what actions should be taken to refine the way similar events may be handled in future

Table 2–Components of Kolb’s (1984) Model of Experiential Learning

Surgenor (2011) posits that reflective writing is evidence of reflective thinking. In an academic context reflective thinking usually involves looking back at something (often an event i.e. something that happened, but could also be an idea or object), analyzing the event or idea (thinking in depth and from different perspectives, and trying to explain, often with reference to a model or theory from your subject), and thinking carefully about what the event or idea means for you and your ongoing progress as a learner and/or practicing professional. He stresses that reflective writing is therefore more personal than other kinds of academic writing. It also involves writing in the first person rather than the traditional third person associated with academic writing, which can initially be a challenge. Although one may engage in basic

reflection on a daily basis reflective writing requires the individual to go deeper and to analyze the rationale and consequences of their actions, and to learn from the experience.

In this regard, Surgenor (2011) notes that the most common way of capturing this learning is to use a reflective journal or diary as this approach is encouraged because it not only records events and reactions to them, but also helps to provide a different perspective or clarity to any initial thoughts.

He mentions the benefits of reflective journal/diary include:

- Method of storing new ideas, insights, and understanding
- Increasing 'ownership' and confidence
- Developing questioning, problem solving and critical thinking skills
- Allows expressions of intuition, creativity and emotion
- Clarifies achievements, professional goals and career aspirations
- Can be integrated into learning sets and other types of collaborative learning.

With this, Maughan and Webb (2001) state that while reflective thinking and writing can be an unstructured process; the individual is commonly required to demonstrate some editorial skills in the presentation and structure of the final diary/journal. As a result, they propose a three-part structure to produce reflective writing: description, interpretation and outcome.

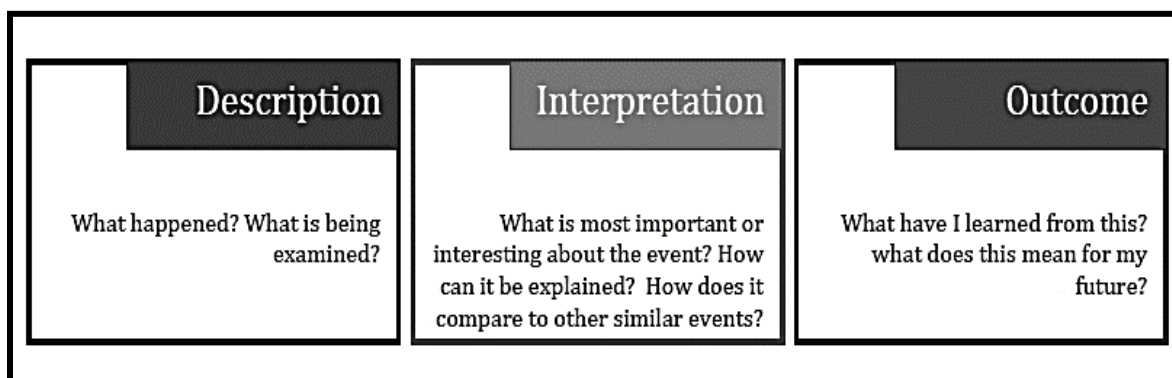


Figure 7 - Maughan and Webb's (2001) Model for Reflective Writing

Based on the structure above, Maughan and Webb (2001) (Figure 7) provide a few suggestions for words and phrases for reflective writing. While using any of these words and phrases will not automatically result in 'good reflection' they do help with the vocabulary required in this style of writing.

With all these models of reflective teaching presented, it has been noted by Larrivee (2008) that preparing professionals who will be reflective practitioners have gained wide acceptance, increasingly being adopted as the standard to aspire to across numerous professions.

Larrivee (2008) mentions that many researchers view reflective practice as the hallmark of professional competence for teachers (Cole & Knowles, 2000; Hatton & Smith, 1995; Jay, 2003; Larrivee, 2006a; Osterman & Kottkamp, 2004; Reagan, Case, and Brubacher, 2000; Schön, 1983; Smyth, 1992; York-Barr, Sommers, Ghere, and Montie, 2006; Zeichner and Liston, 1996). She therefore defines reflective practice, as being as practices ranging from analyzing a single aspect of a lesson to considering the ethical, social and political implications of teaching practice and the term “practice” refers to one’s repertoire of knowledge, dispositions, skills, and behaviors. She added that reflective practice refers to the on-the-job performance resulting from using a reflective process for daily decision-making and problem-solving.

Larrivee (2008) further discusses that the foundations for the definition of reflective practice have been attempted through the types of reflection by Van Manen (1977) and Schön (1983). She notes that Van Manen proposed a hierarchical representation of three levels, namely, technical, practical, and critical reflection while Schön distinguished between reflection-in-action or simultaneous with action, and reflection on action, looking back on and learning from experience or action. He posited that it may be too challenging to reflect in the moment given the multiple demands teachers juggle and that reflection often requires a perspective of a ‘meta-position,’ a looking back after the action has taken place. For instance, focusing attention on completing a

lesson may distract from paying attention to the way a teacher interacts with students.

Larrivee (2008) further stipulates that an extensive review of the literature, the various definitions evolving over several decades most commonly depict three distinct levels of reflection (Day, 1993; Farrell, 2004; Handal and Lauvas, 1987; Jay and Johnson, 2002; Van Manen, 1977). The three levels are: (1) an initial level focused on teaching functions, actions or skills, generally considering teaching episodes as isolated events; (2) a more advanced level considering the theory and rationale for current practice; (3) a higher order where teachers examine the ethical, social and political consequences of their teaching, grappling with the ultimate purposes of schooling. These three levels provided the conceptual framework for the development of an assessment tool. Also, because much of the literature contrasts reflective practitioners with non-reflective (pre-reflective) teachers, four levels of reflection were defined, adopting the terminology of pre-reflection, surface reflection, pedagogical reflection, and critical reflection (Larrivee, 2004).

The movement towards reflective practice promises teacher development either through stages or linear systems, for teachers may reflect at different levels simultaneously. Larrivee (2008) though Reagan et al. (2000) explained that the process of engaging in reflection should be seen as an ongoing spiral in which each element of reflective practice is constantly

involved in an interactive process of change and development. Jay (2003) notes that there is an implicit distinction in the quality of reflection, with layers of quality moving from trivial to significant, to potentially profound. Increasing levels involve higher forms of thought, moving from issues of practicality to values and beliefs (Jay, 2003).

Hatton and Smith (1995) supported these principles suggesting that teacher progression through the levels of reflection appears to be developmental in that teachers may need to reflect first on areas of technical skill before being able to compare different teaching strategies and weigh their relative merit. Smyth (1989) however contradicted this by advocating that taking the position that higher order reflection is not accessible to inexperienced teachers dismisses their history of being treated in certain ways as students, arguing that such histories are worthy of 'unpacking' for the more just and humane alternatives they are likely to uncover. The position taken by this author and others is that even novice teachers can deepen their level of reflection with powerful facilitation and mediation within an emotionally supportive learning climate.

Larrivee (2008) mentions that researchers note that some mediation processes such as journaling with specific structures, such as providing deliberate prompts and strategically posing non-judgmental questions, have been found to promote higher order reflection by creating authentic dialogue (Dobbins, 1996; Ross, 1990; Smyth, 1991; Spalding and Wilson, 2002;

Thorpe, 2004; Trotman & Kerr, 2001; Wiltz, 1999; Yost, 1997). Likewise, researchers have found that helping prospective teachers acknowledge, articulate, and challenge their beliefs enhances reflection (Boyd, Boll, & Brawner, 1998; Nais, 1987; Walkington, 2005; Wideen, Mayer-Smith, and Moon, 1998; Yost, Sentner, and Forlanza-Bailey, 2000).

Finally, Larrivee (2008) highlights that though reflection is an abstract construct, observed performances and expressed beliefs could be viewed through it. Values, assumptions, and expectations of a teacher provide capacity for reflection and that the development of teachers with reflective practices may provide educators the benchmark indicators of key behaviors of reflective practitioners so that educators could target specific attitudinal and behavioral characteristics needed for effective instruction. By identifying key behaviors, attitudes, and practices that need to be developed, they can explicitly create intervention strategies to promote higher order thinking as well as providing teachers to think and act in new ways, remaining open to viewpoints different from their own, letting go of the need to be right, and acknowledging their own limiting assumptions.

Conceptual Framework

Consolidating the different theories and models cited in literature, a framework is hereby formed (Figure 8). The framework provides an attempt to look at teacher cognition as guided by constructs on epistemological beliefs on knowledge and learning, reflective teaching, and reading comprehension.

Kagan (1990) defined teacher cognition “as pre- or in service teachers' self-reflections; beliefs and knowledge about teaching, students, and content; and awareness of problem-solving strategies endemic to classroom teaching”.

To view teacher cognition, the study seeks to consider teachers' reflections in reading instruction. Reflection particularly self-reflection refers to written or spoken comments that pre- or in service teachers make when recalling and verbalizing their interactive thoughts while viewing their own classroom performance, evaluating their own teaching. In this study journal log entries of diaries were utilized.

Borg (2015) further explains that epistemological beliefs play a key role in knowledge interpretation and cognitive monitoring in teacher cognition. Moreover, the development of reflective thought has been traced on the epistemological beliefs on knowledge and learning. Connectedly, Warwick (2007) defined reflective action is being derived from “the need to solve a problem and involves ‘the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it”.

As shown in the framework, it is indicated that epistemological theories are considered to be part in discovering reflection processes due to the presence of constructs such as knowledge, beliefs, and possibly other structures. Shraw and Olafson (2002) supported this stating that to better understand the development of reflectivity, it is necessary to examine epistemic stances of teachers and to bring knowing back into the picture can provide the core to emerging theories of moral judgment and development.

Therefore, a view of teacher cognition in this study is seen through teachers' personal responses in reflective teaching. Noting this, the study would like to uncover teacher cognition through reflection in teaching reading that could be emerging from the related theories explained by exposing personal responses of teachers through journal log entries as a part of reflective teaching practices.

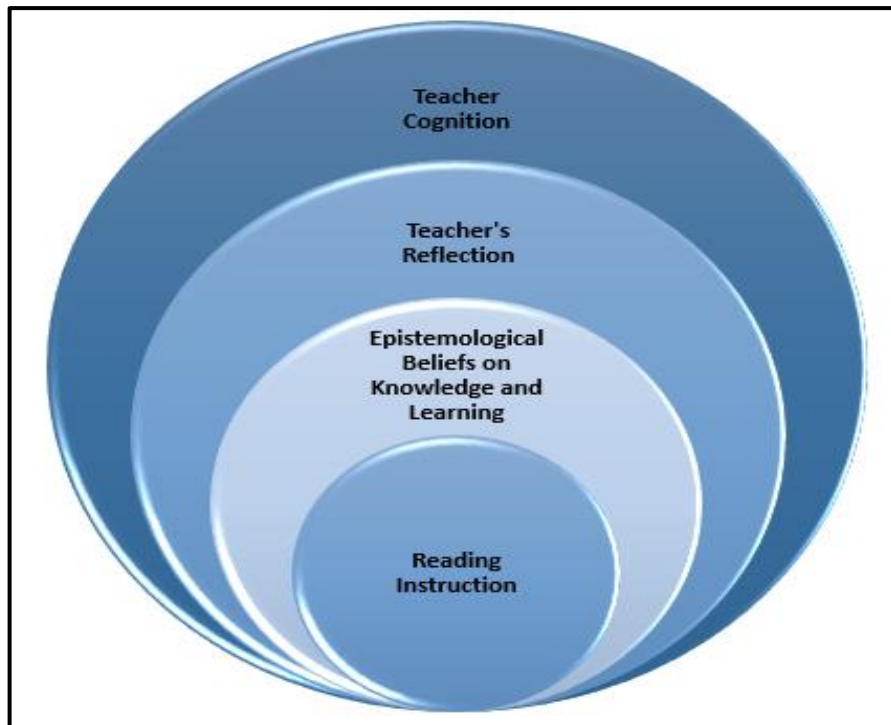


Figure 8 – Conceptual Framework

Statement of Purpose

This study sought to describe teachers' reflections on reading instruction as basis for the development of a reflection guide.

Research questions:

1. What are in the teachers' reflections as revealed in their journal entries?
2. How do the teachers reflect in their reading instruction?

3. What reflection guide on reading instruction can be proposed based on the findings of the study?

Scope and Limitations of the Study

The study involved seven (7) high school teacher-respondents of Marikina High School during S.Y. 2015-2016. The teachers were selected in adherence with the principle of what Strauss and Corbin (1990) stated such that “those persons in places and situations” where the greatest opportunity to gather the most relevant data about a phenomenon under investigation.

In this study, journal log is used as the only instrument noting its capacity to view reflective thoughts of the teachers in research.

As the qualitative case study design was used in this study, the researcher assumes that the findings and results from the data culled from the respondents will somehow show to an acceptable extent the typical and emerging characteristics of a reflective Filipino teacher given that they share similar line of experiences with the kind of learners in the classroom during reading instruction based on the present Philippine education curriculum.

Significance of the Study

Exploring on the principles and possibilities of a constructivist framework in reading instruction, this study will open new avenues focusing on how teachers process reflection in the classroom. First and foremost, the study will give opportunity for the teachers to be aware that there is more to training the students to master required skills in a competency-based curriculum for some of the missing pieces of

learning could be discovered through reflection. This study will eventually empower the teacher as an educator as the current set up usually dictates that the teachers “are often stripped of their professional voice and given little freedom to make pedagogical decisions, professional accountability demands that they be guided to develop their critical thinking so they may reflect on their practice and make decisions based on sound reasoning. To empower the teachers, it is therefore vital that they have to rethink their practices and to keep up with the latest knowledge of how the students learn. New knowledge of learning and cognition call for higher academic standards, and important discoveries about learning as a socio-constructive process place new demands on all educators as they re-conceptualize teaching as a profession.

Secondly, this study will provide an opportunity to finally unravel a phenomenon based on actual and real-life analysis of teachers’ knowledge and belief systems. Though different theories and models on reflective teaching practices have been presented, a less imperative view has been given on what really serves as the main vehicle for teacher reflection particularly in the area of reading education. This study will eventually provide the opportunity to organize and explain the processes of epistemological beliefs as a valid source of reflection coming from the teachers for most studies on epistemological beliefs utilized students as respondents.

Finally, the researcher sees that the outcomes of this research could give teachers and curriculum planners a better view in realizing that after all something

could be lacking in bridging the different domains of learning most especially in the area of epistemological beliefs – a construct that remains to be tested and aligned in the area of reading comprehension or other related disciplines. The fact that the National Council for the Accreditation of Teacher Education (NCATE, 2002) makes it clear that promotion of reflective practice is an important component of teacher education programs, the findings of this study will eventually add to the wealth of knowledge that can improve the curriculum (Hofer and Pintrich, 1997). Aside from this, the study of teacher cognition and epistemological beliefs also play a vital role in the improvement of the curriculum as Mohanty (2014) emphasizes that this can give some guidelines to educational researchers and planners to think about how to devise curriculum which would incorporate a clear conception of the levels and forms of cognition, as well as facilitate the development of affective, psychomotor and conative domains of the learner.

Definition of Terms

The following terms have been operationally defined for better understanding of this study.

- 1. Epistemological Worldview.** It refers to an individual's system of values and beliefs about the nature and acquisition of knowledge (Schraw and Olafson, 2002). In this study, it refers to a set of beliefs about knowledge and knowledge acquisition that influences the way teachers think and make important instructional decisions.

2. **Teacher Cognition.** It refers to the “unobservable cognitive dimension of teaching describing what teachers know, believe, and think (Borg, 2003). In this study, teachers' personal responses reveal rationales behind their decisions, and also expose their hidden thoughts and pedagogy which can be interpreted, judged, reviewed and also applied as a universal approach (Gerami and Noordin, 2013).
3. **Reflection.** It is a form of mental processing used to fulfil a purpose or to achieve some anticipated outcome. It is applied to gain a better understanding of relatively complicated or unstructured ideas and is largely based on the reprocessing of knowledge, understanding and, possibly, emotions that we already possess (Moon, 2005). In the study, it refers to the method for the teacher to evaluate the day's events and decisions in teaching reading.
4. **Reflective Teaching.** It refers to teaching that moves beyond a primary concern with instructional techniques and “how to” questions and asking “what” and “why” questions that regard instructions and managerial techniques not as ends in themselves, but as part of broader educational purposes. (Bartlett, 1990). In this study, reflective teaching is used to analyze and evaluate practices in reading instruction.
5. **Reflective Teaching Practices.** These are practical and theorized methods for understanding and grasping authority over actions, thoughts, feelings, beliefs, values and professional identity in professional, cultural

and political contexts. It suggests processes for critical reflection upon the forms, values and ethics of institutional organizations and structures in which professional's work (Bolton, 2009). In this study, it refers to the various reflective teaching models made by different proponents in the field of teaching.

CHAPTER II

REVIEW OF RELATED LITERATURE

The paper gives a closer view on the papers' conceptual literature, significant theoretical underpinnings and a brief survey of related studies on epistemological theories, teacher cognition and reflective teaching practices. These will provide the groundwork for the systematic extraction of emerging data that will form the framework of the theoretical model for reflective teaching practices.

Epistemological Beliefs about Knowledge and Learning

Schraw and Olafson (2002) highlights that the “ability to reflect is linked to logical reasoning ergo epistemological world views characterizes the capacity to engage in reflective thought. They define epistemological world views as an individual's system of values and beliefs about the nature and acquisition of knowledge. According to them, in the teacher, this system of beliefs often called epistemic stances which are characterized by the attitudes towards teaching.

Schraw and Olafson (2002) presents that connection between reflective thinking and epistemology dates back to Dewey (1933) and that an analysis of Dewey's paradigm of reflective thought reveals that three attitudes are required in the process of reflective thinking: open-mindedness, responsibility, and wholeheartedness. They explain that of the three attitudes, open-mindedness is the most significant in examining the relationship

between reflectivity and epistemology because it connects to the ability to remain open to multiple, alternative possibilities.

Schraw and Olafson (2002) have illustrated that the open-minded teacher continuously questions routines and practices, their validity and their efficacy noting that in order to begin reflection, the individual must have certain values and beliefs about learning that will lead to reflection. Therefore, Schraw and Olafson (2002) clear that the reflective teacher does not believe in one single truth, or in one right way to teach. This further reveals that some specific beliefs about learning, or epistemic stances, promote reflective thought, while others may hinder it. Schraw and Olafson (2002) therefore explain that to better understand the development of reflectivity it is necessary to examine epistemic stances of teachers.

Hofer and Pintrich (1997) discuss that to examine the relationship between epistemic stances and reflective thinking, a set of theories and instruments provide for the analysis of these constructs.

Chronologically speaking, Hofer and Pintrich (1997) explains the model made by Perry's (1981) presenting a scheme of intellectual and ethical development postulating an ongoing, qualitative reorganization of the making of meaning. However, in this model, Perry (1981) makes no claims for this as a formal developmental process because the scheme itself and the inherent developmental mechanisms share much with other Piagetian-type developmental schemes. This is characterized by invariant sequence of

hierarchically integrated structures and Perry's (1981) notes that change is brought about through cognitive disequilibrium where individuals interact with the environment and respond to new experiences by either assimilating to existing cognitive frameworks or accommodating the framework itself.

Belenky et al. (1986) proposed a model that provides "a set of epistemological perspectives from which women know and view the world". This model is a contrast to the implicit visual metaphor in Perry's views in which the positions are organized around the metaphor of voice. Belenky et al. (1986) explains certain in the position of *silence*, women experience a passive, voiceless existence, listening solely to external authority. The next position, parallel to Perry's position of dualism, is *received knowledge*, a perspective of either-or thinking in which there is only one right answer and all ideas are perceived as good or bad, true or false. Women in this position see knowing as originating outside the self; unlike women who are silenced, they can reproduce and speak about this knowledge, although the origin is external. These women also differ from Perry's male dualists, who in choosing the "right" answer saw themselves as aligned with authority; women in this position were not inclined to identify with authority. *Subjective knowledge* is still dualistic, but the source of truth is now within the self. Belenky et al. (1986) describe subjectivism as interchangeable with Perry's multiplicity position, but note gender differences in meaning. Men were described as asserting a "right" to their own opinion, wresting authority from others; women in this study

are more likely to see truth as an intuitive reaction, personally experienced. In the position of *procedural knowledge*, women demonstrate reasoned reflection, applying objective, systematic procedures of analysis. Procedural knowing, however, can take two forms, which Belenky et al. (1986) describe as epistemological orientations. Using conceptual distinctions as Gilligan (1982) and Lyons (1990), they describe these as *separate knowing* and *connected knowing*. Separate knowing is impersonal and detached, best evidenced in critical thinking, and the hallmark of traditional, rigorous undergraduate education. "While subjectivists assume everyone is right, separate knowers assume that everyone—including themselves--may be wrong" (Belenky et al., 1986, p. 104). Connected knowing is still procedural, but "truth emerges through care" (p. 102) and the capacity for empathy. The mode of knowing is personal and emphasizes understanding over judgment. These epistemological orientations are not described as gender specific but as possibly gender related. *Constructed knowledge* represents an integration of subjective and objective strategies for knowing. "All knowledge is constructed and the knower is an intimate part of the known" (Belenky et al., 1986, p. 137). Knowledge and truth are contextual. The individual sees herself as a participant in the construction of knowledge, one whose own frame of reference matters; furthermore, these frames of reference can be constructed and reconstructed by the knower. This process leads to modes of inquiry that Belenky et al. see as indicative of postformal operational thought.

Baxter-Magolda (1992) also provided categories on the development of epistemic stances into four stages of ways of knowing: *absolute knowing*, *transitional knowing*, *independent knowing* and *contextual knowing*. These range from the simplest, dualistic view of knowledge to the most complex view of the world where knowledge is context based. She explains that the person who is an absolute knower, the first category in the taxonomy, seeks to learn by receiving knowledge of what is right from authorities (teachers or experts). At the other end of the spectrum lies the contextual knower, a highly analytical person who judges all information on the basis of evidence within context.

Baxter- Magolda (2001) reasons out that not all individuals reach this level within the college years, and some may never reach it at all. She further explains that two extremes are the ways of knowing called transitional and independent knowing representing an evolution in epistemic stances, each progressing from a simplistic way of seeing knowledge as dualistic to one that is analytical and evaluative, based on criteria that are context relevant. She describes contextual knowers as highly critical in the pursuit of understanding and examine not only the data but also their own and others' perceptions and values. Hofer and Pintrich (1997) elaborate that work of Marcia Baxter-Magolda to our understanding of the development of complex reasoning among students continue to promote a professional dialogue about the patterns and processes of cognitive change. Her research on the ways in which students make sense of their educational and learning experiences

resulted in an epistemological reflection model that illuminates gender-related patterns of knowing and reasoning in traditional-aged college students.

To explain further, Baxter Magolda's work began as an attempt to quantify students' ways of thinking as evidenced in Perry's (1970) scheme. The Measure of Epistemological Reflection (MER) (Baxter Magolda, 1987; Baxter Magolda and Porterfield, 1985), a written instrument developed in studies of both undergraduate and graduate students improved the discrepancies in findings between the men in Perry's study and the women in the study of Belenky et al. (1986), Baxter Magolda became interested in possible gender-related implications. Accordingly, she designed a longitudinal study of epistemological development and how epistemological assumptions affect interpretation of educational experiences.

Ways of Knowing	Patterns of Reasoning	
<u>Absolute Knowing</u> Knowledge is either correct or incorrect. Correct knowledge obtained from authority.	<u>Mastery</u> Peers debate and quiz each other for mastery.	<u>Receiving</u> Peers talk to create a relaxed atmosphere.
<u>Transitional Knowing</u> Some knowledge is correct; other types of knowledge can never be discovered. Learner should understand rather than memorize facts. Not all knowledge comes from authority.	<u>Impersonal</u> Learner exchanges views with peers and express their opinions.	<u>Interpersonal</u> Learners collect ideas from others who provide exposure to new ideas.
<u>Independent Knowing</u> Most knowledge is uncertain so learner thinks independently. Values knowledge that does not come from authority.	<u>Individual</u> Learners focus primarily in thinking independently; exchange with others is of secondary importance, though appreciated.	<u>Interindividual</u> Learners place equal value on hearing others' perspectives and thinking for themselves.
<u>Contextual Knowing</u>	Peers enhance learning via quality contributions. Learners exchange and compare perspectives, then integrate and apply knowledge.	

Table 3- Ways of Knowing and Patterns of Reasoning (Baxter-Magolda, 1992).

As shown by Table 3 the first three ways of knowing are further subdivided into patterns of reasoning based on how the learner interacts with others. Baxter- Magolda (2001) explains that the patterns on the left of the chart represent an isolationist approach (mastery, impersonal and individual) and the ones on the right side of the chart represent an interactive approach (receiving, interpersonal and interindividual). As the knower progresses from absolute to contextual knowing there is a movement towards achieving more balance between isolation and interaction. At the last level in the taxonomy,

individuals can choose between either pattern as they analyze and evaluate knowledge.

The reflective judgment model consists of seven qualitatively different stages that describe how individuals perceive and reason about ill-structured problems has been proposed by King and Kitchener (1994) there are indicating three levels: *pre-reflective* (Stages 1, 2, and 3), *quasi-reflective* (Stages 4 and 5) and *reflective* (Stages 6 and 7). King and Kitchener (1994) explain that in the pre-reflective stages, individuals are unlikely to perceive that problems exist for which there may be no correct answer. Stage 1 presents as typical in young children but not identified in pure form in any of the subjects in King and Kitchener's studies, knowledge is simple, concrete, and absolute and needs no justification. They noted that there is a one-to-one correspondence between what one observes and truth. Stage 2 is similar to Perry's dualism which posits a true reality known by authorities, but not by everyone. Stage 3 presents that there is recognition of temporary uncertainty, that authorities may not currently have the truth.

King and Kitchener (1994) explain that this temporary uncertainty allows for judgments based on personal opinion. These pre-reflective stages are similar to the initial positions in the other models displayed. Quasi-reflective thinking characterizes the reasoning of Stages 4 and 5, which are marked by a growing realization that one cannot know with certainty. Beginning at Stage 4, knowledge and the justification of knowledge are

perceived as abstractions, but are poorly differentiated. Paralleling Perry's multiplicity period, this stage is marked by the view that each person is entitled to her or his own opinion. Stage 5, similar to Perry's period of relativism, is characterized by the belief that knowledge is contextual and relative. "What is known is always limited by the perspective of the knower" (King and Kitchener, 1994). King and Kitchener (1994) notes that at this stage, individuals are capable of relating two abstractions and can thus relate evidence and arguments to knowing, although the ability to coordinate these into a well-reasoned argument is not yet present. King and Kitchener (1994) shows through the table that quasi-reflective thinking cuts across several different positions or perspectives of other models.

Kuhn (1991) presents another model treading on the notion of thinking as argumentative reasoning. Kuhn's work on informal reasoning was an attempt to study how individuals responded to everyday, ill structured problems that lack definitive solutions. Although the primary purpose of the study was to investigate argumentative thinking, the attempt to understand how and why individuals reasoned also elicited beliefs about knowledge, and a portion of the study focused specifically on epistemological perspectives.

Kuhn (1991) defines three categories of epistemological views: absolutist, multiplist, and evaluative. *Absolutists* view knowledge as certain and absolute, stress facts and expertise as the basis for knowing, and express high certainty about their own beliefs. *Multiplists* deny the possibility of expert

certainty and are skeptical about expertise generally. They see that experts not only disagree but are inconsistent over time. The multiplist position is marked by "radical subjectivity." In the devaluing of experts, multiplists are likely to give weight to emotions and ideas over facts. Kuhn (1991) further explains that in this framework, beliefs take on the status of personal possessions, to which each individual is entitled. The result is that all views may have equal legitimacy, and one's own view may be as valid as that of an expert. While the *evaluative* epistemologists also deny the possibility of certain knowledge, they recognize expertise and view themselves as less certain than experts. Most importantly, they understand that viewpoints can be compared and evaluated to assess relative merits. The possibility of genuine interchange with those with conflicting opinions is acknowledged, as is the possibility that theories may be modified as a result. Kuhn (1991) highlights that in this model, argument is at the heart of this process, as it offers a means of influencing others' thinking.

Perhaps the most related to reading instruction, Hofer and Pintrich (1997) note that Schommer (1990, 1993b; Schommer et al., 1992) expressed their interest in how epistemological beliefs influence comprehension and academic performance, developed a research program that is more quantitative than that of her predecessors and takes a more analytic view of the components of beliefs. Her examination of conflicting results in other work that attempted to tie Perry's scheme to metacomprehension led her to

challenge the notion that epistemological beliefs were unidimensional and developed in fixed stages. She proposed a belief system made up of five more or less independent dimensions, which she hypothesized as structure, certainty, source of knowledge, and control and speed of knowledge acquisition. The conceptual origins for the first three were in Perry's work, and the latter two in Dweck and Leggett's (1988) research on beliefs about the nature of intelligence and Schoenfeld's (1983, 1985, 1988) work on beliefs about mathematics.

Intellectual and ethical development (Perry)	Women's ways of knowing (Belenky et al.)	Epistemological reflection (Baxter Magolda)	Reflective judgment (King and Kitchener)	Argumentative reasoning (Kuhn)
<i>Positions</i>	<i>Epistemological perspectives</i>	<i>Ways of knowing</i>	<i>Reflective judgment stages</i>	<i>Epistemological views</i>
Dualism	Silence Received knowledge	Absolute knowing	Pre-reflective thinking	Absolutists
Multiplicity	Subjective knowledge	Transitional knowing	Quasi-reflective thinking	Multiplists
Relativism	Procedural knowledge (a) Connected knowing (b) Separate knowing	Independent knowing		Evaluatists
Commitment within relativism	Constructed knowledge	Contextual knowing	Reflective thinking	

Table 4 – Models of Epistemological Development in Late Adolescence and Adulthood (Hofer and Pintrich, 1997)

To explain, Schommer's central contributions have been presented in three areas: (a) suggesting that epistemological beliefs may be a system of

dimensions that are relatively independent of one another, (b) initiating an empirical investigation of the study of several proposed dimensions, and (c) initiating an important and insightful line of research that links epistemological beliefs to issues of academic classroom learning and performance. At the same time, there are some conceptual and measurement issues that remain unresolved in this model.

However, Hofer and Pintrich (1997) explain that these models carry certain theoretical and methodological issues that served as basis for future research. First, Hofer and Pintrich (1997) note that the general definition of the construct varies across the field, as do the boundaries. Second, there has also been a lack of conceptual clarity about the elements or dimensions that constitute individual epistemological theories or beliefs. Third, although some researchers agree that views about knowledge progress in developmental sequence (King and Kitchener, 1994; Perry, 1970), the proposed stages vary somewhat across models. Others have questioned a developmental stage conceptualization and have posited dimensions that operate more or less independently of one another (Schommer, 1994b). A fourth issue concerns how epistemological beliefs might be related to other aspects of cognitive development, age, and education. A fifth issue concerns the mechanisms by which individuals acquire and change their perspectives on knowing. The majority of existing research has been with college students, and we know little about the origins of these ideas or their early influences. A sixth issue

concerns the domain specificity-generality issue. A growing body of literature has also arisen about discipline-specific beliefs (Lampert, 1990; Mtetwa and Garofalo, 1989; Roth and Roychoudhury, 1994; Schoenfeld, 1983, 1988, 1992; Stodolsky, Salk, and Glaessner, 1991), but little has been done to assess the interaction of these beliefs with more general epistemological beliefs, nor to resolve broader issues of domain specificity in epistemological beliefs. The seventh issue revolves around the relations between epistemological beliefs and individuals' cognition, motivation, and learning. The eighth issue concerns the nature of gender, ethnic, and cultural differences as context. Finally, there are methodological issues that need to be addressed.

To these extents, Hofer and Pintrich (1997) clarify that there are a number of important conceptual and methodological issues to be resolved in future research. They believe that one of the most important issues is the definition and delineation of the construct of epistemological beliefs and thinking. Though they have proposed the construct of epistemological theories composed of the four dimensions of certainty of knowledge, simplicity of knowledge, source of knowledge, and justification for knowing as a way to help clarify the research and thinking in this area, these will serve only as bases for consensus and a stimulus for future conversations about epistemological thinking.

Hofer and Pintrich (1997) parallel their concern with the issues of reflective teaching practices and teacher cognition with epistemological beliefs on knowledge and learning on the foreground that current shifts in educational thinking toward a constructivist approach will undoubtedly continue to affect research in this area, as will formulations of sound pedagogy, as well as current changes in the epistemology of educational research (Greene, 1994). They explain that these movements may change not only the approach to research but what we find about how people believe they know as and most importantly, in any case, the examination of the development of epistemological theories will help in understanding students' and teachers' beliefs about knowledge and their thinking about knowledge and information generated will then help to better understand the teaching and learning processes in classrooms.

Researcher(s)	Core dimensions of epistemological theories		Peripheral beliefs about learning, instruction, and intelligence	
	Nature of knowledge	Nature of knowing	Nature of learning and instruction	Nature of intelligence
Perry	<i>Certainty of knowledge:</i> Absolute ↔ Contextual Relativism	<i>Source of knowledge:</i> Authorities ↔ Self		
Belenky et al.		<i>Source of knowledge:</i> Received ↔ Constructed Outside the self ↔ Self as maker of meaning		
Baxter Magolda	<i>Certainty of knowledge:</i> Absolute ↔ Contextual	<i>Source of knowledge:</i> Reliance on authority ↔ Self <i>Justification for knowing:</i> Received or mastery ↔ Evidence judged in context	Role of learner Evaluation of learning Role of peers Role of instructor	

Table 5 – Components from Existing Models of Epistemological Beliefs and Thinking (Hofer and Pintrich, 1997)

Researcher(s)	Core dimensions of epistemological theories		Peripheral beliefs about learning, instruction, and intelligence	
	Nature of knowledge	Nature of knowing	Nature of learning and instruction	Nature of intelligence
King & Kitchener	<i>Certainty of knowledge:</i> Certain, right/wrong ↔ Uncertain, contextual <i>Simplicity of knowledge:</i> Simple ↔ complex	<i>Justification for knowing:</i> Knowledge requires no justification ↔ Knowledge is constructed, and judgments are critically reevaluated <i>Source of knowledge:</i> Reliance on authority ↔ Knower as constructor of meaning		
Kuhn	<i>Certainty of knowledge:</i> Absolute, right/wrong answers ↔ Knowledge evaluated on relative merits	<i>Justification for knowing:</i> Acceptance of facts, unexamined expertise ↔ Evaluation of expertise <i>Source of knowledge:</i> Experts ↔ Experts critically evaluated		

Researcher(s)	Core dimensions of epistemological theories		Peripheral beliefs about learning, instruction, and intelligence	
	Nature of knowledge	Nature of knowing	Nature of learning and instruction	Nature of intelligence
Schommer	<i>Certainty of knowledge:</i> Absolute ↔ Tentative and evolving <i>Simplicity of knowledge:</i> Isolated, unambiguous bits ↔ Interrelated concepts	<i>Source of knowledge:</i> Handed down from authority ↔ Derived from reason	Quick learning	Innate ability

Table 5 – Components from Existing Models of Epistemological Beliefs and Thinking (Hofer and Pintrich, 1997)

By far research has elaborated the role of epistemological beliefs in the area of reflective teaching particularly to the development of reflection. Hofer and Pintrich (1997) presented that there are a number of research programs and studies that have investigated students' thinking and beliefs about the nature of knowledge and knowing, including definitions of knowledge, how knowledge is constructed, and how knowledge is evaluated. They noted however that these different research programs have pursued varying definitions and conceptual frameworks and used quite different methodologies to examine students' epistemological beliefs and thinking.

Perry (1970) conducted a study based on his interest on how students respond to the varied intellectual and social environment of the university. In his study, Perry (1970) in order to collect descriptive accounts of students' experiences, he developed an instrument called a Checklist of Educational Values (CLEV) which is based on authoritarian personality research (Adorno, Frenkei-Brunswik, Levinson, and Sanford, 1950) and Stern's Instrument of Beliefs (Stern, 1953) and operating on a prevailing assumption of the period that differences in student responses to the relativistic world they encountered in college were largely attributable to personality. Perry (1970) administered the CLEV to a random sample of 313 first-year students in 1954-1955 and then invited 31 students (27 men, 4 women) for annual interviews. Based on these interviews, Perry and his colleagues outlined a scheme of intellectual and ethical development that included a sequence of nine positions, along

with the transitional steps that appeared to provide transformation from one level to another, and then launched a second longitudinal study to validate the scheme, with a randomly selected group of 109 first-year students (85 men, 24 women) from the entering classes of 1958-1959 and 1959-1960 who were followed for their four years of college.

Hofer and Pintrich (1997) discussed that Perry was the first to suggest that how college students made meaning of their educational experiences was not a reflection of personality but an evolving developmental process. He provided an interactionist model for interpreting students' epistemological responses to the college environment. A central contribution of the scheme has been the articulation of the dualistic, multiplicitic, and relativistic points of view that characterize the epistemological outlook of many college students. The popularization of Perry's work has made the teaching of students at these levels more explicable to a generation of college faculty. Perry (1970) charted a course for others to follow and has continued to assist those who have attempted to further his line of study.

Hofer and Pintrich (1997) also presented the study of Belenky et al. (1986) on issues of women as knowers and learners with the notion that they were concerned that "nowhere is the pattern of using male experience to define the human experience seen more clearly than in models of intellectual development ". Grounded on Perry's work, they examined the themes of knowing particular to women. Utilizing interview protocols, the study led to the

development of "women's ways of knowing," a model consisting of five different perspectives "from which women view reality and draw conclusions about truth, knowledge, and authority". While they were explicitly interested in the intellectual and epistemological development of women, they concluded that women's ways of knowing are intertwined with self-concept. Belenky (1986) et al. explains this that the role of self in relation to others and to knowledge plays a critical part. Note that a "transformation of understanding of self begins to generalize and affect how women think about truth, knowledge and expertise"- a process they describe as operating in the Piagetian manner of horizontal decalage. Belenky (1986) concludes that changes in self-knowledge precede an understanding of a view of self in relation to knowledge and truth. Belenky (1986) adds that these developments ultimately lead toward a view of one's self as a constructor of knowledge and the view that "answers to all questions vary depending on the context in which they are asked and on the frame of reference of the person doing the asking".

Baxter-Magolda (1987) as discussed by Hofer and Pintrich (1997) began a 5-year longitudinal study of 101 randomly selected students (of whom 51 were female and 3 from minority populations) from Miami University in Ohio. The methods she used were open-ended interviews and gave participants the Measure of Epistemological Reflections (MER), to be completed and returned later. In her study, seventy complete longitudinal sets were interpreted in the development of the epistemological reflection model

(Baxter Magolda, 1992). These interviews were designed to address six areas of epistemological development: the roles of the learner, instructor, peers, and evaluation in learning; the nature of knowledge; and decision making. Hofer and Pintrich (1997) explain that the coding structure was derived from Perry's first five positions, the five perspectives of Belenky et al. (1986), and Loevinger's (1976) work on ego development. Baxter-Magolda's (1986) longitudinal study on both men and women as built on previous single-sex studies such as those of Perry and Belenky et al. provided gender-related reasoning patterns that cut across the first three ways of knowing. He describes them as a continuum of differences in how students justify epistemic assumptions within each of the ways of knowing. Baxter-Magolda's (1986) explains that within *absolute knowing*, the two patterns are *receiving*, used more often by women than by men in the study, and *mastery*, a pattern more common to the men. The patterns for *transitional knowers* are *interpersonal* (more likely among women) and *impersonal* (more likely among men). Baxter-Magolda's (1986) adds that patterns for *independent knowers* are "interindividual" (more likely among women) and "individual" (more likely among men). She hypothesizes that the patterns may converge in contextual knowing and acknowledges a connected, narrative approach as equal, and equally complex, to the objectivist approach more common to men, but often posited as the "main line of development" in theories such as Perry's.

Baxter-Magolda (2001) herself explains that her work suggests an intimate connection between epistemic stances and termed it as ways of knowing, and reflection. Her longitudinal study of college students over a five-year period shows the developmental nature of these processes since the quality of reflection changes as the student matures and new epistemic stances emerge. Her grounded theory served as the framework for categorically examining the epistemology of students.

King and Kitchener (1994) have studied the epistemic assumptions that underlie reasoning (Hofer and Pintrich, 1997). They conducted a fifteen-year interview study with individuals from high school students through middle-age adults which led to the refinement of their reflective judgment model presenting a seven-stage developmental model that focuses on epistemic cognition, or "the ways that people understand the process of knowing and the corresponding ways they justify their beliefs about ill-structured problems". Results from their longitudinal study show that (a) higher-stage reasoning was more evident and lower-stage reasoning less evident, over time; (b) higher educational attainment was correlated with higher stages of reflective judgment; developmental spurts coincided with college attendance; and a strong linear relationship existed between age and stage. King and Kitchener (1994) have provided the most extensive developmental scheme on epistemological elements. Although based primarily on studies of college students, this research program has been more

explicitly derived from developmental psychological models than research on college student development and higher education. The model is particularly noteworthy for its elaboration of the upper levels of Perry's scheme and for the specification of dimensions of epistemic cognition. It has been widely used by others interested in the construct and may be most useful for educators who see reflective judgment as a desirable educational outcome particularly in relation to other constructs such as critical thinking, verbal reasoning, character development, psychosocial development and moral judgment though still inconclusive. However, Hofer and Pintrich (1997) clarify that classroom-level studies are needed to investigate how these changes come about and the characteristics of educational environments that might foster them.

Kuhn (1991) studied the notion of thinking as argumentative reasoning. Hofer and Pintrich (1997) noted that Kuhn's work on informal reasoning was an attempt to study how individuals responded to everyday, ill-structured problems that lack definitive solutions and they cleared that the primary purpose of the study was to investigate argumentative thinking, the attempt to understand how and why individuals reasoned also elicited beliefs about knowledge, and a portion of the study focused specifically on epistemological perspectives. Responses were culled from 169 subjects indicated that only 2 subjects were consistently classified across the three topics as in the evaluative category, which may be surprising given the ranges of ages and

backgrounds in the study. Eleven others were classified at the evaluative level for two of the three topics, for a total of 13, still a relatively small percentage. With this condition of the study, it presents a "horizontal decalage" in levels of epistemological beliefs by topic area highlights the importance of considering task and domain effects. Kuhn (1991) found no significant gender or age differences. There was a relation between educational background and epistemological level and those in the higher education group were more likely to be in the evaluative category and less like to be absolutist.

Perhaps the most related to reading instruction, Schommer (1990, 1993b; Schommer et al., 1992) conducted studies on how epistemological beliefs influence comprehension and academic performance, through a research program that is more quantitative than that of her predecessors and takes a more analytic view of the components of beliefs. Schommer (1990) examined the conflicting results in other work that attempted to tie Perry's scheme to metacomprehension (Ryan, 1984b) led her to challenge the notion that epistemological beliefs were unidimensional and developed in fixed stages. Schommer (1990) has developed a questionnaire consisting of 63 short statements that characterize epistemological beliefs which are rated through a Likert scale from 1 (strongly disagree) to 5 (strongly agree). Some of the items in Perry's Checklist of Educational Values (CLEV), and Dweck and Leggett (1988), and others were adapted in the questionnaire. Schommer's (1990) first study yielded four factors, which, stated from a naive

perspective, are Fixed Ability, Quick Learning, Simple Knowledge, and Certain Knowledge.

Schommer et al. (1992) conducted another study where students completed the epistemological questionnaire and then read a statistical passage. In this study, students rated their comprehension confidence, completed a mastery test and a study strategy inventory. The findings report that higher confidence and better performance were negatively correlated with belief in simple knowledge and path analysis also suggested that epistemological beliefs may have an indirect effect on academic performance, as belief about knowledge may affect study strategies.

Hofer and Pintrich (1997) noted that Schommer has conducted several other related studies on epistemological beliefs. Results of a study of junior college and university students indicated differences on all four dimensions, with university students more likely to believe in fixed ability and junior college students more likely to believe in simple knowledge, certain knowledge, and quick learning (Schommer, 1993a). One of these studies indicates that epistemological beliefs of high school students indicated that there were no differences between gifted students and others in ninth grade, but that by the end of high school, gifted students were less likely than others to believe in simple knowledge and quick learning (Schommer and Dunnell, 1994). Hofer and Pintrich (1997) further argue that differences in beliefs during high school years were the focus of a cross-sectional study that indicated a linear trend in

all epistemological beliefs except fixed ability from freshman to senior year. In the same study, epistemological beliefs also predicted GPA, and gender differences were found in two dimensions, with females less likely to believe in fixed ability or quick learning (Schommer, 1993b). In a study of adults, education predicted simple and certain knowledge; the more exposure to education, the less likely individuals were to subscribe to these beliefs (Schommer, 1992). Recent work on the domain independence of beliefs indicated that epistemological beliefs are moderately similar across social science and mathematics (Schommer and Walker, 1995).

On top of these studies, Hofer and Pintrich (1997) highlight that Schommer's central contributions have been in three areas: (a) suggesting that epistemological beliefs may be a system of dimensions that are relatively independent of one another, (b) initiating an empirical investigation of the study of several proposed dimensions, and (c) initiating an important and insightful line of research that links epistemological beliefs to issues of academic classroom learning and performance. However, Hofer and Pintrich (1997) emphasized that just like the others earlier models made through the study of epistemological theories there are some conceptual and measurement issues that remain unresolved in the model made by Schommer.

With these seminal studies cited, Cano and Elawar (2004) studied secondary students' conceptions and beliefs about learning as constructs that

have been proposed in two independent lines of research namely, phenomenographic and metacognitive. They analyzed using qualitative and quantitative methodologies, respectively by collecting data through an open-ended task (Tynjala, 1997) and an epistemological questionnaire (Schommer, 1990), utilizing a sample of 1,200 secondary students. Eventually, they found out that students' conceptions of learning and epistemological beliefs changed from simplistic to more complex as they progressed through school, the two constructs were linked to each other, and learning conceptions as well as epistemological beliefs were predictors of academic performance. The more capable students were of constructing meaning, the better their academic achievement appeared to be. They recommended that further research should stress how the above-mentioned constructs are sensitive to contextual factors and should consider how teaching may contribute to the continued positive development of students' learning conceptions and epistemological beliefs. In this regard some authors have recently recommended the "concept of reflective leaning to extend the phenomenographic anatomy of awareness with a view to having a mindful appreciation of context" (Linder and Marshall, 2003).

Dahl et. al. (2005) examined the relationship between beliefs about learning and knowledge, and reports of learning strategy-use relevant for successful text comprehension. They utilized 81 Norwegian university students who had studied from 1 to 4 years in a range of disciplines. Students'

beliefs about knowledge and learning were measured with the Schommer Epistemological Questionnaire and learning strategies particularly useful for text-based learning were measured with the Motivated Strategies for Learning. They applied a correlational analysis between measures and full regression analyses of how beliefs influence strategy selection and found out that beliefs about how thoroughly knowledge is integrated in networks (simple) and how fixed the ability to learn is from birth (fixed) contributed significantly to reported strategy use: Simple to rehearsal and organizational strategies, fixed to elaboration and critical thinking strategies, and a combination of simple and fixed to strategies relevant to the thoughtful monitoring of learning tasks. Beliefs about how certain knowledge is (certain) and how quickly learning can be expected to occur (quick) were not found to contribute to reported learning- strategy use in any significant way. They concluded that some, but not all, beliefs about knowledge and learning offer insight into students' reported use of learning strategies relevant for reading course literature.

Still in the area of reading, Bierman (2008) conducted a study based on the severe consequences of not achieving Annual Yearly Progress standards established by the No Child Left Behind Act of 2001. As a result, programs were designed to address the academic needs of students at risk for failing the assessment. Utilizing a reading class, the impact students and teachers on one another's epistemological understandings, particularly

regarding their beliefs about the source of knowledge were analyzed through a grounded theory methodology informed by microethnographic discourse analysis, the author analyzes transcripts of classroom conversations, interviews with students and teachers, and students' written texts, including their written responses to the reading section of the state's high stakes assessment. It was revealed that students refuse to accept institutional devaluations of their worldviews and identities as they continue to reference their own personal experiences, perceptions, and interpretations in their literary analysis and that students' discourse has no discernible effect upon the teachers' epistemological beliefs. Bierman (2008) suggested that creating a curriculum should be designed explicitly for the activation of alternative epistemological resources that would empower this kind of students.

Considering the role of cultural contexts in learning, Braten and Strømsø (2009) examined the dimensionality of personal epistemology and the relation between these dimensions and implicit theories of intelligence in the cultural context of Norwegian postsecondary education. A secondary aim includes the examination of the relative contribution of epistemological beliefs and theories of intelligence to motivational and strategic components of self-regulated learning in different academic contexts within that culture. They used two sample: 178 business administration students in a traditional transmission-oriented instructional context for their first sample and 108 student teachers in an innovative pedagogical context. They utilized the

dimensionality of the Schommer Epistemological Questionnaire and examined it through factor analyses while the resulting dimensions were examined in relation to implicit theories of intelligence. Finally, multiple regression analyses were performed, separately for the two academic contexts, to try to predict motivational (i.e. self-efficacy beliefs, mastery goal orientation, and interest) and strategic (i.e. self-regulatory strategy use) components of self-regulated learning with epistemological beliefs and implicit theories of intelligence. The results in this study indicate that considerable cross-cultural generalizability was found for the dimensionality of personal epistemology and the dimensions of personal epistemology seemed to represent constructs separate from the construct of implicit theories of intelligence. Braten and Strømsø (2009) also found out the differences in the predictability of the epistemological dimensions on the two samples. They added that student teachers, belief about knowledge construction and modification was a better predictor of self-regulated learning and the business administration students, belief about the certainty of knowledge played a more important role in self-regulated learning. Braten and Strømsø (2005) concluded that epistemological beliefs predict self-regulated learning among Norwegian postsecondary students and play more important roles than implicit theories of intelligence. Relations between epistemological beliefs and self-regulated learning may vary with academic context.

In the same context, Chan (2004) conducted a study utilizing four epistemological beliefs and two teaching/learning conception dimensions that were adopted from a questionnaire study of a sample of Hong Kong preservice teacher education students. The epistemological belief dimensions were labeled Innate/Fixed Ability, Learning Effort/Process, Authority/Expert Knowledge and Certainty Knowledge. This study generated somewhat different results on epistemological beliefs from Schommer's findings with North American college students suggested the possible influence of cultural contexts. Chan (2004) labeled the teaching/learning conceptions as Traditional and Constructivist Conceptions. Utilizing MANOVA, the study indicated no significant statistical differences across age, gender and elective groups in their epistemological beliefs and conceptions. However, Canonical Correlation Analysis showed significant relations between epistemological beliefs and conceptions about teaching and learning. However, the study still opens its doors for future research in teacher education with respect to the relations of epistemological beliefs and teaching/learning conceptions indifferent cultures.

Schommer-Aikins and Easter (2009) examine the path of epistemological beliefs of student through the concept of willingness to argue associating it with higher level thinking. They tested the relation between ways of knowing—involving separate knowing (i.e., playing the devil's advocate) and connected knowing (i.e., empathic understanding)—and students'

willingness to argue. They utilized 171 male and 231 female college undergraduates who completed assessments in ways of knowing and willingness to argue. In addition, the participants defined the word *argument* in their own concept. In this study the authors controlled demographic variables and endorsement of separate knowing predicted willingness to argue. The study presents that students with high scores in separate knowing (objective, adversarial knowing) and connected knowing (subjective, empathic knowing) indicated more willingness to argue. In addition, these same students defined *argument* as a constructive form of communication. Students with low scores in separate knowing defined *argument* as an emotional battle with the goal of psychological harm. This negative perspective could be an impediment to engaging students in classroom debate and critical thinking. The study of Schommer-Aikins and Easter (2009) explains that the positive relation of argument as associated with higher level thinking (Kuhn, 1992), encouraging students to debate and justify their reasoning is appropriate. As a recommendation, they suggested that teaching and engaging in classroom activities that support separate knowing may encourage a willingness to argue, because critical thinking would be understood to be an appropriate way to understand and seek credibility of knowledge. Further they noted that encouraging classroom engagement in separate knowing and connected knowing may help students perceive argument as a constructive form of communication.

In another study, Fatma (2009) attempted to investigate the epistemological beliefs held by Turkish high school students through gender, grade level and fields of the study by using Hofer and Pintrich's (1997) framework. The Epistemological Beliefs Questionnaire and Demographic Questionnaire were administered to the students in order to determine their epistemological beliefs and their background characteristics. Fatma (2009) concluded in his study that epistemological beliefs are multidimensional, epistemological beliefs vary as a function of gender, grade level and fields of the study. He added that girls were found to have more sophisticated beliefs in justification of knowledge than boys. It was also found that epistemological beliefs develop over time as indicated that tenth grade students had more sophisticated beliefs in source of knowledge, certainty of knowledge, and development of knowledge compared to sixth and eighth grade students. The study also revealed differences in epistemological beliefs of students across different major fields of the study particularly students attending to the mathematics- science fields were found to have more sophisticated beliefs about justification of knowledge than the students attending to literature-social science fields.

Connectedly, with the significance of epistemological beliefs across subject areas, Topcu and Yilmaz-Tuzun (2009) investigated the relationship among science achievement, metacognition, and epistemological beliefs for both 4th and 5th grade and 6th through 8th grade students and explored the

relationships among gender, socioeconomic status (SES), metacognition, and epistemological beliefs. This study utilized 941 elementary students. It was found out that for 4th and 5th grade students, knowledge of cognition, regulation of cognition, and quick learning contributed to science achievement while for 6th through 8th grade students, knowledge of cognition, regulation of cognition, innate ability, and quick learning contributed to science achievement. The study also highlighted that epistemological beliefs were mostly related to gender.

With its significance to reflective teaching, Stacey et. al. (2014) studied the critical function of higher education engendering sophisticated epistemological beliefs (beliefs about knowing and learning) in teaching. This study utilized early childhood pre-service teachers. The study revealed the promotion of sophisticated beliefs through explicit reflection on both personal epistemology and content related to research methods. They found out that explicit reflection on the nature of beliefs about knowing and learning has been shown to impact on the development of students' personal epistemology as they took place through tutorial discussions, practicum reflections and students interviewing critical friends about epistemological beliefs. Through evidence-based knowledge, the results demonstrate the utility of explicit reflection and genuine experience in research pedagogy in developing sophisticated epistemological beliefs.

Teacher Cognition

Mohanty (2014) has given the term “cognition” defined and distinguished with respect to levels of knowing and forms of knowing to which one has realized the ability to perform adequately in relation to some level to which one knows. He noted that there are at least six forms of knowing can be there which deal with different kinds of performance, such as – linguistic, emotional, imaginal, physical, physiological, and conative.

Mohanty (2014) defines that linguistic performances to signify meaning with symbols, include speaking, reading, writing, reasoning and performing logical operations such as deduction, reduction, induction and retroduction may be in silent, spoken or written form. He describes that emotional performances are feelings of emotion in relation to some state of affairs, such as the emotional response in a panic situation, feelings of anguish about being falsely accused, or a sense of ecstasy while experiencing the nature’s beauty while imaginal performances are considered as acts of forming images shapes, imagined sounds, and imagined relationships in one’s awareness or consciousness. To add, physical performances are defined by Mohanty (2014) as organized movements and gestures like swimming, driving or diving etc. while physiological performances are the actions like deliberately showing one’s heart rate, diminishing one’s blood pressure or blocking out pain. As a less known term in cognition, Mohanty (2014) defines conative performances as acts of volition or will. According to him, conation is the state

of mind of having purpose, and conative knowing is choosing or willing to perform in relation to some set of circumstances or state of affairs. Mohanty (2014) emphasized that it is a state of knowing – to, as distinct from knowing – that or knowing how and points out that conative knowing is the state of willingness however he elaborates that when a person achieves a state of ‘knowing – how’, it includes all the instances of emotional, imaginal, physical, physiological as well as linguistic knowing.

Delving deeper, Philipp (2007) has clearly distinguished the realms of cognition. They defined affect as a disposition or tendency or an emotion or feeling attached to an idea or object and that affect is comprised of *emotions*, *attitudes*, and *beliefs*.

Under the umbrella of affect, Philipp (2007) describes emotions as feelings or states of consciousness and is distinguished from cognition because emotions change more rapidly and are felt more intensely than attitudes and beliefs and that they may be either positive (e.g., the feeling of “aha”) or negative (e.g., the feeling of panic). Phillip (2007) however stresses clearly that emotions are not totally affective in domain but they are less cognitive than attitudes.

Philipp (2007) further explains that attitudes are defined as manners of acting, feeling, or thinking that show one’s disposition or opinion and they change more slowly than emotions, but they change more quickly than beliefs. He stipulates that attitudes, like emotions, may involve positive or negative

feelings, and they are felt with less intensity than emotions and attitudes are more cognitive than emotion but less cognitive than beliefs.

Philipp (2007) then categorizes beliefs as psychologically held understandings, premises, or propositions about the world that are thought to be true. He explains that beliefs are more cognitive, are felt less intensely, and are harder to change than attitudes. Philipps (2007) conveys through his definition that beliefs might be thought of as lenses that affect one's view of some aspect of the world or as dispositions toward action. Most importantly, he categorizes beliefs that unlike knowledge, beliefs may be held with varying degrees of conviction and are not consensual and that beliefs are more cognitive than emotions and attitudes. However, Philipp (2007) clarifies that beliefs are considered a component of *affect* by those studying affect, and it could be view as component of cognition as well.

On a more specific definition, Philipp (2007) defines beliefs system as a metaphor for describing the manner in which one's beliefs are organized in a cluster, generally around a particular idea or object and are associated with three aspects: (a) beliefs within a beliefs system may be primary or derivative; (b) beliefs within a beliefs system may be central or peripheral; (c) beliefs are never held in isolation and might be thought of as existing in clusters.

Other constructs related to cognition have been clearly stated by Phillip (2007). Conception according to him is a general notion or mental structure encompassing beliefs, meanings, concepts, propositions, rules, mental

images, and preferences. Another is identity which is the embodiment of an individual's knowledge, beliefs, values, commitments, intentions, and affect as they relate to one's participation within a particular community of practice; the ways one has learned to think, act, and interact.

A vital component of teacher cognition Phillip (2007) defines knowledge as beliefs held with certainty or justified true belief. However, he explains that what is knowledge for one person may be belief for another, depending upon whether one holds the conception as beyond question.

Another cognition-related construct specifically defined by Phillip (2007) is value which is the worth of something which is a belief one holds deeply, even to the point of cherishing, and acts upon. The distinction between the former and the latter states that beliefs are associated with a true/false dichotomy while values are associated with a desirable/undesirable dichotomy and that values are less context-specific than beliefs.

Discussing on a pedagogical perspective, the significance of the relationship between knowledge and belief as components of cognition. Thompson (1992), discussed the importance of recognizing the important relationship between knowledge and beliefs citing terms such as *conviction* and *consensuality*. He noted that there are varying degrees of conviction, whereas knowledge is generally not thought of in this way. On the other hand, Thompson (1992) noted that beliefs are not consensual, whereas knowledge is.

To a full extent, Thompson (1992) categorizes beliefs as the foundation for other beliefs in a quasi-logical structure indicating that some beliefs might be thought of as *primary beliefs* whereas others serve as *derivative beliefs*. A second dimension of beliefs systems is that beliefs can be either *central*, which means strongly held, or *peripheral*, which means less strongly held and more susceptible to change. Green contended that primary beliefs might not necessarily be more central than the associated derivative beliefs. Green's third dimension of beliefs systems is that beliefs are held in *clusters* that are more or less in isolation from other clusters. One outcome of holding beliefs in this manner is that people can avoid confrontations between belief structures. Another outcome is that these beliefs systems may appear contradictory or inconsistent from the point of view of an observer.

Mohanty (2014) explains that other descriptions of cognition have been presented by through subsets, combinations or conflation of the elemental/primary categories of three levels and six forms of knowing and the three levels of understanding. He enumerated authors like, Bloom, Gagne, Piaget, Bruner, Biggs, Collis and others who added to the wealth of description on categorizations of cognition.

Mohanty (2014) noted that Bloom et al. (1956) and Krathwohl et. al. (1956) provided the categories of cognitive, affective and psychomotor domains to classify abilities that can be learned. Bloom et al. (1956) describes learned cognitive abilities are the same as linguistic knowing which include

the linguistic (conceptual) abilities to recall comprehend, analyze, apply, synthesize and evaluate states of affairs by means of signifying meaning with symbols or using language. Bloom et al. (1956) focusing at the –prehension level, characterizes comprehending as the ability to understand to the extent that an individual can restate a statement in other words (translation), reorder the statement (interpretation) or estimate or predict from a statement (extrapolation). They further explain that applying is the realized ability to use general ideas or procedures appropriately in new situations without help, direction or prompting. Bloom's analyzing, synthesizing and evaluating are instances of understanding at the level of comprehension. They added that learned psychomotor abilities are knowing in relation to physical and physiological performances. However, they emphasized that psychomotor abilities also include linguistic (conceptual), imaginal, emotional, and conative knowing, such as in playing tennis one must know the rules of tennis, willing to play by the rules (conative knowing), must keep his/her emotions in control (emotional knowing), one must also imagine (anticipate) the positions of ball (imaginal knowing). Psychomotor knowing, in this way is actually a complex combination of all these physical, linguistic, emotional, imaginal, conative and physiological knowing.

In another category, Krathwohl et al. (1956) have categorized the learned affective abilities as these involved in the process of attaching a value to something, holding a strong belief about something, or having a deep-

seated attitude about something. Affective knowing thus is also a complex phenomenon of linguistic, emotional, imaginal and conative knowing.

To add, Gagne (1977) offers the categories of cognition as a scheme for classification of learned abilities such as intellectual skills, cognitive strategies, verbal information, motor skills, and attitudes. He notes that intellectual skills are instances of linguistic knowing and Gagne categorizes these in a hierarchy of less complex to more complex: signal learning, stimulus-response learning, chaining, verbal association, discrimination learning, concept learning, rule learning, problem solving. The way in which these eight levels of ability relate to the categories of prehension, apprehension and comprehension is that signal learning and stimulus – response learning function at the level below prehension; chaining and verbal association function at the level of prehension; discrimination and concept learning function at the level of apprehension; and abstract concept learning, rule learning, and problem solving learning function at the level of comprehension. The progression in understanding is from denotative to connotative linguistic performances. Verbal information is the ability to recall, cognitive strategies used for solving the problems are all instances of linguistic knowing. Motor skills are same as psychomotor abilities, and attitudes (of cooperativeness, aggressive, passive, inquisitive) are closely related to the category of affective abilities. These are the result of a complex combination

of linguistic, emotional, imaginal, physical, physiological and conative knowing. (Mohanty, 2014)

Piaget (1977) has also provided a classified level of understanding into four categories like – 1) sensori– motor, 2) pre – operational, 3) concrete – operational and 4) formal operational stages. The pre-operational level functions at the level of prehension; the concrete and formal operational level are the instances of linguistic knowing and functions at the apprehension and comprehension levels of understanding respectively.

Posing as an alternative classification of understanding, Bruner (1964) has conceived and proposed the categories as 1) enactive, 2) iconic, and 3) symbolic stages of representation. Bruner (1964) explains that understanding can be developed and represented enactively, by physical action (like feel, taste); can be developed and represented iconically, shape, line, color and tone. Finally, he notes that it can be developed and represented symbolically with conception of meaning with symbol systems (words, signs, sentences). Bruner (1964) relates these categories of understanding to periods in childhood when children develop these categories; enactive understanding is below the level of system of physical knowing. Iconic understanding is an instance of imaginal knowing, and symbolic understanding is linguistic knowing at all of its levels.

Mohanty (2014) clears that the research works done by Bloom, Piaget, Gagne, Bruner, Biggs and Collis, and Krathwohl et al. have focused upon the

problem of identifying categories or knowing (learning outcomes) that a learner might undertake to study and learn under guidance. He emphasized that a system of categories of knowing is important for competently performing the task of selecting and specifying educational goals, aims, objectives, and purposes. All these classifications given by different researchers / authors are actually the subsets, combinations, or confluences of these elementary categories of levels, forms and range of knowing and levels of understanding. Out of this prehension, apprehension and comprehension are teachable. The other six forms of knowing and two level of knowing (pre-conventional and conventional) can also be taught, but the post – conventional knowing is purely creative and innovative in nature.

Richards and Lockhart (1999) bridging a constructivist connection from reflective teaching to teacher cognition noted that surely skilled teachers who are concerned about their work have always examined "their attitudes, beliefs, assumptions and teaching practices and used the resulting insights to improve their teaching.

Borg (2006) as elaborated earlier by other proponents affirms this by best describing teacher cognition as mainly composed of teachers' belief system which is composed of their attitudes, assumptions, beliefs, knowledge, and how this belief system influences their teaching behavior.

However, one problem with existing studies of teacher cognition is that teachers' belief system and their teaching behavior are only studied at

individual level. The social level of teacher cognition is largely neglected. According to Vygotsky's (1978) cultural-historical psychology, teaching practices are more collective activities than individual behaviors.

Li (2012) explained that Piaget (1970) has describe the principles of cognition through the principle of equilibration noting that cognition was the same as that in evolution and that the mechanism at play in any transformational, growth process. It is a dynamic process of self-regulated behavior balancing two intrinsic polar behaviors, assimilation and accommodation.

Socio-cultural perspectives in teaching and learning play a vital role in teacher cognition. It has been indicated in Piaget's concept that conventional teacher cognition studies focus on the individual level; however, according to Vygotsky (1978), individual cognition has social determinants. To describe certain constructs in socio-cultural theories that can be synthesized into a socio-cultural framework to address the existing issues in teacher cognition studies.

Vygotsky's (1978) theory of cognition which is the zone of proximal development (ZPD) is a metaphor of the cognitive development mechanism refers to the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. ZPD is based on Vygotsky's central theory that

human cognition is a collective and shared activity. It is therefore explained when cognition first happens between individuals on the social plane and then within individuals 'minds.

Lantolf and Appel (1994) also explain that at a social level, individual learners need to be guided or regulated by more experienced people through physical tools and symbolic artefacts such as language. These serve as cultural tools that mediate the relationships between people and the physical world, and between people and their inner mental worlds. To add, Vygotsky (1981) stipulates that individuals internalize reality in their minds by inner speech to reach a new stage of cognition which, in turn, is externalized to regulate their behavior and finally achieve the transition from other-regulation to self-regulation. He added that ZPD cannot be diagnosed by formal testing or measurement. It requires collection and analysis of multiple sources. It is here that Poehner and Lantolf (2010) advocated the principle of dynamic assessment which refers to the integration of ongoing assessment and guidance on the basis of interaction and negotiation between learners and teachers.

Vygotsky (1981) argues that there is dialectical relationship between cognition and emotion. He explained that "Thought is not begotten by thought; it is engendered by motivation, that is our desires, our interests and emotions that behind every thought there is an affective-volitional tendency which holds the answer to the last 'why' in the analysis of thinking. He highlighted that a

true and full understanding of another's thought is possible only when we understand its volitional basis.

However, Vygotsky (1978) did not provide detailed analysis on how emotion and cognition interact with each other. Emotion has been largely neglected in studies of cognition using Vygotsky's psychological theory. This gap has been noticed only by a few researchers like Wells (1999), who argues that "Learning in the ZPD involves all aspects of the learner-- acting, thinking and *feeling*".

Chaiklin (2003) supported this indicating that popularity has its price. Wertsch (1984) suggested that if this theoretical construct was not explained further, there was a risk that "it will be used loosely and indiscriminately, thereby becoming so amorphous that it loses all explanatory power". Mercer and Fisher (1992) supported this that "there is a danger that the term is used as little more than a fashionable alternative to Piagetian terminology or the concept of IQ for describing individual differences in attainment or potential".

Vygotsky's (1978) socio-historical theories of cognition, especially the concepts of ZPD, mediation, and regulation, have rarely been applied to reflective teaching practices. It is here that certain Vygotskian constructs on socio-historical theories may play a significant role on the study of reflective teaching. First, Vygotsky's (1978) describes the concept of distributed cognition indicating that cultural-historical theory of cognition expands the unit of analysis of individual cognition to social dimensions.

Hutchins (1995) applied this social dimension to cognitive science and interpreted into the concept of distributed cognition explaining that cognition is distributed among a group of individuals in a work setting to carry out tasks. Rogers and Ellis (1994) explains the unit of analysis in distributed cognition is a collection of individuals and artefacts and their relations to each other in a particular work practice. Distributed cognition therefore emphasizes the roles structure or system play in the alignment among a group of individuals in a shared process to achieve a collective goal (Nardi, 1996).

It is clear that the concept of distributed cognition is also applied to the educational context by the advocates of reflective teaching. On the other hand, Salomon (1993) argues that the study of distributed cognition should not ignore the individual dimension.

Another concept of Vygotsky (1978) that is crucial to the paper is situated cognition. It is another concept to the study of the social dimensions of cognition. It gives importance to knowledge comes from action in certain contexts (Brown, Collins, and Duguid, 1989; Lave and Wenger, 1991; Greeno, 1998). The unit of analysis of situated cognition is the relation between the individual and the settings where they act (Nardi, 1996) and assume that members have different interests, make diverse contributions to activity, and hold varied viewpoints.

Lynch (2008) through Barnett (1996) explained that because reflection is a cognitive skill where students can improve their reflective capability if they

practice and are given appropriate feedback as it highlights Vygotsky's (1978) idea of collective cognition which explained that teacher cognition is co-constructed by each individual teacher with other members of community of practice. Three concepts articulated by Vygotsky (1978) are especially helpful in understanding the process of the collective cognition: socially constructed activity, internalization and externalization, and mediation. Besides, the notion of community of practice provided by Lave and Wenger (1991) also supports this understanding.

Moreover, Borg (2006) noted that on a traditional teaching focused more on behaviorism explaining that research perspectives that teachers are influenced on how teaching behaviors influenced learning outcomes. However, with the development of cognitive psychology, attention has shifted from teachers' external behavior of doing to their inner behavior of thinking. This time, a focus is given on teachers' decision-making, knowledge, and belief, and considered as major components of teacher cognition, and how it influences teaching behavior.

Striking a balance on this matter, Bailey (1997) highlighting the evolution of three perspectives that served as bases in research on teaching. The first is the behavioral view, which focuses on what teachers actually do, and attempts to connect their actions to student learning. The second is the cognitive view, which sees skilled teaching as a combination of thinking and doing. Bailey (1997) also notes giving a good summary that recent research

on teaching and teacher education has brought a change of emphasis to teachers' thought processes. With descriptions of the mental activities of teachers, appreciation of the visible behaviors of teachers has been broadened. With this, it is now viewed that teachers' cognition has become central to teacher's reflectivity which is the third perspective serving as the constructivist process in the classroom.

Freeman (1996) adds that the practice of reflective teaching helps professional teachers to examine their work and that active participation in reflective teaching provides researchers with data and with procedures which bring coherence out of complex cognitive processing and give shape to massive amounts of activity. It here therefore that finally the theoretical framework bridges the gap between a cognitive to constructivist perspectives through an interpretivist realm, which views skilled teaching as knowing what to do. Freeman (1996) adds that experienced and effective teachers interpret the available information in their own particular settings, make decisions, and act on them.

Tracey and Morrow (2006) described the general characteristics of the cognitive processing perspective through Woolfolk (1998) that the cognitive view of learning can best be described as a generally agreed-upon philosophical orientation focusing on the notions about learning and memory. Learning is the result of the student's attempts to make sense of the world. To do this, we use all the mental tools at our disposal. Woolfolk added that

the cognitive view sees people as active learners who initiate experiences, seek out information to solve problems, and reorganize what they already know to achieve new insights.

Schwartz and Reisberg (1991) add that “cognitive psychologists, who focus on changes in knowledge, believe learning is an internal mental activity that cannot be observed directly and that cognitive psychologists studying learning are interested in unobservable mental activities such as thinking, remembering, and solving problems.

Providing a more specific classification, Üstunel (2014) also presented that scholarly researches have investigated the relationship of teacher cognition and classroom practice in the field of language teaching (Bailey 1996; Bartels 1999; Breen 1991; Breen, Hird, Milton, Oliver and Thwaite 2001; Burns 1996; Gatbonton 1999; Golombek 1998; Johnson 1992a; Nunan 1992; Richards 1996, 1998a, 1998b; Richards, Li and Tang 1998; Smith 1996; Ulichny 1996; Woods 1991, 1996). Üstunel (2014) explains that these studies collectively show that teachers’ cognitions emerge consistently as a powerful influence on their practices.

Üstunel (2014) also qualifies that educational literature on decision-making (Shavelson and Stern 1981) and teachers’ personal practical knowledge (Elbaz 1981; Clandinin and Connelly 1987) are sources of teacher cognition. With this, Üstunel (2014) also specifies that one strand of studies of teacher cognition examines what second and foreign language teachers,

at any stage of their careers, think, know, or believe in relation to various aspects of their work.

Üstünel (2014) mentions that Borg (2003, 84-86) provided lists on the studies on language teacher cognition focusing on two curricular areas (grammar teaching and literacy instruction) (Mitchell and Hooper 1992; Mitchell, Brumfit and Hooper 1994a, 1994b; Brumfit, Mitchell and Hooper 1996 for grammar teaching; Johnson 1992b and Meijer, Verloop and Beijaard 1999, 2001 for teaching reading; Burns 1992 and Tsui 1996 for teaching writing) and the other strand of research on teacher cognition entails the study of actual classroom practices and of the relationships between cognitions and classroom practices (e.g., Freeman 1993; Crookes and Arakaki 1999; MacDonald et al. 2001).

Üstünel (2014) added that another type of research focuses rather on more general processes, such as knowledge growth during teacher education and decision-making, and illustrating these within a language teaching context.

Connecting cognition to reading instruction, Tierney and Pearson (1994) note that teachers should understand the nature of reading comprehension and learning from a text as complex process. They added that reading is a complex process that involves both conscious and subconscious actions by the reader.

The students as recipients of reading instruction, on the other hand play a vital role in teacher cognition. It has been noted by Knight (1992) that the learners are considered as an excellent basis for assessing the effectiveness of teachers in teaching reading. She noted that students are viewed as active interpreters or mediators of teachers' behaviors that may not be easily detected by observation instruments. Knight (1992) emphasizes that the reliability of students' responses coupled with the recent emphasis on students' thought processes (Wittrock 1986) suggests that the investigation of students' perception through interviews or self-report instruments may be an appropriate vehicle for examining the behaviors that the teachers use to encourage reading comprehension.

Teacher cognition plays a significant role in pedagogical issues with the students, the teacher, the school and the curriculum as backed up by research. Borg (2011) himself conducted a qualitative longitudinal study that examined the impact of an intensive eight-week in-service teacher education program in the UK on the beliefs of six English language teachers. He utilized a substantial database of semi-structured interviews, coursework and tutor feedback, to test a considerable variable on the impact on the teachers' beliefs. The study gave opportunities for teachers to think more explicitly about, become aware of, and articulate their beliefs, to extend and consolidate beliefs they were initially and sometimes tacitly positively disposed to, and to focus on ways of developing classroom practices which reflected their beliefs.

He found out that the data resulted in an evident impact but also suggested that the in -service course studied could have engaged teachers in a more productive and sustained examination of their beliefs.

Furthermore, he provided recommendations such as examining beliefs may be a novel experience for teachers and provide appropriate support as necessary, assist teachers in clarifying their understandings of what beliefs are (i.e. how they are distinct from practices and from theoretical knowledge), ensure that teachers understand why they are being encouraged to examine their beliefs, make reflection on beliefs a central social teacher learning process by providing communal opportunities e.g. in-class discussions for teachers to talk about their beliefs, supplement feedback advising teachers that they need to examine their beliefs in greater depth with concrete examples of how this can be achieved, encourage 'biographically responsive' reflective practices through which teachers can understand the formative influence of past educational and professional experiences on their current beliefs, assess teachers' attitudes to reflective writing and consider if necessary whether alternative mechanisms (e.g. graphical, oral, photographic) for articulating reflections can be made available for teachers to select from, and provide teachers not only with opportunities to make their beliefs explicit but also with space to question and doubt those beliefs and "powerful alternative conceptions" (Woolfolk Hoy et al., 2006, p. 728) to consider.

Li (2012) also conducted a study on teacher cognition focusing on the beliefs and practices of sixteen New Zealand university tutors who were employed in one of the university's faculties to provide feedback on undergraduates' assignments. Data were collected chronologically across an academic year by five methods: preliminary survey for bio-data of participants and their general attitudes to giving feedback across the faculty, individual interviews for beliefs on giving feedback, think-aloud sessions on the actual practice of giving feedback, stimulated recall discussions as reflection in action, and focus group discussion as a means of collective reflection of various factors underlying their beliefs and practices. It was found out in the study that there were convergences and divergences among tutors between their beliefs and practices about providing assessment feedback to the written work by undergraduate students and they were due to the contextual factors in the activity system and tutors' previous experiences. It was noted in the study that the emotional aspect played a significant role in cognition and the researcher concluded that a holistic socio-cultural framework of teacher cognition is a factor to the understanding of the complexity of teacher cognition.

As English is also a second language among Filipinos, Gerami and Noordin (2013) in the context of teacher cognition investigated vocabulary teaching approaches and challenges in some Iranian high schools from L2 teachers' perspectives through a basic qualitative research design in which

a multiple qualitative data collection method has been employed. Participants were purposefully selected and data collected through this method has been the foundation for the ensuing and interpretation. Findings indicated that participants possessed a good deal of knowledge about English language teaching in general and vocabulary instruction in particular, approaches they employed to teach vocabulary are not in congruence with their real beliefs and do not essentially include any metacognitive and socio-affective strategies. However, major problems L2 teachers face with in vocabulary teaching are identified to be either related to the educational system or to the contextual factors.

Childs (2011) in a study that traced the learning of three second language teachers as they engage in the activity of teaching and learning in an intensive, university-level, language teacher professional development program found out that even within the same professional development program there are tremendous differences in what and how teachers learn. The data indicate that the differences are mediated over time by their language learning and instructional histories, supportive relationships, and the agency they choose to exert on the activity systems that are part of their professional development experiences and that L2 teacher researchers and professional development programs can benefit by recognizing the significant role L2 teachers' prior experiences play in their learning and the power of

individual agency and supportive relationships to mediate language teacher cognition.

Childs (2011) further explained that novice teachers, then, are not aware of the conceptualizations that serve as the foundations for why teachers do what they do. The challenge for L2 teacher professional development programs is to move students of language teaching beyond their learning histories and tacit notions of teaching and mediate the development of theoretically and pedagogically sound, explicit conceptualizations of L2 teaching that may become the "psychological tools" through which they think about and carry out their teaching.

In the area of reading instruction, Bednar (1992) explored student teachers' adherence, rejection, or modification of their course work-generated (but untested or "idealized") model of reading when faced with the demands of the classroom through fifty senior education majors enrolled in an integrated elementary and special education program at an urban university. Reflective essays, submitted lesson plans and narrative lesson scripts, and observations were utilized during their full year of student teaching. Bednar (1992) found out that most of the student teachers appeared to have internalized the basic concepts stressed during their developmental reading course--that reading is an interactive cognitive process and that reading instruction should be guided by thoughtful analysis of the reader's needs and goals. Results also indicated that: (1) lesson observations and student

teacher reflections generally were in agreement; (2) most of the student teachers clearly indicated how, when, and if they changed their beliefs; but (3) a few student teachers parroted what they felt was the expected answer when they wrote their reflective essays.

Borg (2003) noted that as a movement to perspective in teaching, mentioned in some studies that the curriculum plays a big influence in teaching and teacher cognition and has been a center of criticism. In a study by Clark and Elmore (1981) they noted that published curriculum guidelines had a powerful influence on the direction of their teaching. Similarly, in Brown's (1988) study of 12 middle school teachers' planning, she found that textbooks, curriculum guides, school schedules, and school policies limited teacher autonomy in curricular decision making.

Joyce (1991) in a study notes that research on student perceptions of teacher planning indicates that students of all achievement levels have definite opinions about instructional adaptations teachers make to facilitate learning. Data were collected through teacher interviews, observations, think alouds, and stimulated recalls of videotapes of their lessons. It was suggested that the voice of students will be heard overtly or covertly. It seems prudent to develop systematic means for listening and responding to students as we strive to assure learning for all students. Joyce (1991) added that school restructuring efforts aimed at curriculum initiatives have not met with

overwhelming success and that research efforts that explore restructuring of curriculum while considering the needs of students are warranted.

In terms of the impact of teacher education on teacher cognition, perhaps it was Borg (2003) who has provided support for teacher cognition cogently explaining on what language teachers think, know, believe, and do.

Citing an influential review by Kagan (1992), Richards, Ho and Giblin (1996) studied five trainees on an introductory practically-oriented teacher training course in Hong Kong and found changes in their cognitions in relation to (1) their conception of their role in the classroom, (2) their knowledge of professional discourse, (3) their concerns for achieving continuity in lessons, (4) common dimensions of the teaching they found problematic (e.g., timing, presenting new language), and (5) the manner in which they evaluated their own teaching. Richards, Ho and Giblin (1996) explained the findings that the distinction between cognitive and behavioral changes which teacher education programs may induce noting that behaviorally, all four students adopted the specific teaching method they were taught on their program, and implemented this in their classrooms during practice teaching. This behavior, though, was at least partly a result of the need felt by the student teachers to conform to certain standards (they were, after all, being assessed). On the other hand, they stressed that cognitively, the student teachers varied in their acceptance of the suggested approach to teaching. These variations emerged when the students talked about their work, rather than through their practice,

and were largely rooted in the different cognitions about language, learning and teaching they held prior to their training. This study concludes that although teacher education played a powerful role in shaping the student teachers' behavior during teaching practice, it did not alter significantly the cognitions the students brought to the course.

Borg (2003) also mentioned Freeman's (1993) longitudinal study on the changes in the practices of four foreign language teachers doing an in-service masters' degree which had as one of its specific aims the development of teachers' understanding of the professional discourse of education. Freeman (1993) utilized interviews, observations, and document analyses to gather data in the study and to describe the manner in which tacit conceptions of teaching held by the teachers emerged during the course in the form of tensions – defined as 'competing demands within their teaching' (p. 488). The study eventually highlighted the development of a professional discourse that enabled the teachers to articulate and reflect on these tensions, and to re-conceptualize their understandings of their practice in the process and showed a clear impact on teachers' cognitions, though it is inconclusive that the effect of these cognitive changes on teachers' classroom practices indicate some evidence of behavioral change based on the patterns in the teachers' work which remained unmodified.

Borg (2003) also mentioned a stronger claim in the studies made by Sendan and Roberts (1998) and Cabaroglu and Roberts (2000) focusing on

observed changes in the structure and content of the student teachers' personal theories at different stages of a training program. Repertory grid data were used to represent changes in one student teacher's personal theories about teaching effectiveness over a period of 15 months. The researchers explained that the distinction made between changes in the content (i.e., what the trainee thought) and in the structure – 'the ways in which individual constructs are hierarchically organized into a whole system of construction'. In this study, evidence of change emerged from the analysis of interview data, from which the authors established categories of belief development processes. They concluded that contrary to views about conceptual inflexibility in student teachers' professional growth, the processes they described in their study are a more realistic picture of the changes. The findings indicate that the authors argue that initial training does promote change in trainees' thinking, at least at the structural level. They conclude that: the process of professional development is one in which new information and new experiences lead student teachers to add to, reflect upon and restructure their ideas in a progressive, complex and non-linear way, leading towards clearer organization of their personal theories into thematically distinct clusters of ideas and that it is therefore inappropriate to conceptualize student teacher cognitive development in terms of a simple process of aggregation of new ideas.

Interestingly, a foreign study examined teacher cognition of in-service teachers and pre-service teachers. Cabaroğlu and Roberts (2000) conducted two studies on teacher cognition have been carried out in Turkey utilizing 20 students on a postgraduate certificate in education (PGCE) secondary in Modern Languages at a British University. They examine the change in teachers' beliefs during a one-year postgraduate course and assert strong claims about the manner in which trainees' cognition do change during teacher education. Tercanlıoğlu (2001), on the other hand, utilized 132 pre-service EFL teachers in Turkey and examines their views of themselves as readers and future reading teachers. It was reported that pre-service EFL teachers were not very enthusiastic about teaching reading, though they accepted they would need to teach it as part of a language course. The study concludes that 51.51% of the pre-service teachers rated their teacher education program as satisfactory in this domain.

Reflective Teaching

Historically, John Dewey (1933), described by Apple and Teitelbaum (2001) as “generally recognized as the most renowned American educator of the twentieth century”, set the trail of reflective teaching in the field of teacher education (Griffiths, 2000; Ixer, 1999; Jay and Johnson, 2002; Osterman and Kottkamp, 2004; Zeichner and Liston, 1996). Pollard (2002) noted that the effect resulted with “his distinction of ‘routinized’ and ‘reflective’ teaching is

fundamental to the conception of professional development through reflection”.

Eby (1992) defined reflective thinking as the "active, persistent and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it. He adds that accomplished teachers regularly analyze, evaluate and strengthen the effectiveness and quality of their practice.

To add, Schon (1987) defines the reflective practitioner as one who engages in "reflection-in-action." Reflection gives rise to on-the-spot experiment. We think up and tryout new actions, test our tentative understandings of them, or affirm the moves we have invented to change things for the better. Reflective thinking is made up of many elements and indicates an individual's willingness to explore, be curious and be assertive to gain self-awareness, self-knowledge, and new understandings of the world.

Moreover, both Dewey (1933) and Schon (1987) expressed that reflective thinking involves a willingness to take responsibility for one's own actions and to deliberately make decisions based upon knowledge and practice and that reflection is founded in self-evaluation and experiment but also suggested that reflective behavior gives one a sense of empowerment that makes for better teachers. Reflective thinking is comprised of many elements and must be developed over time and with practice. Eby (1992)

supports this by stating that it is not something that occurs easily for most of us, and it takes time to develop.

To add, Fendler (2003) explains that literature on reflective teaching however revealed that the idea of reflection has run the whole gamut of all disciplines to the effect that it can be traced back to the works of Descartes Kant, Wittgenstein, and the pragmatists Pierce and Popper and even in Plato's Meno.

Cornford (2002) also noted that one can see a myriad of writings about reflection under the umbrella of self-analysis discussions in the works of Aristotle, Plato, and Socrates, who established 'educational thinking' philosophy. In spite of the many scholarly views that add to reflective teaching's development, it is highly noted that Dewey's works on reflective practice seem to be more relevant.

In the course of time, a number of models of reflective teaching which are influential in general education have been presented (Tremmel, 1993; Schon, 1983, 1987; Zeichner and Liston, 1987).

Pennington (1992) states that the term reflective teaching indicates a movement in teacher education in which student teachers or working teachers analyze their own practice and its underlying basis, and then consider alternative means for achieving their ends and showcases that reflection in the context of instruction can be interpreted in the sense of thoughtful consideration and by mirroring, symbolizing or representing.

In this regard, Poblete (1999) provided a cogent discussion of sets of reflective models and their principles. He presented that Griffiths and Tam (1992) organized these various categories of reflections into two levels: reflection-in-action which is likely to be personal and private indicating an “act-react” (rapid reaction) process and a “reaction-monitor-react/ rework-plan-act” (repair) process. They added that reflection-on-action is defined as interpersonal and collegial composed of “act-observe-analyze and evaluate-plan-act (review), act-observe systematically-analyze rigorously-evaluate-plan-act (research) and act-observe systematically-analyze rigorously-evaluate-retheorise-plan-act (retheorising and reformulating) processes.

With regard to inquiry-oriented paradigm of teacher education, Poblete (1999) discusses that it was Zeichner (1983) who believes that there are at least four paradigms have dominated the discourse of debate in teacher education in recent years. They are "behavioristic," which stresses specific and observable teaching skills identified in advance; "personalistic," which focuses on the development of the psychological maturity of the respective teacher; "traditional-craft," which emphasizes the accumulated wisdom of experienced practitioners; and "inquiry," which underscores the issue of which educational goals are to be given priority without ignoring the technical skills needed to achieve these ends.

Zeichner (1983) summed up that the inquiry-oriented paradigm is considered as one that seeks to foster a problematic attitude on the part of

prospective teachers toward existing institutional arrangements and emphasized that: "the fundamental task of teacher education from this point of view is to develop prospective teachers' capacities for reflective action and to help them examine the moral, ethical and political issues, as well as the instrumental issues, that are embedded in their everyday thinking and practice."

Feiman-Nemser (1990) surveyed five conceptual orientations or sets of ideas about the goals of teacher preparation and the means for achieving them. He enumerated them as academic orientation, which focuses on the fact that teaching is primarily concerned with the transmission of knowledge and the development of understanding; personal orientation, which proposes that learning to teach is a transformative process where the teacher learns to understand, develop, re-socialize, and use oneself effectively; critical/social orientation, which highlights the teacher's obligation to students and society by promoting democratic principles of justice and equality and habits of questioning taken-for-granted assumptions about teaching, learning, knowledge, etc.; practical orientation, which endorses the primacy of practice and experience as source of knowledge about teaching and a means of learning to teach; and technological orientation, which endorses the acquisition of principle and practice derived from the scientific study of teaching, preparing teachers who can carry out the tasks of teaching with proficiency or competence. Feiman-Nemser (1990) emphasized that

reflective teaching not as a distinct programmatic emphasis but rather a generic professional disposition. This is supported by the fact that the presented orientations explicitly endorsed the goal of reflection, even though they embody different conceptual orientations.

Poblete (1999) adds that Tom (1985) also developed a set of dimensions to distinguish the varying approaches to inquiry-oriented teacher education. These dimensions are: the arena of the problematic, the model of inquiry, and the ontological status of educational phenomena. He stressed that making a teaching situation problematic means a conscious attempt to suspend judgment about aspect of a teaching situation and instead consider alternatives to establish practices and to raise doubts about what, under ordinary circumstances, appear to be effective or wise practice. Tom (1985) believes that the arena of the problematic must be explored through a process of inquiry model on a continuum that reflects a joint concern for scope of inquiry (a focus on knowledge versus a focus upon action and knowledge) and for rigor (commonsense inquiry versus disciplined inquiry). Tom (1985) stresses that central to the formulation of the model of an inquiry dimension is the idea that both commonsense and disciplined-based models of inquiry have variants which put together the realms of knowledge and action as well as variants which focus on knowledge of teaching. The third dimension, the ontological status of educational phenomena, is bounded on one end by those who view educational phenomena as natural and is, therefore, relatively

stable across time and culture. On the other end are those who view these phenomena as socially constructed. To adapt the view that educational phenomena are natural is to make it stable enough for researchers to discover enduring regularities which in turn serve as knowledge base for which to ground intelligent practice. On the other hand, to adapt the view that educational phenomena are socially constructed is to see the entire educational system as potentially part of the arena of the problematic. Reflective teaching by Zeichner (1983) was classified by Tom (1985) as one that is on the large arena of the problematic; high in guidance for teacher educators, linking knowledge and action through commonsense inquiry; and grounded in the view that educational phenomena are socially constructed.

Henderson's Ethically Based Model of Inquiry (1992) defines that reflective teachers are expert teachers who know their subject matter and are able to teach it well. Their expertise includes time management, discipline, psychology, instructional methods, interpersonal communication, and learning theory and these are the teachers who are willing to embrace their decision-making responsibilities. They regularly reflect on the consequences of their actions. They are receptive to new knowledge and regularly learn from their reflective experience.

With this, Henderson (1992) characterized his model with the following components: an ethics of caring, a constructivist approach to teaching and artistic problem solving skill as main features of a reflective

teacher. Henderson (1992) sums up his model by highlighting that reflective teaching is enhanced by an inquiring attitude toward education, which involves taking a questioning, pondering, democratic perspective on the personal and public values of teaching and learning and that teachers seek out opportunities to dialogue with students, colleague, and society.

Adding up to models mentioned, Eby, Tann, and Pollard's (1992) model of systematic reflective teaching, is considered an outgrowth of Dewey's work on reflective teaching. It explains that reflective teaching implies an active concern with aims and consequences, as well as with means and technical efficiency; reflective teaching combines inquiry and implementation skills with attitudes of open-mindedness, responsibility, and wholeheartedness; reflective teaching is applied in a cyclical or spiral process, in which teachers continually monitor, evaluate, and revise their own experience; and reflective teaching is based on teacher judgment, informed partly by self-reflection and partly by insights from educational disciplines.

With this model, Poblete (1999) emphasized that inquiry skills considered essential in the process of reflective teaching. Eby, Tann, and Pollard's (1992) discuss them as: (a) empirical skills - related to knowing what is going on the classroom by collecting both objective and subjective data, (b) analytical skills – is concerned with obtaining meaningful results from the data through analysis and interpretations and placing them in a framework, (c) evaluative skills – used to make judgements about the educational

consequences of the results of enquiry in the light their aims and values, (d) strategic skills – for planning actions and implementation, (e) practical skills – relate to the need to be able to communicate ideas with others. To add, this model of reflective action centers on how caring and responsible teachers think and act. Poblete (1999) explains that reflection action was used to describe this model to show the synergetic relationship between interior thought processes and exterior actions. Eby, Tann, and Pollard's (1992) enumerates them as elements of this clarification of values and principles, (d) creative synthesis to fit the classroom, (e) persistence and problem solving, and (f) good communication skills. Finally, the model features the "cyclical and spiraling process in which teachers continuously monitor, evaluate, and revise their practice" are now presented.

Zeichner and Liston (1996) presented their model of reflective teaching which emphasizes five key features: (a) examines, frames, and attempts to solve the dilemmas of classroom practice, (b) is aware of the questions the assumptions and values he or she brings to teaching, (c) is attentive to the institutional and cultural context in which he or she teaches, (d) takes part in curriculum development and is involved in school change efforts, and (e) takes responsibility for his or her own professional development.

Poblete (1999) explains that examining these features have made a distinction from various forms of reflective teaching and made sense out of the various array of orientation represented in the reflective teaching

literature. Zeichner and Liston (1996) identified academic, social efficiency, developmentalist, social reconstructionist, and "generic" traditions as the five traditions of reflective practice that have guided reform efforts in teaching and teacher education. They noted that each of these traditions (with the exception of the generic approach) identifies a particular emphasis in the content of teachers' thinking. The academic version stresses reflection on subject matter and the representation and translation of that subject matter to promote student understanding. The social efficiency orientation highlights the thoughtful application of teaching strategies that have been suggested by research on teaching. The developmentalist tradition underscores teaching that is sensitive to and builds on students' backgrounds, interests, thinking, and patterns of developmental growth. The social reconstructionist version stresses reflection about the social and political context of schooling and the assessment of classroom actions for their ability to enhance equality, justice and more humane conditions in our schools and society. And finally, the generic tradition simply emphasizes thinking about what we are doing without attention to the quality or substance of that thinking. In all, except the last construal of reflective teaching practice, certain priorities are established, priorities that emerge out of particular historical and educational and social philosophies." (pp. 51-52)

Poblete (1999) citing Zeichner and Liston (1996) however argued that "good teaching needs to attend to all of the elements that are highlighted by

various traditions: the representation of subject matter, student thinking and understanding, research-based teaching strategies, and the social contexts of teaching" (p. 52). Furthermore, Zeichner and Liston (1996) perceive that:

“Many educational issues engage and effect our “heads and our hearts”. Teaching is a work that entails both thinking and feeling; those who can reflectively think and feel will find work more rewarding and their efforts more successful. Good teachers find ways to listen to and integrate their passions, beliefs, and judgements”

With these models mentioned, Poblete (1999) notes that a number of researchers and scholars have indicated that there have been lots of changes over the second half of the twentieth century in second/foreign language teaching and teacher education with regard to pedagogy specifically from 1990 onward (Akbari, 2005; Crandall, 2000; Freeman, 2002; Kumaravadivelu, 2001; Pica, 2000). Crandall (2000) notes that these changes epitomize a shift from a positivist-oriented perspective to a constructivist-oriented one and “a shift from transmission, product-oriented theories to constructivist, process-oriented theories of learning, teaching, and teacher learning” has been particularly conspicuous. With this, Brown (2000) explains that constructivism emerges as a dominant paradigm only in the last part of the twentieth century. He points out that constructivists present as socially-constructed reality and it is now an accepted practice to hold various constructions of knowledge. This new paradigm puts the act of learning in an entirely different context.

As these models of reflection emerged from the constructivist perspective, the classroom becomes a focus on the need to implement them. Adler (1990) notes that over the past decade the concept of the reflective practitioner has permeated the discourse' of teacher education. However, Adler (1990) stresses that although Dewey's arguments are cited by teacher educators today his ideas have not consistently been a part of the dominant discourse on teacher education in the twentieth century.

Fat'hi (2011) stated that constructivism views learning as an active process where learners reflect upon their current and past knowledge and experiences to generate new ideas and concepts resulting to a shift to a constructivist perspective of teaching. Crandall (2000) describes further that teacher learning makes teachers a primary source of knowledge about teaching and this, in turn, has paved the road for democratic approaches of teaching to come to the fore. Akbari (2005) describes this path where new avenues are being probed and language teaching is no longer seen as a mere technocratic enterprise and highlights that the shift in paradigm is due to the change of scope observed in modern language teaching literature and a concern for disciplines and issues previously regarded as irrelevant by both practitioners and theoreticians.

Rooted on pragmatism, Griffiths (2000) and Pollard et al., (2006) explained that Dewey (1933) introduced three different types of action: impulsive action, routine action, and reflective action; 'trial and error' features

impulsive action, and routine action has 'authority,' 'tradition,' 'preconception,' and 'prejudice' as its indispensable components; the two actions have inactive and tactless behavior in common. Reflective action, on the other hand, is in principle "the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends"

Johnstone (2006) emphasized that reflective teaching has been regarded as a way out of the teachers' classroom problems and as a counteraction against the influences of "bureaucracy, centralization, and control" in which "teachers are seen simply as deliverers of a fixed curriculum" and are not "valued as reflective professionals who frame and re-frame problems and test out their interpretations and solutions" while both Kumaravadivelu (1994, 2001, 2003b, 2005), Prabhu (1990) and Osterman and Kottkamp (2004, p. 189) added and highlighted that it can be regarded as a corollary of the post method condition which acts as "an empowerment and motivational process because it responds to basic human needs for competence, autonomy, and relatedness" and allows "individuals to assume greater responsibility for their own performance and learning".

Fendler (2003) provides a more elaborate explanation on the four underlying streams that provide trends that are significant to the recognition of reflection: a) Cartesian rationality, which assumes that in reflection "self-awareness will provide knowledge and understanding about teaching", b)

John Dewey's how we think, which was discussed above, c) Schon's professional reflection, which is "generally understood to be artistic and practiced based as opposed to positivistic and science based" , and d) feminist anti-establishment interventions. Akbari (2007) provides a more gender-specific definition stating that reflection on knowledge generation mechanisms and subverting those mechanisms to give more voice to women, or more feminine approaches, can be viewed as a force behind the rise of reflective movement in education. Cornford (2002) and Hillier (2005) point out that the cornerstone of reflective teaching and thinking critically originated from critical thinking. Jackson (2006) supported this by saying that critical thinking "implies that we are open to all aspects, and willing to see issues from a multitude of views, always questioning and challenging the current state". Similarly, Brookfield (1993) also says that it is quite possible to liberate ourselves from the confinements of our classroom by "questioning and then replacing or reframing an assumption which is accepted as representing dominant common sense by a majority.

With this, Schon's ideas and oeuvre on reflective teaching have contributed significantly to the development of reflection (Farrell, 2004; Reed, Davis, and Nyabanyaba, 2002; Stanley, 1998; Zeichner and Liston, 1996). Reed, Davis, and Nyabanyaba (2002) further argues that what is happening in the classroom, reflection-in-action includes visions, understandings and awareness teachers capture in the moment of teaching; reflection-on-action

includes considerations, interpretations, deliberations and thoughts given to what happened in the classroom in the moment of teaching. Farrell (1998) stresses this as reflection-in-action is concerned with thinking about what we are doing and deals with thinking back on what we have done to discover how our knowing-in-action may have contributed to an unexpected action. Stanley (1998, p. 685) added support stating that such reflective thinking and examination either during or after the fact can lead to greater awareness on classroom teachers' part in relation to their knowledge-in-action, or the theories, ideas, metaphors, and images they use as criteria for decision making in their teaching practice.

Bailey, et al. (1997) see the need for need reflection in the classroom explaining that experience is insufficient as a basis for development and added that often "we teach as we have been taught". Freeman (1992) notes that "the memories of instruction gained through their 'apprenticeship of observation' function as *de facto* guides for teachers as they approach what they do in the classroom". Larsen-Freeman (1983) however noted that awareness is the first step toward being able to change our teaching practice and critically reflecting on our own practice is one way to bring to the level of awareness what it is that we do, and why.

Bailey (1997) states that reflecting on one's teaching, and, in the process, developing knowledge and theories of teaching, is an essential

component" in the lifelong process of professional growth and add that reflective teachers are capable of monitoring, critiquing and defending their actions in planning, implementing and evaluating language programs. Richards and Lockhart (1994) note that reflective teaching constitutes a step forward in the field where the information obtained served as a basis for critical reflection about teaching. Information obtained can refer both to the primary data and to the insights gleaned from reflecting on those data. Thus, it is noted that reflective teaching is viewed as the practical, personal side, or perhaps one possible outcome, of the teacher-as-researcher movement (Edge and Richards, 1993; Kincheloe, 1991).

Reflection in teaching is crucial nowadays as Richards and Farrell (2005) cited that there are conceptualizations of teacher learning that may sometimes overlap and can lead to different approaches in teacher education. They explain that teacher learning could be viewed as skill learning, as a cognitive process, as a personal construction, and as a reflective practice.

The problem occurs because the last three concepts are not given conscious attention because a great deal of attention is given only in teaching as skill learning. To a great deal with regard to literacy concerns, unfortunately the possibility lies that teachers may not be aware of the benefits of a cognitive, constructive and reflective foundation in teaching because they may be focusing more on a behaviorist realm of teaching. This issue has been explained well by Tracey and Morrow (2006) stating that:

“Although the link between theory and behavior is always present, educators, like members of the general public, are not always consciously aware of the theories that guide their behaviors (Bigge and Shermis, 1992). While all teachers possess theories that drive their teaching, they may or may not be able to explicitly describe them. Teachers with a firm grasp of educational and psychological theories have a clear basis for making instructional decisions. Their understanding of educational theory provides them with a foundation for understanding *why* they are choosing the instructional practices that they use. Such theoretically based instructional decisions are linked to exemplary literacy instruction and improved literacy learning (Pressley, Allington, Wharton-McDonald, Block, and Morrow, 2001).”

Adler (1990) supported this by stating that the curriculum in itself treads on a behaviorist perspective:

“Teacher preparation has more commonly focused on teacher behavior; that is, training teachers in procedures that have been determined to achieve particular ends (see, for example, Competency Based Teacher Education). From this perspective, appropriate, effective, teacher behavior should be determined through empirical study.”

Larrivee (2006) highlights the reasons why teachers should be reflective practitioners given all the complexities, ambiguities, and dilemmas that characterize today’s classrooms. She notes that it is most important that teachers need to be reflective in order to deal with the unavoidable uncertainties and tradeoffs involved in everyday decisions that affect the lives of students. She added that effective teachers need to engage in both critical inquiry and thoughtful reflection. These are the hallmarks of reflective practitioners.

Larrivee (2006) also notes that teaching is a complex and dilemma-ridden endeavor that requires ongoing learning as well as the capacity to be

reflective. From this perspective, it is viewed that the development of reflective practice is the foundation for the highest professional competence (Cole & Knowles, 2000; Jay, 2003; Larrivee, 2000; Osterman and Kottkamp, 2004; Steffy, Wolfe, Pasch, and Enz, 2000; Valli, 1997; York-Barr, Sommers, Ghere and Montie, 2001; Zeichner and Liston, 1996).

Bartlett (1990) points out that becoming a reflective teacher involves moving beyond a primary concern with instructional techniques and “how to” questions and asking “what” and “why” questions that regard instructions and managerial techniques not as ends in themselves, but as part of broader educational purposes. He also indicated that asking “what and why” questions give us a certain power over our teaching. As a result, a degree of autonomy and responsibility in the work as teachers is determined by the level of control exercised over actions. In reflecting, teachers begin to exercise control and open up the possibility of transforming everyday classroom life.

As a movement from a behaviorist to a constructivist view, Larrivee (2006) highlights that emerging beliefs about quality teaching play a vital role in teachers’ development as reflective practitioners noting that what constitutes quality teaching is evolving. She explains that major curricular changes now shift to provide greater emphasis on curricular integration, teaching for meaning, interactive dialogue, socialization, and collaboration require fundamental changes in the way teachers view their role. The focus now centers on teacher's role as social mediator, learning facilitator, and

reflective practitioner that being able to function in these roles begins with teacher self-awareness, self-inquiry and self-reflection thus fulfilling these roles, teachers are helping students learn to exercise self-direction, self-regulation and self-reflection.

Larrivee (2006) expounds that being a reflective practitioner is a vital tool in today's classroom. The fact is that explicitly the goal of reflective practice is to create deeper understanding and insight to create the basis for taking action to continuously improve practice throughout one's teaching career. She adds that a reflective teacher is a practitioner that is perpetually growing and expanding. It opens up to a greater range of possible choices and responses to classroom situations. She highlights that building the habit of reflective practice allows teachers to remain fluid in the dynamic environment of the classroom and that reflective practitioners operate in a perpetual learning spiral in which dilemmas appear, frequently initiating a fresh cycle of planning, acting, observing, reflecting, and adapting.

Alvarez (2009) asserts that teachers' persistent reflection has a determinant role in building and consolidating teaching knowledge. Dewey (1938) supports this by defining reflective thought as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends". Alvarez (2009) highlighted that a number of researchers also noted that reflection draws upon the act of questioning or revising what a person

believes, his/her understanding of things and, as such, this action will build knowledge and generate autonomous professional development (Schön, 1983, 1987; Wallace, 1996; Richards; Lockhart, 1994; Farrel, 1998; Johnson, 1999, 2002).

Alvarez (2009) perceives that reflective teaching requires using the plethora of opportunities a teacher has on a daily basis to explore, question, frame, re-frame, and challenge systematically his/her own teaching under a holistic view so as to be able to interpret and make sound choices. They explained that through this, the account becomes the source of teachers' belief systems and interpretative frameworks which can inform how they evolve, develop and change during their professional growth (Richards; Lockhart, 1994; Johnson, 1999; Gebhard; Oprandy, 1999) and how they have built up their knowledge (Golombek, 1998; Tsui, 2003).

Stiggins (1995) noted that there is a continued conversation and debate among curriculum experts regarding the respective roles of content and reflection, but there appears to be agreement that both are essential ingredients in a student's education. Some educators feel that teaching content is overemphasized to the detriment of considering thinking as the core of the curriculum (Costa 2001).

Costa (2001) states that "content, when judiciously selected for its rich contributions to thinking and learning, becomes the vehicle to carry the learning processes. The focus is on the learning from the objectives instead

of learning of the objectives.” Students need to know their learning targets in order to answer the fundamental question— “Where am I going?”— on which all learners should reflect (Chappuis 2005, 40).

With these views on reflective teaching, it is vital to examine how reflections are classified to measure them on an empirical study as suggested by Adler (1990). Hofer and Pintrich (1997) explained that researchers and theorists have developed taxonomies to explain qualitative aspects of reflection and have identified critical reflection as the deepest level of reflectivity. Both of them emphasized that for teachers, critical reflection is the type of reflective thought most closely associated with Dewey’s principle and involves reflections on the teaching practices as they relate to moral and ethical issues in society. They however clarified that although it is difficult to measure, these typologies help to identify specific characteristics that determine the level, or quality of reflectivity.

Mezirow (1991) developed a taxonomy that categorizes thinking into levels and explained the different qualitative aspects of the process. This framework for coding reflection includes three levels of depth of thought: *non-reflective action*, *reflective action* and *premise reflection*, which is the equivalent of critical reflection as defined by other theorists in reflective practice.

Mezirow (1991) discussed that nonreflective actions that can be: *habitual action*, *thoughtful action*, or *introspection* and constitute very

superficial levels of non-reflective thought such as routine actions that are performed automatically, thoughts about which mandated methods or instructional techniques to use, or introspective feelings about teaching actions. It does not include the careful consideration of reasons for acting in specific ways. On the other hand, reflective action is divided into three subcategories: *content reflection*, *process reflection*, and *content and process reflection* (a combination of content and process reflection). The final category, *premise reflection*, is what others call critical reflection. Mezirow (1991) notes that this represents the highest level of reflective thought involving an analysis of the premises and assumptions inherent in the personal perspectives of the one who reflects. In other words, critical reflection includes, not only questioning how to teach, but also why specific ways of thinking and questioning are part of the reflective process and not others. With his work rooted on Transformational learning theory, Mezirow has contributed to the current understanding of reflective thought, in particular critical reflection. This principle explains a learning process that results in the transformation of beliefs, attitudes, assumptions, and the perceptual and conceptual codes that form and limit the way we think and learn. Mezirow (1991) adds that critical reflection is a crucial aspect of reflective practice because teaching is a complex activity; and solutions to teaching problems are often not found because practitioners fail to examine their own perceptions, or premises. Mezirow (1991) further views certain epistemic

stances and in turn certain ways of knowing, supports teachers in reaching a desired level of reflection.

Non Reflective Action	Habitual Action. Learned action, performed automatically with little conscious thought.
	Thoughtful Action. Uses prior knowledge without appraising it.
	Introspection. Awareness of the feelings associated with learned actions.
Reflective Action	Content Reflection. Reflection on perceptions, thoughts, feelings or actions. (What)
	Process reflection. Reflection on the processes of perceiving, thinking, feeling or acting. (How)
	Content & Process Reflection. Combination of both content and process reflections.
Premise Reflection. Awareness of reasons behind one's perceptions, thoughts, feelings and actions. (Why)	

Table 6 - Taxonomy of Reflective Thought According to Mezirow (1991)

On a parallel steam, Sparks-Langer, Simmons, Pasch, Colton and Starko (1990) through a conceptualization of the construct of reflective pedagogical thinking derived from three sources of influence: Van Manen's three levels of reflection; cognitive psychology; and Kolb's (1984) experiential learning theory have developed a framework for reflective thinking consists of seven levels of reflective pedagogical thinking. The procedure for assessing pedagogical reflective thinking involves an interview and interviewee's responses are then assessed using the framework as criteria. The levels in this framework reflect Gagne's (1968) hierarchy of thinking and van Manen's (1977) idea of critical thinking (Sparks-Langer, et al., 1990).

Sparks-Langer, et al., (1990) discusses scale as Levels 1 to 6 encompass cognitive reflection while level 7 is critical reflection. This indicates the progression of levels indicates a growing sophistication in teachers' schemata, from technical rules and concepts to contextual and ethical thinking.

Level	Description
1	No descriptive language
2	Simple layperson description
3	Events labeled with appropriate terms
4	Explanation with tradition or personal preference given as the rationale
5	Explanation with principle or theory given as the rationale
6	Explanation with principle/theory and consideration of context factors
7	Explanation with consideration of ethical, moral, political issues

Table 7 – Sparks-Langer et. al. Reflective Pedagogical Thinking Scale

Valli (1997) also developed her typology of reflection through a review of literature and a number of teacher education programs. With this she concluded that there were five types of reflection: technical reflection, reflection-in-action and reflection-on-action, deliberative reflection, personalistic reflection, and critical reflection. Valli (1997) has presented a good focus in defining these reflections based on the content for reflection and quality of reflection. She explained that content for reflection refers to

what teachers thought about, and quality of reflection refers to how they thought about their teaching or the processes of thinking they go through.

However, Minnot (2008) explains that Valli's typology has been criticized by Hatton and Smith (1995) describing it as hierarchical in nature. They state that reflection-in-action and reflection-on action characterized by being most complex and demanding of the five types of reflection, yet Valli placed critical reflection higher, and seems not to have recognized this fact. In addition to their claim, they also questioned that that the end-point in the process of developing reflective practitioners is to develop their capacity to undertake reflection-in-action, which they consider to be the most demanding type of reflecting on one's own practice.

As a reply in defense of Valli, Spalding and Wilson (2002) point out that her typology of reflection is not hierarchical, and so one should not be tempted to value some forms of reflection more than others.

Minnot (2008) notes that despite these criticisms Valli's typology was selected to aid in the process of categorizing and determining the types of reflection in journals. Minnot (2008) first emphasized that Valli's typology of reflection was produced based on a compilation and careful analysis of the works of many writers and in particular Donald Schon, who is main figure in the development of reflective teaching and thinking. Secondly, Minnot (2008) explains the typology was 'user friendly' and easy to follow and that the typology provided a template that standardized the way the journals were to

be assessed in the program. Thirdly, and most importantly, there was the need for a 'tool' to aid in analyzing the teachers' reflective journals, and Valli's typology of reflection enabled the process of analysis.

Technical reflection: Educators match one's own performance to external guidelines. Content of this form of reflection centers on general instruction and management behaviors based on research of teaching.
Reflection-in and on-action: Educators base decisions on one's own unique situation and consider personal teaching performance.
Deliberative reflection: Educators weigh competing viewpoints and research findings regarding a whole range of pedagogical concerns/decision (e.g., curriculum, instructional strategies, rules and organization of classroom, etc.).
Personalistic reflection: Educators listen to and trust one's own inner voice and the voices of others. Content for this type of reflection includes personal growth and relationships with students.
Critical Reflection: Educators consider the social, moral, and political dimensions of schooling and judge these dimensions in light of the ethical criteria such as social justice and equality of opportunity.

Table 8 - Valli's Five Types of Reflection

Based on National Board for Professional Teaching Standards (1998) in "What Teachers Should Know and Be Able to Do," one of the five core propositions of the states that "teachers think systematically about their practice and learn from experience." According to Eby (1992) and Schon

(1987) the development of reflection is a growth process that may be modeled and practiced. Reflective dispositions must be fostered over a period of time and in a variety of situations. NBPTS (1998) provided support stating that every class and activity should provide opportunities for reflection and improvement. In classrooms where teachers model questioning and reflection searching for knowledge and reflecting on their own performances students often seem to behave in the same way. They ask more questions, suggest more alternatives, weigh the consequences of various options, and seem more honest in their evaluations of their own performance (Eby, 1992).

Condensing all these with regard to its significance in reading instruction, Bednar (1992) stipulates that the basis in teaching reading or reading cognition should focus on teachers' knowledge on theories and models and that there is no more critical area for this to occur than reading. She adds that without opportunities to analyze and reflect upon previously held and newly obtained reading concepts, novice teachers may base instruction decisions on their own remembered classroom reading experiences or accept proposed reading philosophies or practices without thorough scrutiny and reflection.

The study of reflective teaching cuts across various subject areas and concerns. Focusing on Mathematics, Lester (2007) mentions a study by Cooney et al. (1998) found out that reflection played an important role in the growth of prospective secondary-school teachers over their last year in an

undergraduate teacher preparation program. Utilizing Green's rich theoretical perspective, student-teachers were examined not only to what beliefs the prospective teachers held but also to the ways in which the beliefs were held.

Cooney et al. (1998) explains the three aspects of Green's belief structures as beliefs can be held as primary or derivative beliefs; beliefs can be held can with differing degrees of strength; and beliefs can be held more centrally or more peripherally in relation to other beliefs. Cooney et al. (1998) raise the point on the importance of Green's structure was the role that evidence plays in the ways one holds beliefs, because non-evidentially held beliefs are impervious to change through reason or evidence whereas beliefs held evidentially can be changed through teacher reflection. A related construct is *teacher authority*, because for one who holds beliefs non-evidentially, the role of an outside authority figure is important for the construction of beliefs.

Lester (2007) highlights in relation to epistemological theories, Cooney et al. applied two frameworks for considering authority, one based upon Perry's (1970, cited in Cooney et al., 1998) scheme, which was developed by investigating how college males think and come to know, and the other based upon women's ways of knowing (Belenky, Clinchy, Goldberger, and Tarule, 1986, cited in Cooney et al., 1998). Cooney et al. "were interested in capturing the meanings each of the teachers ascribed to his or her teacher-education experiences" (p. 315) and doing so required them to assess each pre-service

teacher's beliefs structures by collecting multiple data sources and searching for disconfirming evidence across the data. Cooney (1998) suggested that to help teachers change their beliefs, teacher educators must find ways to support teachers to become more reflective while they unravel their notions about teaching and rebuild them in a rational way. Cooney (1998) also recommended supporting pre-service teachers while they transform their notions of caring and telling into notions that encourage attention to context and reflection by helping them move beyond their concerns for children's personal comfort levels to consider students' intellectual needs and by integrating content and pedagogy to support the transition of teachers toward reflection.

In another study, Akerson et. al. (2000) assessed the influence of a reflective, explicit, activity-based approach to nature of science (NOS) instruction undertaken in the context of an elementary science methods course on pre-service teachers' views of some aspects of NOS. The researcher utilized 25 undergraduates and 25 graduate pre-service elementary teachers enrolled in two sections of the investigated course. An open-ended NOS questionnaire coupled with individual interviews was used to assess participants' NOS views before and at the conclusion of the course. During the first week of class, participants were engaged in specially designed activities that were coupled with explicit NOS instruction. Throughout the remainder of the course, participants were provided with structured

opportunities to reflect on their views of the target NOS aspects. The study generated findings indicating that participants made substantial gains in their views of some of the target NOS aspects and less substantial gains were evident in the case of the subjective, and social and cultural NOS. The results of the present study support the effectiveness of explicit, reflective NOS instruction. Such instruction, nonetheless, might be rendered more effective when integrated within a conceptual change approach.

In another subject area, Karadag and Sadik (2010) conducted a descriptive study for determining the reflective thinking levels of the social studies teachers. 277 social studies teachers working in the towns and villages of Şanlıurfa provinces participated in the study voluntarily. The Reflective Teaching Tendency Scale by Semerci (2007), arithmetic mean, standard deviation, ANOVA, Mann Whitney U, Kruskal Wallis, and LSD tests were used to analyze the data. It was found out that while the reflective thinking levels of the social study teachers were found very high, their most positive perception related to the reflective thinking skills was “Open-minded” dimension. It was also found out that female teachers have a higher reflective thinking tendency in interrogating and effective teaching, teaching responsibility and scientific, researching, being foresighted and sincere dimensions and have more positive perceptions about their profession. While there is no significant difference on the reflective thinking levels of the teachers on the basis of the length of service and the size of the location

(province, district, village) they serve, it was found that the teachers with a length of service between 11 and 15 years have a higher reflective thinking tendency.

Inyega (2001) on the other hand, conducted a case study research to investigate reading to learn with specific focus on Elimu teachers' college in Kenya. It sought to shed light on the fact that reading to learn is paramount to content knowledge acquisition in education and educational programs can be designed to equip students with reading to learn skills and strategies. 100 students participated in the study composed of pre-service teachers in mathematics and science and 16 lecturers, including six (from Biology, English and Communications Skills, Mathematics and Physics departments) who volunteered to be interviewed and observed in class teaching. Data were collected through interviews, observations and survey questionnaires. Inductive data analysis methods (Glazer and Strauss, 1967) were used to analyze these data. The themes that emerged from the findings indicate that comprehension and reading to learn at Elimu College was seen as a means to an end - academic achievement. The recommendations reveal the "reflexivity" of reflective teaching for further research indicating "this journey ends where all journeys end – at another beginning."

Utilizing an instrument, Seng (2004) investigated practicum student teachers' reflectivity. The paper utilized a revised version of the Reflective Pedagogical Thinking Scale (Sparks-Langer, et al., 1990) to measure

reflectivity. 223 student teachers from Batu Lintang Teachers College were utilized and their practicum journals were collected at the end of the practicum and each participant's level of reflectivity was assessed through the use of the revised reflective pedagogical thinking rating scale. The results indicate that student teachers were hardly reflective, exhibiting very low levels of reflectivity based on Van Manen's classification of levels of reflectivity. He concluded that the Reflective Pedagogical Thinking Scale has limitations in measuring reflectivity and that the scale is useful only when measuring reflectivity based on an interview. The revised scale was also found to be useful because of the categorization of the types of journal entries to fit into the conceptual framework of the original scale. Evidence of low reflectivity among student teachers led the researcher to suggest the need for program designers to consider further changes in terms of pre-practicum preparation and supervision strategies that may promote reflectivity among student teachers.

Valencia (2009) presented a qualitative, descriptive-interpretative study in order to describe both the way the knowledge base of five in-service teachers has been constructed and the elements that articulate it. Data were collected through journals and interviews. In this study it appeared that life experience and educational process have been as the main source of teachers' knowledge base. Knowledge base components of teachers that were identified were content knowledge, general pedagogical knowledge and the knowledge about their role, their students and the teaching context. It is

therefore averred that the knowledge base of language teacher education should not merely be founded on the knowledge provided during professional training. It should also be understood against the backdrop of teachers' language learning stories and instructional practice experiences, and within a particular socio-cultural milieu.

On a more in-depth examination of reflective teaching in connection with reading instruction, Bednar (1992) provided explanations examining reading cognition and/or reflection studies through pre-service teachers' understanding of reading instruction and reading strategies (Roehler et al., 1987; Roehler, Herrmann and Duffy, 1989; Roehler and Reinken, 1989; O'Brien and Stewart, 1990; Smith and Pape, 1991).

Bednar (1992) cited Andrews (1990) who used reflective inquiry to investigate theory building in methods courses. Bednar (1992) also mentions Gordon and Hunsberger (1990) who concluded that pre-service content area teachers' knowledge and beliefs about reading were influenced positively when the students reflected on reading issues through hands-on activities and journal writing.

Bednar (1991) herself found that pre-service elementary/special education and secondary education majors were able to identify and reflect upon their developing reading process and practice knowledge when a series of reflective activities were used. She noted however that students were not involved in a practicum situation and results were presented with caution. She

pointed out that although Herrmann and Sarracino (1991) noted some literacy cognition and reflective practice development, they reported generally less positive results with pre-service groups who were emerged in a reflective literacy teaching experience.

To add, Bednar (1991) cited the study of Readence et.al. (1991) reported inconsistencies between in-service teachers' theoretical views of reading and instruction practices. She raised the concern with the possible temporal nature of pre-service program developed cognition and reflective characteristics that prompted her follow up study.

Bednar (1991) explains in her study continued to explore the unfolding reading process knowledge and reading instruction practices of elementary and special education pre-service teachers and to investigate the degree to which pre-service teachers use a theoretical basis to guide reading instruction decisions. Results indicated that subjects: (1) learned the mandated content of the course and became more knowledgeable about reading processes and instruction; (2) were more able to discuss/reflect upon their level of professional knowledge and comfort as the course unfolded; and (3) appeared to have more confidence in their understanding of reading processes and directions to take with assessment and instruction. Findings suggest that, by the end of the semester, there was steady solid progress toward reflective inquiry with considerable difference in what the students knew and in what they thought about what they knew.

Viewing the teaching of reading in the Philippines, only a number of local studies tread the path that explores the abysmal trenches of epistemology in order to examine cognition and reflection. Bernardo (2008) investigated the epistemological beliefs of 864 bilingual Filipino preservice teachers using Filipino and English versions of the Schommer Epistemological Questionnaire (M. Schommer, 1998). He utilized confirmatory factor analyses to determine the dimensions and structure of the epistemological beliefs. His study revealed two factors: Simple Learning and Structured Learning. The same factors were found using the Filipino and English versions of the questionnaire. The author discusses the results in terms of how they contribute to the growing evidence regarding the possible problems with particular multidimensional theories and quantitative measures of epistemological beliefs. The results also show how the specific epistemological beliefs of the Filipino preservice teachers may reflect features of the Philippine educational system and its tensions regarding pedagogy.

It has also been noted by Bernardo (2008) that previous researchers of Wong-Fernandez and Reyes (2003) have suggested that pre-service teachers in the Philippines are not capable of engaging in more complex forms of problem solving and thinking, but they tend to be effective in dealing with simple, low-level knowledge). Bernardo (2008) further emphasized that Filipino teachers' classroom behaviors and lesson planning indicate an emphasis on low levels of learning and simple types of knowledge (Limjap,

Roleda, and Prudente, 2005). He said that these behaviors seem consistent with the school curriculum, which emphasizes discreet and factual knowledge (Reyes, and Limjap, 2002). Bernardo (2008) further explains even teacher educators are more comfortable with simple and low levels of knowledge and have difficulties with more complex forms of learning and thinking and the Philippine educational culture seems to emphasize learning simple, low-level forms of knowledge and thinking.

With regard to teacher cognition, Macalinao (2012) analyzed ESL teachers' pedagogical system and their instructional decisions with reference to grammar teaching. It examined if there is a fit between what teachers know, believe, and think and what do they do in grammar teaching. She utilized seven experienced teachers of English as a Second Language (ESL) teaching ENGLISH I. It was found out that studying cognition about grammar teaching of ESL teachers can help get the observable reasons for their instructional decisions. It was also found out in the study that what teachers know, think, and believe about grammar teaching is not always translated into actual teaching practices.

With regard to teachers' belief systems, Arias (2012) administered a Reading Belief Questionnaire to fourteen graduate students and she found out that the participants view reading as transmission, translation, or transaction. Other studies on teachers' beliefs include Villena (2004) as he explored the beliefs and practices of elementary teachers in high and low

performing school on the Math sub-component test of the National Elementary Achievement Test (NEAT) in Metro Manila. It was shown in the study that elementary Math teachers strongly believe in Inquiry Mathematics Tradition (IMT) and School Mathematics Tradition (SMT).

Gutierrez (2003) focused on the underlying cognition of secondary teachers teaching literature and the findings revealed that teachers integrated the teaching of literature with language their belief system served as the basis for their instructional practice and decision-making process. Teachers' cognition also was found out to be directed on beliefs on the materials they used and decisions on course goals based on the curriculum and lesson structures.

On the other hand, Villar (2007) in a qualitative study on reflective teaching on a Content-Based Secondary English Program found out that teachers manifest their style on grammar instruction based on either conscious or unconscious paradigms they advocate through experience in teaching, teacher beliefs in grammar instruction are greatly influence by his/her college education and through available instructional materials such as textbooks and teacher's experience helps him/her in formulating helpful strategies in grammar instruction that are not learned in the academe.

Supporting his study, Villar (2007) also mentioned the study of Purganan (2004) who explored the use of reflective practice as a tool in

developing the writing skills of engineering students and discovered that it can help address the mental and affective dimensions involved in writing.

Earlier local studies like the case of Nardo (2004), in her study on teaching English 1a through reflective journals had noted that reflective teaching was a strong motivation for the teacher to improve teaching performance paving the way for the teacher to become observant to the learning behavior of students and therefore employed suited activities for language learning. She further emphasized through journal writing, events in the classroom were provided with more interesting teaching and learning experiences.

In the light of reflective teaching practices, Hole and Entee (1999) noted that the life force of teaching practice is thinking and wondering. Therefore, they suggested that a reflection guide is useful in order to refine the process.

To add, Colton and Sparks-Langer (1992) explains that the use of a framework to guide the development of teacher reflection in classroom decision making. This process provides teacher educators with a clear vision on how to address the challenge facing schools. They suggested that the framework they have developed for reflective teaching guide is still open to generate dialogue and researches.

Synthesis

With the wealth of concepts, literature and studies explained, it has been established that reflective teaching provides a movement from the behaviorist perspective to a constructivist view in learning. This movement greatly explains that the teaching of reading is a complex process and that it goes beyond mastering the skills in a competency-based curriculum. Therefore, the discussion provides a deeper understanding of the needed constructs for reflection and constructively treading for the search of better learning solutions through focusing on epistemological beliefs of the teachers and at the same time considering the role of teacher cognition as an important yet unobservable facet of instruction.

It has also been discussed that there are some areas that have to be addressed particularly on the controversial aspects of reflective teaching. First, epistemological world views have to be considered as the groundwork for reflection. Without considering this important theoretical support, it could play a significant role on the reflection processing during reading instruction. It has also been clarified that epistemological beliefs are meant to be tested well in the different disciplines to strengthen the claims by the different models created. It has been stressed that further research should focus on how the other constructs are sensitive to contextual factors and how teaching may contribute to the continued positive development of learning conceptions and epistemological beliefs (Cano and Elawar, 2004). This paper's review of

literature and studies cogently explains that the concept of reflection answer to this call. To this end, reflection could be analyzed as a way of knowing and as an avenue for viewing teacher cognition and possibly other emerging structures. Teacher cognition plays an important role in reflection for scholars have indicated that it aids the expansion and improvement of a theoretical knowledge base of teacher education practices (Carlgren and Lindblad, 1991; Cole and Knowles, 2000; Bartels, 2005).

Second, it has been noted by the review of literature and studies that most of the researchers conducted focused on pre-service teachers and led to various conclusions and findings. However, it was revealed in some studies that pre-service teachers are not yet categorized as reflective practitioners for they are still deficient in cognitive ability, conducive beliefs, values, attitudes and emotions (LaBoskey, 1996; Ostorga, 2006). This paved the way to take a look on a more reliable source for reflective teaching processes and they are the in-service teachers.

Third, it was shown that teachers developed their epistemic beliefs tracing their development in studies involving students, pre-service and in-service teachers and therefore provide better understanding on how they view the definition of knowledge, how knowledge is constructed, how knowledge is evaluated, where knowledge resides, and how knowing occurs" (Hofer, 2004). This could also contradict other claims of non-reflectivity of teachers and could

prove that teachers are already capable of being reflective during classroom processes and instruction even in the early years of their teaching careers.

As a whole, the explanations given highlighted some of the gaps in the areas of reflective teaching, teacher cognition and epistemological beliefs with the many theories, models and researches conducted at present. The study therefore would like to fill these gaps through analyzing what are the emerging reflection processes of Filipino teachers and to enhance the practice through a reflective teaching guide.

CHAPTER III

METHODOLOGY

This section presents the research design, the participants of the study, the instruments, the procedure and the data analysis.

Research Design

This study utilized a qualitative case study design through content analysis of journals. Kagan (1992) has suggested that quantitative methods are not able to tease out those cognitive and reflective teachers' characteristics sought, recommended using qualitative techniques which may be more sensitive and may better grasp the essence of cognitive mediation (Bednar, 1992).

This study chose a case study method. A case study is an in-depth exploration of a bounded system (e.g. an activity, event, process, or individuals) based on extensive data collection. Cresswell (2005) explains that this method is focused on developing a case, such as an event, an activity or a process. It could include the study of an individual or several individuals and it is used to assess a merit, to understand an issue, or to provide information to compare several cases.

In this study, an explanatory or collective case study is utilized where the research objective is to identify causes and explain outcomes. Typically, this involves using several cases and drawing comparisons between them. (cross-case comparison). The main interest in using the case studies is to test a theory or

generalization and establish the parameters which can be applied to all research (Eisenhardt, 1989).

The Research Participants

a. Sampling Method and Sample Size

Purposive sampling design was utilized in selecting the participants in this study. Cresswell (2005) noted that in purposeful sampling, the researcher intentionally selects individuals and sites to learn or understand the central phenomenon and the standard used in choosing the participants and sites is whether they are information rich. Under purposive sampling, this study also utilized theory or concept sampling in the which the researcher samples individuals and sites because they can help the researcher generate or discover a theory or specific concept within a theory.

The researcher had purposively chosen seven (7) English teachers of Marikina High School, whose first language is Filipino or Tagalog and whose second languages include English, to compose the population of the study. As indicated in literature and studies on epistemological theories, teacher cognition, and reflective teaching, the researcher required the participants to have at least three years of experience as in-service teachers to provide acceptable quality of reflections in the study.

b. The Participants and the Locale

The participants chosen are English teachers of Marikina High School located at E. Santos St. Concepcion Uno, Marikina City as the research site. The school is composed of 165 teachers of which 20 of them are English faculty members. The reason for choosing the participants in this site is the accessibility of the location and possible approval of the study permits from participants and gatekeepers.

c. Criteria for Selection of Participants

Each of the seven teachers was chosen based on a specific set of criteria that included years of teaching experience, educational qualifications, and recommendations from the department head about to the teacher's willingness to participate in the study. Based on literature and studies on epistemological beliefs, teacher cognition and reflective teaching, the participants are required at least three years in teaching to qualify in the study. The participants hold a minimum requirement to qualify as a reading teacher (i.e. BSE or AB English graduate).

d. Participant-Selection Process

The selection of the participants underwent the following phases:

Phase 1 - The researcher sought permission from Schools Division Superintendent and the School Head of Marikina High School by submitting a letter of permit. (see Appendix E)

Phase II - Upon the approval of the permit, the researcher proceeded on choosing possible respondents in the English Department of Marikina High School. Seven (7) teachers agreed to participate in the study.

Phase III – The researcher met the participants and oriented them on how the study will be conducted. The time and date for the submission of journal log entries were set.

Table 9 - The Participants' Education and Reading Background

Respondent	Present Designation	Years in Teaching	Highest Degree (at the time of the study)	Under-graduate Degree (Course)	Back-ground on Reading as a Course/ Subject
Teacher A	Teacher I	3	M.A – 30 Units	Bachelor of Technical Teacher Education	Graduate
Teacher B	Teacher I	17	M. A. - 21 Units	Bachelor in Secondary Education	Under-graduate
Teacher C	Teacher I	3	Bachelor in Secondary Education	Bachelor in Secondary Education	Under-graduate
Teacher D	Teacher I	3	Bachelor in Secondary Education	Bachelor in Secondary Education	Under-graduate
Teacher E	Teacher I	15	Bachelor in Secondary Education	Bachelor in Secondary Education	Under-graduate
Teacher F	Teacher II	13	AB/ BSE English Minor in Science	Bachelor of Science in Education	Under-graduate
Teacher G	Teacher II	13	MAED- Educ. Management	BSE – English	Under-graduate

e. Profile of the Participants

Through the orientation meeting with the participants, the profile of the participants was determined to view their capacity to engage in reflective thought which actually formed one of the main constructs of the study. Code names using

letters A to G were used as identity of each participant and to provide anonymity in the study.

Table 9 presents the profile of the participants in terms of education and reading background which are noted as significant in the study of epistemological beliefs, teacher cognition, and reflection.

Five of the participants currently have a designation of Teacher I and two are Teacher II. Three participants have three years of experience while the rest had more than ten years in teaching experience. Out of the seven participants, two have earned units in their Master's Degree which is related in English or Reading while one respondent has a Master's Degree in Educational Management. All of them took BSE major in English. Six of them have Reading as background in the Undergraduate level while one has reading background in the Graduate level. Their years in teaching and education are considered as indicators of how much training they have as a Reading teacher. This will eventually support in the analysis of their reflections in teaching reading.

Instrumentation

A. Teacher's Reflective Journal

Cohen-Sayag and Fischl (2012) noted that reflective writing in teacher education is an ongoing and developmental process, performed before and after teaching episodes. The power of writing journals as a learning tool is perceived as mediating between existing and new knowledge, "breaking

habitual ways of thinking, enhancing the development of metacognition, increase awareness of tacit knowledge, facilitate self-exploration and work out solutions to problems “.

On this premise, in this study reflective teacher's journal writing is utilized based on Moon's (1999) flexible process which enables practitioners to choose topics, test new ideas, present materials in other forms (through graphics or dialogue), comment on personal behavior, and describe feelings.

To clarify, in this study, the researcher avoids giving the respondents any structure or format of writing their thoughts in essence that the data that will be culled from the journals possess raw attributes of reflection so that sufficient space will emerge for coding. Bluff (2005) recommends that respondents are free to say as much or as little as they wish and the researcher does not impose his own ideas.

The researcher chose to utilize this instrument because of benefits claimed for using this approach to classroom research (Brock, Yu, and Wong, 1992) indicating the legitimacy in investigating learning and teaching processes which include the development of reflective teaching (Allwright, 1983; Bailey, 1990, Brown, 1985; Nunan, 1989; Richards, 1990).

B. Expert/ Peer/ Participant Checking Validation Sheet

The researcher utilized a validation sheet developed by Anney (2004) comprised of the following questions to ensure truthfulness, applicability,

consistency, neutrality, and integrity concern in the data. The following questions are used in the validation sheets:

1. How did you know if the findings presented are genuine?
2. How did you know or determine the applicability of the findings of the inquiry in other settings or with other respondents?
3. How did you know if the findings would be repeated consistently with the similar participants in the same context?
4. How did you know if the findings come solely from participants and the investigation was not influenced by the bias, motivations or interests of the researchers?
5. How did you know if the findings are not false information from given by the study participants?

Methods of Validation

In qualitative case study research, validation is an active process. The study followed the process suggested by Cresswell (2005) in validating.

First, researcher subjected the research instruments through an expert validation process wherein three experts in the field of teaching language, reading, and research were asked validate the instruments.

Second, the reflective journal log was piloted through the first respondents' journal log entries and was subjected to participant checking validation. Checking on the soundness of its use, the researcher proceeded on collecting the next set of journals log entries. This process was patterned to the study of Knapp (1995)

wherein she included the pilot data as part of the preliminary information among her 27 respondents (Cresswell, 2005).

Trustworthiness of data and interpretation was addressed using participant member-checking of the journal log entries. Triangulation of data sources (multiple categories of participants) were conducted through cross-case analysis.

The Member Checking Review Sheet was adopted from Anney, 2014) containing the following questions:

1. How did you know if the findings presented are genuine? (Truth value concern)
2. How did you know or determine the applicability of the findings of the inquiry in other settings or with other respondents? (Applicability concern)
3. How did you know if the findings would be repeated consistently with the similar participants in the same context? (Consistency concern)
4. How did you know if the findings come solely from participants and the investigation was not influenced by the bias, motivations or interests of the researchers? (Neutrality concern).
5. How did you know if the findings are not false information (Integrity concern)

After the reflective teaching guide had been developed, it was presented to three peers with an established/expert research experience. After reviewing the data and findings, the peer determined that the process was conducted in an appropriate

and systematic manner through a validation sheet developed by the researcher which had gone validation from research experts.

Data Gathering Procedure

The method utilized in this study was the journal log entry of the respondents.

Figure 9 shows the process of data collection for this study.

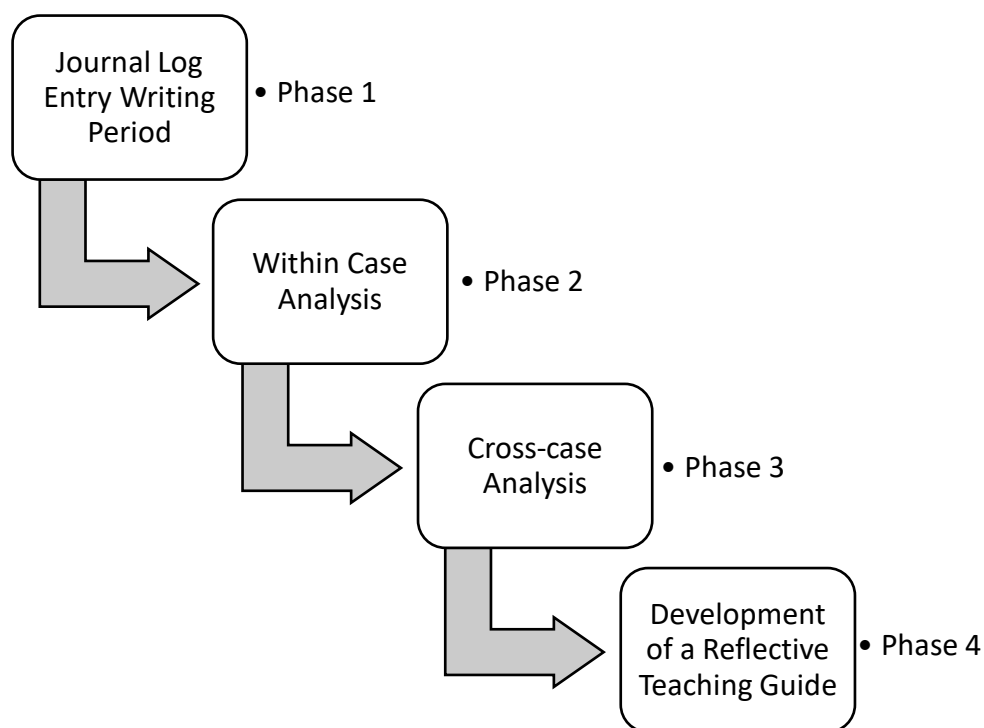


Figure 9 – Flowchart of the Data Collection for the Present Study

The researcher directed the respondents to follow the following guidelines in writing their journals:

1. Write their thoughts as much possible immediately after teaching reading.
2. Write their journals in quiet place away from distractions.
3. Revise their journals if necessary to improve organization of thoughts.

The teacher provided a sample template of the journal log but with no question prompts. The respondents were also allowed to send their journals through Facebook messaging or email. Five rounds of journals were collected from each participant indicating one's reading instruction reflections from December, 2015 to March, 2016. Each participant was required to submit his/ her journal log based on his/ her recent reflection in teaching reading particularly after teaching a reading lesson depending on the teacher's pacing in teaching. The fact that each participant submitted five journal logs on the given the time frame, it can be viewed that they have taught five reading lessons during the data gathering period. A total of 35 journals were collected in this study.

Teacher	Dates of Data Collection (December, 2015 – March,2016)				
	Journal Log 1 (Pilot)	Journal Log 2	Journal Log 3	Journal Log 4	Journal Log 5
A	December 23, 1016	February 22, 2016	February 23, 2016	March 1, 2016	March 15, 2016
B	January 4, 2016	February 20, 2016	March 9, 2016	March 11, 2016	March 13, 2016
C	December 18, 2015	January 31, 2016	February 23, 2016	March 11, 2016	March 23, 2016
D	January 4, 2016	January 22, 2016	February 23, 2016	March 16, 2016	March 22, 2016
E	December 14, 2016	February 10, 2016	February 23, 2016	March 16, 2016	March 24, 2016
F	January 4, 2015	January 21, 2016	February 24, 2016	March 16, 2016	March 24, 2016
G	December 28, 2015	January 24, 2016	February 23, 2016	March 16, 2016	March 24, 2016

Table 10
Summary Schedule of Data Collection

Table 10 shows the actual data gathered that started December 14, 2015 and ended on March 24, 2016. Noting that some of the actual journal logs collected and coded didn't have the dates indicated in the table, the researcher was able to consider the dates they were sent through Facebook messaging or the dates in the computer folders when they were saved.

Data Analysis Procedure

This study utilized the steps Creswell (2005) and Stake (1994) suggested that when analyzing data in qualitative studies

1. The specific "facts" about the case are arranged in a logical (e.g. chronological) order.
2. Categories are identified that can help cluster the data into meaningful groups.
3. Specific documents, occurrences and single instances are examined for the specific meanings that they might have in relation to the case.
4. The data and their interpretations are scrutinized for underlying themes and other patterns that characterize the case more broadly than a single piece of information can.
5. An overall portrait of the case is constructed. Conclusions are drawn that may have implications beyond the specific case that has been studied.

This study utilized more than one case therefore a within case analysis is utilized followed by a cross-case analysis. Creswell (2005) noted that when using multiple cases, a typical format is to first provide a detailed description of each case

and themes within the case, called a within-case analysis. The within-case analysis is followed by a thematic analysis across the cases, referred to as cross-case analysis or cross-case synthesis.

Individual reflection log entries were analyzed using within-case analysis, as described by Huberman and Miles (1998). Having absorbed entries, the data were organized using manual categorical indexing. At first, the researcher attempted to make sense of the data by describing what had occurred and then by beginning the process of interpretation through initial tentative explanations. The cyclical sub processes of data reduction, data display and conclusion drawing were incorporated into the analysis.

Subsequently, the process of cross-case analysis enabled the formation of clusters of phenomena that share certain patterns or configurations' (Huberman and Miles 1998). Comparisons were drawn between cases, thereby enhancing specific themes and deriving further explanations and meanings whilst attempting to maintain the essence of the original reflective log entries. The themes eventually became the basis for the reflection guide in reading instruction.

Role of Researcher

The researcher in this study served as the main scientist of the phenomenon under study. In qualitative research using a qualitative case study design, the researcher is required to possess theoretical and social sensitivity, the ability to maintain analytical distance while at the same time drawing upon past experience and theoretical knowledge to interpret what is seen, astute powers of observation,

and good interaction skills. Therefore, in this study, the researcher performed according to the processes employed in his research design such as coding, observing, documenting, analyzing, and validating,

Ethical Considerations

Ethical standards were observed in conducting the study. First, the researcher asked permission from the Schools Division Superintendent channeling through the School Head of Marikina High School by writing a letter permitting the researcher to conduct the study. Stated in the letter are the purposes and aims of the study, the use of the results, and likely the benefits of the study to the current education set up.

Upon approval of the permit, respondents were also informed through a letter for their approval to participate in the study. Though the study treads on a purposive sampling, only respondents who were willing to participate were included. They were oriented that their anonymity is protected and no financial inducement was offered. However, the participants were given free access to the data in the study when they themselves will be conducting their own researches parallel to the study.

Finally, the researcher reported his paper thoroughly. Studies completed by others appearing on this paper were not plagiarized and credits were given for materials quoted from other studies. The researcher also advocated the practical significance of the paper to other researchers and practitioners so inquiry will be encouraged and used.

CHAPTER IV

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This section presents the results of the analysis of the data yielded from the procedures presented in qualitative case study design through content analysis of journals. This study aimed to identify and describe the reflections of secondary teachers during reading instruction. Hence, it seeks to develop a guide for reflective teaching based on exposed knowledge and beliefs systems. Code names in capital letters A to G have been used throughout the study in order to identify the participants while maintaining their anonymity.

Teacher	Journal Log 1	Journal Log 2	Journal Log 3	Journal Log 4	Journal Log 5
A	236	175	178	548	600
B	233	240	204	149	252
C	581	599	427	474	586
D	387	116	224	176	406
E	248	286	280	237	499
F	370	294	297	147	748
G	256	216	225	284	392

Table 11 – Number of Words per Journal Log Entry

All in all, five rounds of journals log entries were gathered per respondent for a period of four months (December 2015 to March 2016) therefore generating 35 journals in total. They have an average number 330 words per journal log entry. The journals generated a total of 221 open codes wherein the researcher was able to collapse them to 8 categories through constant comparative process of relating

concepts and categories. Tables in Appendix A show the open codes indicating the respondent, journal number and code number, code name and actual quotes lifted from the journals from the five rounds of data collection.

The study utilized a within case and cross-case analyses of content and process of teachers' reflections in the journal log entries eventually creating merged themes of both content and process of reflection that will be the basis for the framework for a reflective teaching guide.

Categories of Content of Teacher Cognition in Reading Instruction

Utilizing the cross-case analysis matrix on the content of teachers' reflections in reading instruction (Figure 10), it revealed categories representing the participants' teacher cognition in their journal log entries. An explanation is hereby presented based on what emerged in the journal log entries and is backed up by literature that provide significance in the categories. The discussion provides focus on the similar categories and explains how the other inconsistent categories are still crucial to the themes developed in the study. The cross-case analysis revealed that there are five major content categories in teachers' reflection through journal log entries namely: *utilizing theories and models, looking at teaching processes, employing inquiry-oriented moves, expressing perceptions and perspectives, and employing action-oriented moves.*

CATEGORIES	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E	Teacher F	Teacher G
UTILIZING KNOWLEDGE OF THEORIES AND MODELS	✓	✓	✓	✓	✓	✓	✓
EMPLOYING INQUIRY-ORIENTED MOVES	✓	✓	✓	✓	✓	✓	✓
EXPRESSING PERCEPTIONS AND PERSPECTIVES	✓	✓	✓	✓	✓	✓	✓
EMPLOYING ACTION-ORIENTED MOVES	✓	✓	✓	✓	✓	✓	✓
VIEWING SELF IN SERVICE		✓	✓	✓	✓	✓	
LOOKING AT TEACHING PROCESSES	✓	✓	✓	✓	✓	✓	✓
CONSIDERING OTHER SIGNIFICANT EXTERNAL FACTORS IN TEACHING	✓			✓			✓
RECALLING INFLUENCES IN TEACHING	✓	✓	✓	✓			✓

Figure 10 – Cross-case Analysis Matrix showing Content of Teachers’ in Reflections in Reading Instruction

The first category, *utilizing theories and models* is the teachers’ knowledge as a way of representing them to the learners in instruction. In reflective practice, varieties of knowledge are central. These are described as personal knowledge, knowledge as problematic, and knowledge as process. With regard to personal knowledge, a majority of which came from the principles that they learned during years of schooling and training as pre-service teachers. Knowledge operating in reflection presents the facts as well as the procedures in teaching as represented by another category on *looking at the teaching process* indicating that reflection also promotes metacognition in teaching. Reflective practice gives way for both the utility

of theories and models as well as explaining teaching processes because teachers present reflections that require them to learn much more about their subject matter and how it could be employed effectively in the classroom.

Moreover, utilizing knowledge of theories and models describes the category that treads on the paradigm of the what, how, and why. This explains that this content is highly significant and is connected to reflective teaching practice and does not superficially indicate a level of just describing or recalling certain knowledge that were learned in schooling. This also emanates from teachers' belief that theories or the awareness of theories provides teachers with a first-hand tool for them to be well-informed, skeptical consumers of "new" educational ideas or reigning theories (Hirsch, 1996). Kilpatrick (2002) noted that teachers interpret, adapt, and combine those theories as they use them in practice and the current thought suggests that a "balanced" view of learning and teaching is crucial.

Another content of teachers' reflection showed that teachers performed *inquiry-oriented moves*. Osterman and Kottkamp (2004) explain that the process of inquiry takes off with a problematic or indeterminate situation. In the initial stages, understanding of the problem may have been little more than an intuitive sense or a gut feeling that something was wrong or could be better. Further they elaborated that through processes of observation and analysis, the discrepancies, incongruities, and failures are clearly seen to reach intentions. The problem begins to emerge more clearly, and teachers begin to see their own role in the problem more clearly.

A very common perspective and perception of teachers in doing their task is that they view teaching as “problematic” particularly on the aspect of the learners. Research explains that students serve as resources for teachers to enhance their professional knowledge constantly and this leads to the venue that teaching requires much more inquiry (Duckworth 1987; Lampert, 2001). The journal log entries revealed that teachers act as scientists, investigating students’ thinking, finding ways to learn about how particular students are actively constructing their understanding.

It was also revealed that the focus of inquiry is also on the subject matter (reading instruction). Shulman (1986) explains that teachers possess a particular kind of subject-matter knowledge known as pedagogical content knowledge that allowed them to understand how to represent knowledge to their students. Pedagogical content knowledge is born of practice and can also be considered a significant part of reflection. Connecting to the first category, inquiry-oriented moves provide powerful instructional representations outside of teaching and that most teachers acquire this form of professional knowledge through teaching. Feiman-Nemser (2001) notes that this learning continues over a lifetime which means that although experienced teachers might have a wealth of accumulated knowledge from years of work as well as new things about the subject matter they are teaching, the pedagogies available to them, and the most powerful ways to help students interact with that content.

Connectedly, *expressing perceptions and perspective* is a category that emerged because theories are situational, and based on an underlying set of values, beliefs and assumptions that frame an individual's perception of the world. Argyris and Schon (1974) once again explain that theories appear in an "*if . . . then*" format: if the individual faces a particular situation, then based on the individual's core assumptions about this situation, the individual should take a particular action to either explain, predict or control the situation or outcome. Argyris and Schon (1974) call this if-then formulation a theory of action which play an important role in considering teacher's own perception and looking into the perspectives of others as part of reflective teaching practice. It is here that the role of expertise and role-modelling in reflective practice becomes instrumental in learning. The teachers indulge in a *reflective conversation*. However, in this relationship the teacher is not an expert responsible for conveying standardized and scientifically determined knowledge to guide the actions of the practitioner but a communication specialist engaged in a discussion of personal meaning. This becomes true as the teachers are exposed to perspectives of others such as colleagues and experts in the field.

In reflective practice, teachers use knowledge in order to establish expectations and provides the expertise; the learner complies with these expectations and comprehends what is offered. Unlike in traditional models, reflective practice presents instructor-learner relationship changes. Responsibility for the success of the learning endeavor belongs no longer to either the learner or the

facilitator but is shared by both. The learner is active and directive in the learning process, and the facilitator and learner—each of whom brings knowledge and expertise to the situation—become collaborators working on a shared task.

In the reflective practice approach, the teachers acknowledge information from a wide variety of sources from the worlds of research and practice which include perspective of others such as students and colleagues. The important issue again is not the source but its utility. Teachers may find relevant information in research studies or other publications and workshops or formal study. Observations or discussions with colleagues may serve a similar purpose. Confronted with the problem and now with a clearer understanding of the problem and our own role in that problem, the search for knowledge becomes more directed and focused, and—an important distinction—the search is self-directed. This also explains that with this category, the other inconsistent categories across cases of reflection content could be identified (view of self in service, considering other significant external factors in teaching, recalling influences in teaching) pertaining to possible themes on the role of expertise and role-modelling in reflective practice.

Employing action-oriented moves presents the reflective practice as an arena for finding solutions based on the awareness of the problem. Discovery or recognition of ill-structure classroom instruction motivates the teachers to gather information and moves them further into the reflection cycle. The teachers' journal log entries reveal that action-oriented moves emerged from reflections in reading

instruction. Argyris and Schon (1974) explain that “a solution is developed to correct the presenting problem, but the underlying causes of the problem are neither recognized nor addressed”. They distinguished this indicating that analysis within the framework of reflective practice is designed to lead to double-loop learning which is a process of examining underlying assumptions, or theories-in-use, as part of the problem-solving process. With this category, the teachers have come to an understanding incomplete though it may be of espoused theories and theories in-use and is capable of building new knowledge through reconceptualization. With this, the teachers become capable of claiming expertise and may provide instances of role modelling acts of reflection to others.

Process of Teacher Cognition Reflections on Reading Instruction

Aside from categories of content, reflective journals were also analyzed based on reflection processes. Figure 11 shows similar categories of processes of reflections from the contents that of teacher cognition reflections that emerged as sequences of reflective practice. However, the flow diagram revealed the uniform sequence each teacher had utilized in reflecting utilizing journal log entries. The explanation also provides the gradual integration of some reflection processes eventually leading to the main themes of the study. This is elaborated in the synthesis of the study.

First, when teachers write their journal log entries, a level of description is done through teaching processes are most commonly observed. In Moon's Model of Reflection (1999) she categorizes this as descriptive writing. According to this model, reflection may begin with description indicating either low or even no reflective process but may elevate to reflectiveness if accompanied by levels of analysis or self-questioning.



Figure 11 – Cross-case Analysis Flow Diagram showing Process of Teachers' Reflections in Reading Instruction

Second, the description of processes in reflection revealed that narration of classroom procedures indicates that even from a single point of view of the teacher,

a process of achieving mastery of expertise is practiced. Epistemological theories reveal that this way of communicating is an act of “externalization” where individuals begin to construct their knowledge eventually leading achieving expertise.

Awareness of knowledge of theories and models of reading and ***looking at teaching processes*** indicate a way of achieving expertise through reflection. They are considered vital particularly in the realms of constructivism. Boland and Tenkasi (1995) discussed that “communities of knowing” as classrooms and educational institutions comprise of actors (teachers) with similar expertise or perspective wherein they share similar concepts. The construction of perspective is seen when teachers frequently write entries such as teaching process description.

With the description of processes, it could be noted that teachers begin to master the knowledge in teaching. This could be exemplified when teachers begin to display a good explanation of known theories and models. **The frequent mentioning of theories and models in teaching is considered an acceptable level of mastery and expertise**, however, it was revealed earlier that education and years of experience may not be significant to reflectivity connecting it to the amount of knowledge that a teacher may learned from formal schooling as journal log entries reveal that teachers are capable of developing knowledge. When teachers journal entries reveal realizations and generalizations as what one teacher wrote, then the development of knowledge emerges as a result of reflection.

Next, **approximating a connection, the context of problematic reality in teaching eventually reveals the emergence of developing inquiry-based**

actions. As described by Moon (1999), self-questioning increases the reflectivity of teachers. Aside from self-questioning, teachers evidently display the process of challenging, modifying, deviating, and being flexible.

Connectively, this process is highly supported when teachers find ways to address the problem. **It is here that action-oriented moves were noted across journal log entries of the teachers**. Teachers compensate with the context of problematic situations by inquiry-oriented moves such as hypothesizing, evidence-seeking and formulating solutions. As earlier stated, the development of inquiry-oriented and action-based attributes are contributory to the processing of developing mastery and expertise as well as the next processing can be befitting or contributory.

Fostering shared perceptions emerged as teacher cognition may have a knowledge component, but the belief component in the guise of perceptions and perspectives is given the bigger role on teachers' reflections.

Epistemological theories also provide the role on this system noting that shared perception is a characteristic in communities of knowing where perceptions and perspectives are comprised of shared vocabularies, methods, theories, values, and even accepted logic. Boland and Tenkasi (1995) described this system as “thought collective”, “community of practice”, and “interpretive community” are similar concepts. However, regarding the aspect of collectiveness, it could be noted that certain differences are still present in some aspects of the processing. It could be noted that teachers may express reflections indicating similar perspectives and beliefs.

To clarify, perceptions and beliefs about the many aspects in teaching are noted significantly by teachers in their journal log entries such as view of problems, view of learners, view of reading instruction, curriculum and other related factors.

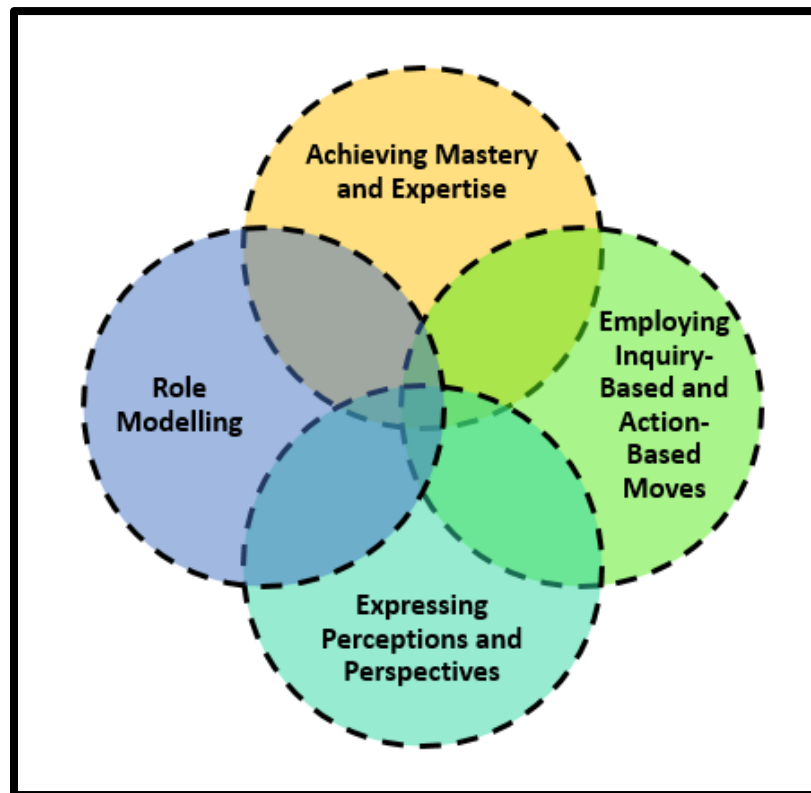
As noted, teachers write a similar vein in their reflections indicating that reading is believed to be a complex endeavor for teaching. However, it could be noted that teachers display perceptions and perspectives explaining that reading is a complex task. The process of expressing shared and diverse perspectives plays a huge role on whether the teacher will move towards the achieving expertise and mastery processing, the inquiry-oriented processing, or it could be the connected to the remaining three miscellaneous categories - viewing self in service, considering other significant external, factors in teaching, and recalling influences in teaching. These miscellaneous categories were noted because they were not contained in the teacher cognitions of all the teachers in the study.

Finally, looking at the entirety of teacher cognition on reading instruction reflection, culture plays a significant role in the processing of reading instruction reflection of the teacher. Though it may not be directly observable, there are reasons why teachers exert effort to showcase their “expertise” and become very descriptive and even “prescriptive” particularly in an inquiry-oriented mindset as they look accept or reject perspectives in all aspects of reading instruction in writing journal log entries. Therefore, **the role-modeling aspect of teacher’s reflection eventually indicates the incorporation of what the teacher should do particularly as a way of the teacher himself/ herself could exemplify for either students or teachers.** It’s a

way of displaying the best means that a teacher could make a change not only for himself/ herself but for others. The process of telling what is best to be done implies that the teacher is aware that after all he/she is the one who could demonstrate efficiently either the thought or act as result of reflectivity.

Synthesis of Content and Process of Teacher Cognition Reflections in Reading Instruction

Merging both content and process of teacher cognition reflections, the study indicates that there are four emerging themes from categories resulting from the journal log entries of the seven teachers. A synthesis of these themes is given explanation in order to be a basis for a reflective teaching guide. This model is called The Facets and Process of Reflections in Reading Instruction (Figure 12). The four themes: *achieving mastery and expertise, employing inquiry-based and action-based moves, expressing perceptions and perspectives, and role-modelling* serve as the components of the integration of contents and process of teacher cognition reflections.



**Figure 12 – The Facets and Process of Reflections in Reading Instruction
On Achieving Mastery and Expertise**

Emanating from the realms of a constructivist aspect of epistemology, the idea of communication is vital to express local realities (knowing) through externalization (action). In this process, teachers are able to express themselves according to their view of the organizational reality (classroom/ school). The endpoint of this is the teachers internalized these realities as a way of constructing from the local reality. It is here that reflections of journal log entries are viewed as a way of achieving mastery and expertise.

As this process is defined through the property of adherence to expertise and experience supports the claim that there is an explicit association between expertise

and years of teaching experience, though the two do not always co-occur (Borg, 2015).

Notably, this reflection processing emerged because teachers are characterized by cognitions in which different forms of formal and experiential knowledge function as an integrated whole and which enable such teachers to envision learning potential in instructional contexts, to anticipate problems to respond (often improvisationally) in ways which are both technically skilled and sensitive to learners. Teacher cognition is defined as arguably one or more of cognition, knowledge (and its subtypes), beliefs, attitudes, conceptions, theories, assumptions, principles, thinking, and decision-making Borg (2015).

Approximating that this process is sourcing from the knowledge domain, a confirmation could be realized that the teacher is back up by studies that the roots of reflective teaching could be traced on different schools of thought of epistemology (Schraw and Olafson, 2002). Baxter and Magolda (1992) noted four categories of epistemic stances: absolute knowing, transitional knowing, independent knowing and contextual knowing. This eventually highlights the possibility of being reflective upon reaching college.

As epistemological beliefs proved, Schommer (1990) indicated that teachers could possibly draw what they have read and learned from schooling and Borg (1997) has also explained in his model that preconceptions about education may also be defined through relationships with influential adults such as parents and teachers.

In another sense, the epistemological realms of social construction proved that local realities such as the classroom provide individuals with individuals (actors) with beliefs, views and values and this area of knowing may be an area to be reflected upon.

Connecting this process to reflective practice, it has been confirmed that the journals showcased teachers' knowledge on factors that affect learning and learning theories and the awareness on how to implement them in the classroom and how to implement them (Gerami and Noordin, 2013). Journals serve as *de facto* guides (Freeman, 1991) requires awareness is needed to change this practice and it reveals teachers significantly discussing the importance of content. Tracey and Morrow (2006) added teachers should be consciously aware of theories that guide their behaviors. In contrast, the possibility that teachers may resort to other strategies of their own development is because they are not enslaved to theories to guide their behaviors and beliefs in teaching. Interestingly, knowledge development was observed in the journals that teachers confidently speak up their minds without explicitly stating any known theory.

The processes involved in achieving mastery and expertise are not only description of experiences. They are a way of communication both outward (externalization) or inward (internalization) indicating that teachers are making attempts or action and making sense or meaning to his teaching practice in reading instruction. This is highly evident in the description of teaching processes in the reflections of teachers.

Most importantly, Hattie (2003) noted that achieving expertise plays a crucial role in reflective teaching process because with its nature, the teacher is led to develop deeper representations about teaching and learning, adopt a problem-solving stance to their work, can anticipate, plan and improvise as required by the situation. To add, this facet makes teachers become better decision-makers and become proficient at creating an optimal classroom climate for learning, have a multi-dimensionally complex perception of classroom situations, are more context-dependent and have high situation cognition.

On Employing Inquiry-Based and Action-Based Moves

A contextual nature defines this process. It has been clearly stated in the earlier discussions both in theory and in the actual results of this paper reveal that the process of developing inquiry-based actions is an ill-structured or problematic situation. It is here that teachers reflect to either compensate or to prescribe to address the concerns of the problem.

The significance of teacher cognition plays a significant role on this process. Borg (2015) confirms this noting relation between teacher cognition and classroom practice in language teaching. However, the relationship between cognition and practice in language teaching is neither linear or unidirectional. It is not linear because cognitions and practices may not always concur, due to mediating influence of contextual factors; and it is not unidirectional because teachers' cognitions themselves are shaped in response to what happens in the classroom.

Connecting this to reading instruction, teacher cognition research can be either generic or domain-specific. The former encompasses an interest in the nature and processes of teacher cognition irrespective of the curricular areas involved (e.g. planning, interactive decision-making), while the latter aims to understand cognitions in relation to specific curricular areas (e.g. grammar, writing, reading)

Applying this principle, Borg (2011) discloses rationales behind teacher's decision and reveals their hidden thoughts and pedagogy which can be interpreted, judged, reviewed, and applied as a universal approach.

Bolton (2009) in another sense describes this as how your actions match up with your beliefs. Biggs and Tang (2007) proposed that reflection questions focusing on classroom problems and connects it with theory.

On another construct, connecting to epistemological beliefs, the roots of reflective teaching focusing on a contextual nature could be traced on different schools of thought of epistemology. Perry (1981) claims that individuals interact with the environment and Belenky (1986) stipulates that knowledge and truth (contextual) leads to inquiry which is a reflective component. Kuhn (1991) also supported this noting how individuals responded to daily, ill-structured problems that lack definitive solutions.

In order to achieve this, artifacts have to be utilized. Boland and Tenkasi (1995) describe artifacts as "boundary objects" such as narratives, cognitive maps and models. Through journals, teachers deliberately make decisions in trying

out/planning a strategy and express their thoughts in an empowered way (Bandura, 1986).

Teacher journal logs reveal both concepts of critical thinking aspects and research-oriented attributes under this process, Tom (1985) in his model emphasizes that teachers suspend judgement about aspect of teaching situation and considered alternatives to established practices and raise doubts and question practices appearing to be effective and wise. Poblete (1999) adds that Tom (1985) also developed a set of dimensions to distinguish the varying approaches to inquiry-oriented teacher education. These dimensions are: the arena of the problematic, the model of inquiry, and the ontological status of educational phenomena. However, it clarified that this runs not only ontological realms but dominantly on an epistemological realm. To add, reflective teaching by Zeichner (1983) was classified as one that is on the large arena of the problematic; high in guidance for teacher educators, linking knowledge and action through commonsense inquiry; and grounded in the view that educational phenomena are socially constructed.

These explanations suffice that through communicating teachers' reflection in the form of narratives reveal this context and eventually exposing cognition that may not be directly observed at the same seeing how teachers as constructivist individuals due to problems encountered in teaching.

On Expressing Perceptions and Perspectives

Gathering the conceptual underpinning, the paper proves that reflections process has a shared perception component. Utilizing epistemological worldviews,

Boland and Tenkasi (1995) explain that when actors (teachers) are reproducing the same organizational reality, in the sense that the same questions, problems, solutions keep reappearing, a “closure” in the organization occurs. This is particularly true when the process of fostering shared perception emerged in the journal log entries of teachers.

However, teachers’ reflections also revealed certain differences in perception and perspective. This is still acceptable because Borg (2015) explained that similar behaviors in different teachers may be underpinned by very different cognitions, and that similar cognition may be translated into a range of behaviorally distinct practices. However, he noted that further research on communal cognitions and practices could contribute to make in extending our understanding of these issues.

Therefore, the shared or diverse nature of teacher perception is best explained on how and why individuals reasoned elicited beliefs and knowledge (argumentative thinking) explaining that cognition is also manifested on teachers’ decision making, knowledge and belief. With the inclusion of emotions, Kuhn (1993) describes this as mutiplicists position.

Operating as a personally defined process, shared perception using teacher cognition functions provides an often tacit, systematic and dynamic and possibly collective as it is constructed by each individual teacher.

However, the main issue addressed by this reflective process has been raised by Borg (2015) regarding the relationship between cognitive change and behavioral change in teachers because much work in this area remains to be done. Borg (2015)

however cleared that the distinction between cognitive change and behavioral change is important because one does not necessarily imply the other.

With this process, Borg (2015) noted that teachers may adopt or display particular behaviors without any accompanying change in their cognitions (e.g. during assessed teaching practice, visits by inspectors or observation by researchers); teachers' cognitions (e.g. their belief in the value of a particular instruction technique) may also change without any obvious change in what they do (due to, for example, situational constraints).

With the use of reflective journals, a view on the distinction between ideal-oriented cognitions and reality-oriented cognitions indicated discrepancies between what teachers say and do more insights were arrived at in viewing the workings of teachers' minds is still bound for further investigation. However, emerging from what the journal log entries indicate, teachers' regard of the perception and perspective of others (open-mindedness) are vital for them accept ideas as a manifestation of reflection and reflexivity.

On Role Modelling

Costa and Kallick (2008) noted that role modeling is useful and that students also need to see adults—parents, teachers, and administrators reflect on their practice. The fourth reflective process emerged as a culture-specific nature. Drawing from the characteristics of the category, viewing self as an authority in the classroom explains the role of values interacting with reflection through the notion of exemplification. Borg (2015) notes that teacher cognition also has an emotional

component. However, it is being clarified that the role-modelling still has a dominant cognitive characteristic.

Krathwohl et. Al. (1956) notes affective abilities and attaching value to something proving that teachers do something so that students can benefit from it and it could create an impact in their lives. Vygotsky (1981) on the other hand explains that there is a dialectical relationship between cognition and emotion. (affective-volitional tendencies) – full understanding of thought (i.e. reflection) is only possible on a volitional basis. Connecting to reflective teaching practices, Zeichner and Liston (1996) questions the assumption and values the teacher brings to the classroom. Prabhu (1990) and Osterman and Kottkamp (2004) added and highlighted that it could be regarded as a corollary of the condition which acts as an empowerment and motivational process because it responds to basic human needs for competence, autonomy, and relatedness and allows individuals to assume greater responsibility for their own performance and learning.

Providing a culture-distinguished explanation for this reflection process, Pepua and Protacio-Marcelino (2000) stated unfolding the concept of shared identity, which is at the core of Filipino social psychology, and which is at the heart of the structure of Filipino values. To add, reflections as influenced by fostering shared perception processes promote shared inner perception and shared personality among teachers viewing himself/herself as superior in classroom learning.

This paper stipulates that this process could be the “new concept” that is emerging from the reflection processing of teachers given that an emphasis on how

the teachers expressed themselves by taking a closer look at their paralanguage (tone, pitch, intonation of voice) and the use of words that indicate viewing self as the role model and authority in teaching reading in the classroom and eventually providing the basis on why the teacher is utilizing the three other processes of reflection in writing.

A Teacher's Reflection Guide in Reading Instruction

Boud et. al (1985) stipulates: "The outcomes of reflection may include a new way of doing something, the clarification of an issue, the development of a skill or the resolution of a problem. A new cognitive map may emerge, or a new set of ideas may be identified. The changes may be quite small or they may be large. They could involve the development of perspectives on experience or changes in behavior. The synthesis, validation and appropriation of knowledge are outcomes as well as being part of the reflective process. New links may be formed between previously isolated themes and the relative strengths of relationships may be assessed. A significant skill in learning may be developed through an understanding of one's own learning style and needs."

From the results of the study themes of the study, a reflection guide is developed indicating the facets and process of teacher cognition reflections of teachers in reading instruction.

A reflection guide is a protocol that enables teachers to refine the process of reflection, alone or with colleagues. Hole and Entee (1999) explain that using a guide

to reflect on these experiences—either individually or with colleagues—is an entry to improve teaching. To add, Moon (1999) stipulated that using a reflection guide is an effective avenue to look into the belief system of the teachers and at the same time to closely look on the depth of reflection. She explained that “reflection can be superficial and little more than descriptive or can be deep and transformative” and considering is crucial in learning particularly it provides the right conditions for learning. She emphasized that this is highly utilized for many situations within the curriculum, for teachers ‘professional behavior when reviewing their attributes and approaches which can result in behavior change.

The Teacher’s Reflection Guide in Reading Instruction (Figure 13) features components that promote reflectivity in order to improve quality of reflection as well as enhance effectiveness in reading instruction. First, the **objectives** are anchored on reflective process components from the themes generated in the study (Figure 12). These objectives provide the teacher with the direction on how to grow in the reflective continuum. The idea is to put emphasis for teachers to adopt particular reflective practices, the purposes they aim to achieve, their theories about what learning is and how it happens and their conceptual models of the nature and role of teaching in the learning process.

Second, the guide provides **reflective characteristics** in order to serve as basis for professional behavior in reflective teaching practice. Coe et. al. (2014) explain that behaviors exhibited by teachers such as reflecting on and developing professional practice as well as participation in professional development, supporting

colleagues, and liaising and communicating with parents provide positive results in student outcomes. Aligned with the specific objectives, the list provides the teachers with models as well as moves that aid in developing reflectivity.

Next, the guide showcased the use of **question prompts** which is a common characteristic of many reflection guides in teaching. Most of the questions utilized were taken from the commonly asked questions by teachers during reflection in teaching reading. These aid the teachers in focusing on the context of reflection. Moon (1999) discussed that the many 'movements' in education indicate that practitioners to be reflective to encourage the development of a habit of processing cognitively that can lead to ideas that are beyond the curriculum, beyond learning defined by learning outcomes, and beyond how the teacher manages learning. With this, she emphasized that the significance of the context into which reflection is introduced in a stimulating and helpful way supports the development of any institutionally based reflective activity. Therefore, the incorporation of a checklist in the format of questions is helpful in the development of any reflectivity and these questions could be answered in either recorded and written form.

The **outcomes** of the reflective guide explain the four components of the teacher's practice leading to improvement of teaching practices. First, the teacher is brought to an awareness of achieving expertise and mastery because basically he/she is an expert in teaching and learning. Therefore, it is vital that essential knowledge is established. Essential knowledge through a metaphor is "like a seed that when fertilized are cause an exponential effect". A teacher's articulation of

essential knowledge provides an opportunity for reflection to strengthen and grow. With this, the teacher achieves informed instruction, mastery of teaching practices and versatility in teaching.

Employing inquiry-based and action-based moves provide the context where the teacher can explore his/ her reflections by defining a problem, raising questions about the nature of the problem and its possible solutions or actions through verification, experimentation, or observation in which the problem is solved or a new problem is presented. This cyclic process could lead to the development of knowledge and enhancement of practice.

Viewing perceptions and perspectives are avenues for the teacher to explore and apply knowledge and critical dispositions through the linkages of ideas. Critical dispositions are attitudes and beliefs that keep the teacher grounded on his foundations of knowledge. Aside from being reflective and critical problem solvers, teachers are also guided to share their knowledge and understandings in an ongoing professional dialogue to continuously monitor pupil progress and learning within the classroom. This component also provides an environment where the teacher can reflect both as individuals and as communities of practice on their teaching and pupil's progress. This also connects to the notion of confluency in reflective teaching. Laboskey (1994) termed "confluent education" describing the six domains: cognitive, affective, social, psychomotor, inter-personal and intrapersonal. She explains that aside from these domains, teachers are aware of their own values, attitudes and professional goals and expectations (interpersonal) as well as be cognizant of how

these operate between themselves and others (intrapersonal). Confluency values the perceptions and perspectives of every individual in the teaching-learning process. With this, the teacher is brought to an outcome of open-mindedness, shift in perception, and acceptance of ideas.

Finally, the role modelling component of reflection provides the venue for the teacher to showcase his/ her performance as a reflective practitioner. It provides what the teacher knows and how he/ she owns the reflective practices not only through knowledge and beliefs but also through conation which is the desire to manifest reflective teaching practices. To this end, the teacher's self-belief becomes the change agent through reflection utilizing his/ her empowerment and emancipation in practice and in effect showcases the will to influence others.

Either individually and collectively, the reflective teaching guide as it focused on the nature and purposes of reading instruction will seek to act as both a shaper of policy and a well-informed critic of proposals and reforms through a deeper understanding of teachers' practices, in seeking to plan for change, to use a variety of evaluation and action research techniques, to collect and interpret findings, to inform teachers' thinking and decision making; and eventually to contribute to the development of knowledge.

The Teacher's Reflection Guide in Reading Instruction summarizes the concept of the teacher as an agent of reflection in teaching reading. The facets and process of reflections were utilized based on the themes that emerged from the case study analyses. Utilizing this guide, teachers will be knowledgeable in noting the

purposes, processes, and directions of their actions, beliefs and decision-making, as well as considering technical proficiency. They will be able to experiment with the unfamiliar, learn from their experiences and have an approach characterized by open-mindedness and wholeheartedness. The guide with its objectives, reflective characteristics, question prompts and outcomes could provide teachers with an evaluation mechanism to respond to their professional development through reflection and could be used in collaboration with colleagues in school and beyond.

Figure 13 – A Reflective Teaching Guide in Reading Instruction

REFLECTIVE PROCESS COMPONENT	Objective	Reflective Characteristics	Reflective Prompts (Questions to be asked in Teaching Reading)	Outcomes
Achieving Mastery and Expertise	To establish essential knowledge that guides in reflectivity.	• Approaches problems using vertical, step-by-step approach • Acts quickly and confidently to implement ideas • Pulls together disparate facts into cogent explanations • Seeks perfection • Prizes rationality and logic • Tries and test ideas, theories and techniques • Approaches teaching with "I'll try anything" philosophy	Do you adhere to expertise and experience in your teaching? Do you adopt new procedures in your teaching? Is there a good level of confidence in teaching procedures/ practices you utilized? What particular experience did you learn this procedure? Do consider established explanations in your teaching? Are you motivated in your choice of procedure? Do you rely on known procedures? Do you prefer routine procedures?	Informed Instruction Mastery of Teaching Practices Versatility in Teaching
Employing Inquiry- Based and Action- Based Moves	To develop reflectivity leading to intellectualization.	• Focuses on the present • Acts and considers the consequences • Is oriented towards action • Display practical problem-solving and decision-making skills • Thrives on challenge	Do you identify the source of problem in teaching? Do you review previous action taken? Do you recognize certain factors for success or failures? Do you compensate for insufficiencies in your instruction? Is initiative-building a part of your teaching? Do you see the attainment of expected results in your teaching? Do you reject previous practices based on new discoveries?	Development of Knowledge Enhancement of Practice

REFLECTIVE PROCESS COMPONENT	Objective	Reflective Characteristics	Reflective Prompts (Questions to be asked in Teaching Reading)	Outcomes
Viewing Perceptions and Perspectives	To promote critical disposition and confluency in reflection by considering more than one course of action looking into perceptions and perspectives of self and others.	• Ponders experiences and observes • Seeks data and considers thoroughly • Postpones decision-making until data is available • Watches and listens before offering own opinions • Sees problems and opportunities • Tackles problems by brainstorming • Seeks attention, gregarious, people-oriented • Likes ruminating and open-ended discussions • Engages in activities fully without bias	Do you consider or avoid certain perspectives of others in teaching? Do you recognize certain conflicts and contradictions in what you have learn from what you are practicing? Do you enslave yourself to prescribed practices? Do you practice a non-conforming and passive mindset in teaching? Do you view detrimental effects in learning? Do you view effectiveness in teaching? Do you view satisfaction in the learning outcomes? Do view strengths and weaknesses in your instruction? Do you look into yourself as a teacher? What is your sense of satisfaction in teaching? Do consider shared solutions to problems?	Open-mindedness Shift in Perception Acceptance of Ideas
Role Modelling	To exemplify practice by looking at self as model for reflective performance.	• Is primarily concerned with a need to adapt learning to own life situations to make more of what is learned • Acts with a larger framework and after considering all angles • Is primarily concerned with creating personal meaning out of experience	Do you draw inspiration from certain values in teaching? Do you feel that there is a better way to do things? Do you impose yourself as superior than others? Do you feel a high or low morale in what you are doing? Do you consider your personal standards are still better? Do you feel that your procedures in teaching are the appropriate ones?	Self-belief Will to Influence Others Conation

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the study, findings, limitations, conclusions and recommendations.

Summary of the Study

The Problem

This study sought to describe teachers' reflections on reading instruction as basis for the development of a reflection guide.

Research questions:

1. What are in the teachers' reflections as revealed in their journal entries?
2. How do the teachers reflect in their reading instruction?
3. What reflection guide on reading instruction can be proposed based on the findings of the study?

Methodology

This study employed a qualitative case study design through content analysis of teachers' journal log entries. Individual reflection log entries were analyzed using within-case and cross-case analysis. This enabled the formation of clusters of phenomena that share certain patterns or configurations and thereby enhancing specific themes. The themes eventually became the basis for the reflection guide in reading instruction.

Summary of Findings

From the analysis of the data gathered, the researcher came up with the following findings:

1. Journal log entries of teacher revealed that teachers reflect by utilizing their awareness of knowledge of theories and models in teaching reading, explaining their teaching processes, employing inquiry and action-oriented moves, expressing and sharing perceptions and perspectives and seeking to explain the reflective experience meaningfully through role modelling the act to others.
2. Looking across contents and process of teacher cognition reflections in reading instruction, four facets of the reflection process emerged as themes. Achieving mastery and expertise presents the component the teachers utilized their knowledge not only to guide them in teaching but also to think and confirm the success or failures of the teaching processes they employed in reading instruction. Employing inquiry and action based moves explain that the teachers recognize the context of problematic situations in teaching and eventually characterized that teachers are also equipped with cognitions leading to solutions. Teachers also consider looking into perceptions and perspectives of self and other others revealing that critical disposition and confluency are essential components of reflectivity. Finally, teachers display the ability to reflect by modelling the outcomes of their thoughts resulting from the process involved.

3. The resulting themes of achieving mastery and expertise, employing inquiry-based and action-based moves, viewing perceptions and perspectives, and role modelling became the facets and process of a Reflective Guide in Reading Instruction. The guide presents that the four components of reflections require teachers to look into their knowledge, their ability to recognize and compensate in problematic situations in teaching, their ability to consider a wide range of beliefs in teaching, and the capacity to exemplify the reflectivity in teaching.

Limitations

In spite that it is unanimously proven by researchers that journal logs serve as an effective tool to analyze emerging reflections of teachers, it could be viewed that no one approach on studying teacher cognition will be free from problems (Borg, 2015). Similarly, in studies of epistemological beliefs, teacher cognition and reflective teaching which employed self-report instruments, verbal commentaries, observation and reflective writing or any of these combinations may provide as evidence in the study of the unobservable psychological context.

To add, this study provide insight on the workings of teachers' minds thus it expressed theoretically but may not fully explain the practically-oriented cognitions which inform teachers' instructional practices just like in previous studies done in teacher cognition research. However, the distinction that this is a domain-specific research on reading instruction, it could be used to inform teachers and teaching as a whole.

Conclusion

Based on the findings, these conclusions are drawn:

1. When teachers write their thoughts in teaching reading through journal log entries, their epistemological beliefs on knowledge and learning and teacher cognition are exposed. Though variably, teachers reflect and explain contents and process on teaching reading based on problematic concerns either on instruction, students or curriculum concerns.
2. Looking into these concerns, teachers presents the process of their reflections through knowledge-based, contextual, perceptual and culture-specific domains through the four facets and processes identified in the study. Teachers explore these complex domains and processes in order to be aware, to make meaning in their classrooms experiences as a result of verbalizing or writing their thoughts, to share and develop knowledge through these experiences, and finally to exemplify the act to others.

Recommendations

Based on the conclusions and findings drawn from this study, these recommendations are offered:

1. The use of other instruments aside from journal log entries that clearly measure processes of reflection and prove that expertise and experience could be measured aside from verbalizing thoughts is recommended.
2. The use of quantitative designs that could aid in the study of teacher cognition in reading for as long as this paradigm could be well explained

by future researchers are highly suggested though still contradicting in theory and revolutionary in actual practice.

3. Finally, that similar studies can be conducted utilizing discriminant sampling technique to further validate the emerging theory established. It is in this premise that these recommendations stand.

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APPENDICES

Curriculum Vitae

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Master of Arts in Teaching- English Language Arts
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Seminar Paper (Thesis)
Title: *"Teaching Grammar in a Content-Based Secondary English Program: An English Teacher's Reflections"*
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Dean's List
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With Honors, Most Outstanding CAT Cadet
- Elementary: **Parang Elementary School (1981-1983)**
Parang, Marikina City
Mañacabac Elementary School (1984-1986)
Mañacabac, Janiuay, Iloilo
Salutatorian

Personal Information

Date of Birth: November 12, 1974
Place of Birth: Parang, Marikina City
Sex: Male
Nationality: Filipino
Civil Status: Married
Religion: Roman Catholic
Height: 5'5"
Weight: 148 lbs.
Blood type: Type O
Spouse: Giselle Holandez-Villar
Father: Rolando A. Villar (Deceased)
Mother: Cecilia P. Villar
Languages Spoken: English, Filipino, Ilonggo (Hiligaynon, Kinaray-a)
Hobbies: surfing the internet, playing basketball and volleyball, singing through the videoke

Accomplishments/ Achievements

Basic Education Research Fund Grantee

Department of Education Region III (Central Luzon)
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Awardee

Ginoong DEPED Meycauayan 2016
Division of Meycauayan City

Awardee

2009 Ten Outstanding Young Employees of Marikina City 10 (TOYEM)
August 28, 2009

Official Division of Marikina City Entry for Most Outstanding Teacher

*The 2008 Philippine Public School Teachers Association Search for
Outstanding Teachers, School Heads and Division Chapter
November 8, 2007*

Awardee

Most Outstanding Secondary Teacher
Division of Marikina City and the City Government of Marikina
S.Y. 2007-2008