

## REFLECTIVE THINKING IN PROFESSIONAL PRACTICE: A MODEL

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### ABSTRACT

The process of reflection holds great promise for both fostering learning and enhancing overall personal and professional effectiveness. Most models of reflection, however, are either too esoteric or too context-specific to be useful in the wider professional arena. This article describes a model of reflective thinking designed to address the limitations of previous approaches. Within this model, reflective thinking is viewed as a universal, active and ongoing cognitive process that is applicable across a variety of settings and contexts. The model includes three major processes (experiencing, meaning-making and testing) that yield three types of outcomes (initial perspectives, deepened perspectives, or new/changed perspectives). Implications of the model for professional practice are delineated including developing reasoned judgment amid acknowledged uncertainty, engaging testing, and reflecting in the moment.

Key Words: Reflection; reflective thinking; learning; professional effectiveness

### INTRODUCTION

Since the publication of Schön's seminal work, The Reflective Practitioner, in 1983, the concept of reflection has been much touted in professional circles as a vehicle for enhancing one's overall personal and professional effectiveness. The educational literature, in particular, is replete with articles on reflection and its application to such diverse fields as preservice teacher education (Calderhead & Gates, 1993), nursing (Pierson, 1998); and professional education (Schön, 1983). In addition, many fields have developed practica and training programs designed to foster reflective practice among students (Schön, 1987).

In spite of reflection's broad acceptance within educational circles, however, the concept has been less widely embraced in the training and professional development fields. This is due at least in part to the esoteric nature of reflection and the practical difficulties inherent in applying it to professional practice. Many of the most widely known models of reflection (Dewey, 1933; Mezirow, 1991; Schön, 1983) were developed for use in educational settings and have not been fully tested for use in other contexts. In addition, several models (Loughran, 1996; Seibert & Daudelin, 1999) were developed for application within a specific context such as preservice teacher education or management and their generalizability beyond these contexts cannot be assumed.

The purpose of this article is to describe a model of reflective thinking that can be applied across a variety of settings and contexts. This model has been adapted from the work of many scholars including Argyris, Putnam and Smith (1985); Dewey (1933); Schön (1983); Boud, Keogh, and Walker (1985); Boud and Walker (1993); Heidegger (1947/1993); Mezirow (1991) and Whitehead (1929a). It has been used and refined by the author over a number of years in higher education, organizational, and professional development settings at both systems and personal application levels. The model is designed to facilitate understanding of the process of reflective thinking as a means of fostering learning and enhancing overall professional effectiveness.

### REVIEW OF THE LITERATURE

The concept of reflection has been examined by a number of authors including Dewey (1933); Loughran (1996); Langer (1989); Schön (1983); Boud et al., (1985); Mezirow (1991); Boud and Walker, (1993) and Seibert and Daudelin (1999). A recent analysis of these major theoretical approaches (Rogers, 2000a & b) revealed similarities

and differences in the terminology, definitions, antecedents, contexts, processes, and outcomes of reflection. Each of these areas is discussed briefly below.

### Terms to Describe Reflection

The terms used to describe the reflective process vary greatly from theorist to theorist. Some authors use general terms to describe the concept (Dewey, 1933; Boud, Keogh, and Walker 1985; Langer, 1989; Seibert & Daudelin, 1999), while others use terms that describe the timing (Loughran, 1989; Mezirow, 1991; Seibert & Daudelin, 1999) or the content of reflection (Mezirow, 1991). An analysis of seven theoretical approaches revealed 15 different terms to describe various aspects of reflection including mindfulness, managerial reflection, reflective thought, proactive reflection, retrospective reflection, and reflection-on-action. Some of these terms appear to describe much the same process. For example, Schön's (1983) reflection-on-action, Loughran's (1996) retrospective reflection, and Seibert and Daudelin's (1999) proactive reflection are all terms used to describe the process of examining a challenging experience after it has occurred.

Confusion regarding terms to describe reflection is even more common in the general press where authors use words such as self-reflection, contemplation, introspection and meditation interchangeably (Holland, 2000; Sherman, 1994). As a result of this confusion regarding terminology, one cannot be certain what is intended when reflection is discussed. There is a need to determine the most appropriate terms to use in the description and analysis of reflection. In addition, there is a need to ascertain which term or terms will provide the widest understanding of the meaning of reflection and its requisite component parts and dynamics.

### Definitions of Reflection

Commonalties also are evident in the definitions of reflection noted across the various approaches examined. All definitions clearly state or strongly imply that reflection is a cognitive process or activity (Mezirow, 1991; Schön, 1983; Boud et al., 1985; Loughran, 1996; Langer, 1989; Seibert & Daudelin, 1999; Dewey, 1933). In addition, all general definitions of reflection imply that it requires active engagement on the part of the individual. Loughran calls reflection a “deliberative and purposeful act of thinking” (1998, p. 14), while Dewey describes reflective thought as involving “active, persistent and careful consideration” (1933, p. 9). The definitions also imply that reflection involves examining the manner in which one responds to a given situation (Schön, 1983; Loughran, 1996). This includes both an exploration of the negative and positive emotions that may be triggered by an experience (Boud et al., 1985) and the underlying beliefs and premises that may affect one’s response (Mezirow, 1991; Dewey, 1933). Ultimately, the intent of reflection is to attain deepened and broadened understanding of an experience and to integrate such into one’s overall effectiveness as a person and professional in order to enable better choices and actions in the future.

In summary, the above theoretical approaches incorporate several common definitional elements. These include reflection as (1) a cognitive and affective process or activity that (2) requires active engagement on the part of the individual, (3) is triggered by an unusual or perplexing situation, (4) involves examining one’s responses, beliefs and premises in light of the situation at hand, and (5) results in new understandings that are integrated into one’s experience and subsequently serve as the foundation for future experiences.

#### Antecedents/Context of Reflection

Similarities among the various approaches also are evident in the identified antecedents of reflection and the contexts in which reflection occurs. Most authors agree that an event beyond the individual's typical repertoire of responses must occur if the reflective process is to be triggered. Loughran (1996) describes this as a "problematic or puzzling situation that needs to be attended to," while Seibert and Daudelin (1999) describe it as a "developmental challenge." Schön (1983) states that the reflective process is triggered by situations of complexity, uncertainty, instability, uniqueness or values-conflict, and Mezirow (1991) contends that reflection occurs only when the individual experiences difficulty in understanding a situation or requires guidance. Boud et al. (1985) take a somewhat different approach. They describe reflection as "...a form of response of the learner to experience" (Boud et al., 1985, p. 18). Thus, in their model, experience in general, which includes the total response of the individual to an event, is seen as an antecedent of reflection.

Another identified antecedent of reflection is readiness and willingness on the part of the individual to engage in the reflective process. Both Dewey (1933) and Loughran (1996) contend that reflective thought requires an attitude of open-mindedness, wholeheartedness and responsibility on the part of the learner. Langer (1989) believes that mindfulness can occur only when the individual makes a conscious choice to be mindful. This sentiment is echoed both by Boud et al. (1985) who state that the intentions of the learner are critical in the reflective process and by Mezirow (1991) who contends that conscious awareness and deliberate choice are prerequisites to reflection.

Contextual factors also play an important role in the process of reflection. Boud and Walker (1993) include the milieu as a factor that both influences the experience of the

learner and requires attention as the learner prepares for an experience. Seibert and Daudelin's (1999) model explores the influence of specific contextual variables on reflection that occurs during a challenging experience. They state that the environment must provide conditions conducive to reflection in order for it to occur. These conditions include autonomy, feedback, access and connection to others, stimulation by others, and promotive and directive pressure. Another author who describes the importance of context is Loughran (1996). Loughran contends that solutions to problems arrived at through reflective processes are context-bound and as a result, may not be universally applicable. He also believes that contextual factors influence what the individual apprehends and attends to during the reflective process.

The above indicates that reflection may be influenced by the challenging situation itself, by factors within the individual, or by factors present within the larger environment in which the situation occurs. Thus, the reflective process is most likely to be successful in those situations in which individuals are ready and willing to engage in reflection, the situation is perceived as sufficiently challenging, and the environment provides an appropriate balance of challenge and support. The above perspectives also point to the importance of carefully attending to contextual factors during the reflective process.

### Process of Reflection

The process of reflection varies widely across models. Some theorists describe a five phase process (Dewey, 1933) while others suggest an eight step process (Mezirow, 1991). Still others don't clearly delineate a sequential process at all (Schön, 1983). In addition, some theorists contend that the reflective process varies depending on the time during which reflection occurs. Seibert and Daudelin (1999), for example, describe a series

of steps when reflection occurs *during* a challenging experience that are different from those that occur *after* such an experience. Other theorists see the steps as the same regardless of the timing of reflection. These variations make it difficult to determine the steps necessary to engage in reflection and also to teach its process to others.

A comparison of the various approaches to reflection, however, does reveal several common themes. First, in nearly all models, the process of reflection begins with the identification of a problem and a deliberate decision to seek a solution. Boud et al. (1985) describe this as a deliberate and intentional return to the experience. Langer (1989) describes it as a choice to be mindful and a decision regarding what to be mindful of or about. Seibert and Daudelin (1999) discuss confronting a challenging experience, and Schön (1983) describes experiencing surprise or puzzlement in a unique or uncertain situation.

A second step in most models is collecting additional information regarding the problem prior to taking further action. In Dewey's (1933) model, data collection includes the phases of hypothesis and reasoning, while in Mezirow's (1991) model it includes the steps of scanning; propositional construal; reflection on content, processes or premises; and imaginative insight. Schön (1983) describes data collection as reflecting on the phenomenon in question and the prior understandings implicit in one's behavior. Langer (1989) views it as the continual creation of new categories, openness to new information and awareness of more than one perspective, and Seibert and Daudelin (1999) as acquiring, organizing and examining information; making assumptions; and drawing conclusions. In the model of Boud et al. (1985), data collection involves first attending to feelings and then

re-evaluating the experience through the elements of association, integration, validation and appropriation.

Data collection results in a plan and decision to act. This is an important, though not always clearly delineated, step in most models of reflection in that it presupposes that something important in the individual's thinking has changed. Boud et al. (1985) state that reflection prepares the individual for new experiences and leads to new skills, ideas and even new cognitive maps. Mezirow (1991) indicates that the process of reflection leads to a new interpretation that involves a change in the individual's meaning schemes or a transformation of meaning perspectives. Schön (1983) also implies that a change in thinking occurs when he discusses that reflection leads to new understandings or new theories or frames. Similarly, Seibert and Daudelin (1999) imply that a change in thinking occurs as part of their process of proactive reflection.

A final step in most models is taking action based on the reflective process. Dewey (1933) and Loughran (1996) describe this as testing and Schön (1983) as carrying out an experiment to generate new understanding of the phenomenon. In the models of Seibert and Daudelin (1999), Boud et al. (1985), and Mezirow (1991), this step is called acting or action.

The process of reflection does not have a defined beginning or end. Instead, it is best understood as a continuous, ever expanding spiral in which challenging situations lead to reflection and through reflection to new interpretations and understandings. These new understandings then lead to new challenges and additional opportunities for reflection.

### Outcomes of Reflection



Each new experience with reflection leads the individual to broadened, deepened understanding and an enhanced array of choices as well as a more sophisticated capacity to choose among these choices and implement them effectively. In short, the primary outcome of reflection as stated or implied across the various models is learning. Seibert and Daudelin state that “for learning to actually happen, the manager must extract from experience the lessons it provides. Reflection is seen as the primary way to do this” (1999, p. 5). Loughran (1996) and Mezirow (1991) also view learning as the primary outcome of reflection. According to Loughran (1996), “reflection helps the individual to learn from experience because of the meaningful nature of the inquiry into that experience” (1991, p. 14). Mezirow (1991) takes this a step further and contends that reflection may lead to transformative learning—a process he describes as resulting in new or transformed meaning schemes and perspectives. Thus reflection may enable individuals to change their habits of expectation and, as a result, develop more accurate perceptions, avoid premature cognitive commitments, and achieve greater flexibility and creativity (Mezirow, 1991). In short, as individuals learn through reflection, they are able to enhance their overall personal and professional effectiveness.

Enhanced overall effectiveness also is implied as an outcome of reflection by Langer (1989) in her discussion of the benefits of mindfulness. Among the benefits Langer describes is greater freedom of action; increased control of the context; increased capacity for change; and increased flexibility, productivity and innovation. These benefits indicate that mindfulness alters the way in which individuals view the world and thus results in learning.

Boud et al. (1985) also delineate several outcomes of the reflective process. These include (1) new perspectives on experience, (2) changes in behavior, (3) readiness for application, and (4) commitment to action. Further, in keeping with their emphasis on the affective components of reflection, the authors describe possible emotional outcomes of the reflective process such as changes in feelings, attitudes and values.

Dewey (1933) identified what he called three values of reflective thinking: (1) the possibility of action with a conscious aim, (2) the possibility of systematic preparations and inventions, and (3) the enrichment of things with meaning. These values might also be considered the outcomes of reflective thought. Dewey is clear that "...education...is vitally concerned with cultivating the attitude of reflective thinking, preserving it where it already exists, and changing looser methods of thought into stricter ones whenever possible" (1933, p. 78). He also contends that learning includes both retention of information and the comprehension of that information in terms of the relationships of the various pieces to one another. Comprehension is only possible through "...constant reflection upon the meaning of what is studied" (1933, p. 79). This indicates that the overall outcome of reflective thinking is learning.

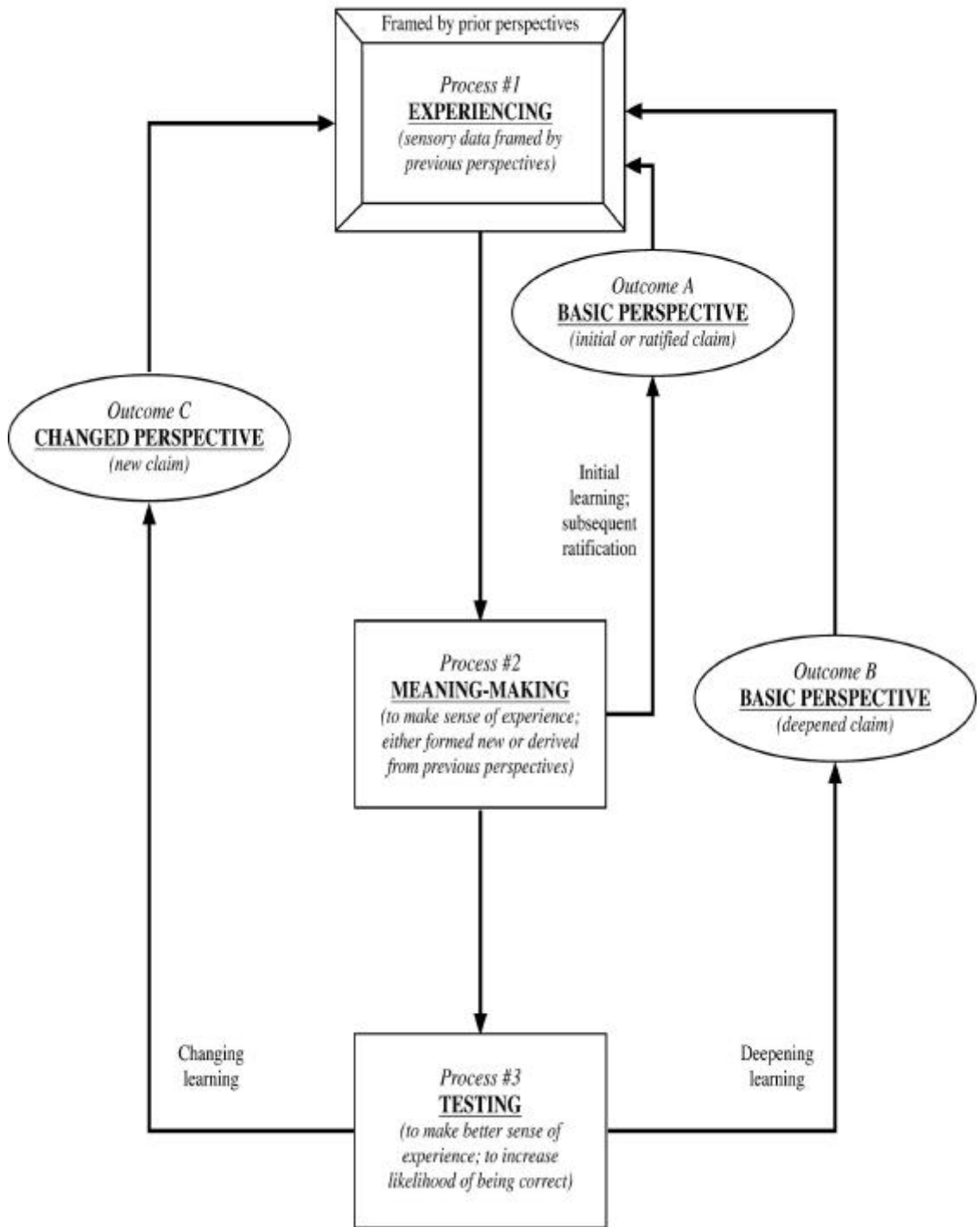
Schön (1983) identifies several outcomes of reflection-in-action. These include a new understanding of situations of uncertainty, more effective coping with divergent situations of practice, a new theory or frame, a change in a troublesome situation, and the acquisition of professional knowledge. All of these outcomes imply that learning happens through the process of reflection-in-action. Learning enables the individual to gain new understandings, cope more effectively, develop new frames for understanding experience, and acquire professional knowledge.

In summary, the major approaches to reflection contain remarkable similarities in terms of definitions, processes and outcomes. All also contain features that limit their applicability to professional contexts. A major limitation of Dewey's (1933) model is that the process of reflective thought is not clearly delineated. Dewey describes five phases or aspects of reflective thought, but states that the phases need not be sequential or mutually exclusive. Loughran's (1996) model is based on the work of Dewey and thus suffers from similar ambiguity in relation to process. In addition, however, Loughran's model was developed specifically for use with preservice teacher education students, and its generalizability beyond that context is limited. Seibert and Daudelin's (1999) work was also developed for a specific context, management. Seibert and Daudelin's term, managerial reflection, suggests that the process of reflection is different for managers than it is for other professionals. Again, this limits their model's applicability to other settings. Schön's (1983) model of reflection-in-action has been among the most widely examined in professional contexts. However, Schön's model does not clearly delineate the steps of the reflective process and thus remains difficult to understand and apply in professional practice. Langer's (1989) concept of mindfulness is helpful in understanding reflection, but also fails to clearly delineate the steps in the process. Boud et al.'s (1985) model is clear, succinct and delineates the importance of feelings in the reflective process; however, given that the reflective process in this model begins with returning to experience, it is more easily applicable to reflection that occurs after an event than reflection that occurs during action. Mezirow's (1991) model of transformative learning focuses on both the timing and content of reflection and delineates different processes based on these variables. It is the most fully developed model, but also the most complex and thus is difficult to apply.

### MODEL OF REFLECTIVE THINKING

The model of reflective thinking proposed here seeks both to build on the strengths of previous models and to address their limitations by simplifying and clarifying the terms used to describe reflection and the process by which it occurs. The term, reflective thinking, was chosen in order to emphasize reflection as a universal, active, and ongoing cognitive process—one that is applicable across a variety of contexts and settings. The model itself is cyclical in nature and contains three major processes that yield three types of outcomes. These outcomes in turn, frame future processes as well as their outcomes.

Figure 1: Model of Reflective Thinking



The three major processes of reflective thinking are (1) experiencing, (2) meaning-making, and, (3) testing. Depending on how each of these processes is engaged, they yield three types of outcomes: (A) initial/ratified perspectives, (B) deepened understanding of previous perspectives, and/or, (C) new/changed perspectives. Fundamentally, both the processes and outcomes of reflection are best considered dynamic. In other words, they have no fixed starting point and no fixed and certain ending point, but rather are continually evolving and changing as the individual faces new experiences and/or calls into question previous perspectives. Each of the processes and outcomes of the model of reflective thinking is discussed below.

#### Process #1: Experiencing

Like other approaches to reflection, the model proposed here begins with individual experience. Experience, as Reed contends, forms "...the basis of all [human] mental life" (1996, p. 158). Fundamentally, human beings are sentient. They have sensations. They see things, hear things, feel things, taste things, touch things and even intuit things. In short, they experience sensory data derived from both external and internal sources. At the point of initial experience, sensations are merely raw data. They are, at first, a vast and uncharted "territory" (Korzybski, 1994, p. 750). In time, however, even new territory is shaped and defined by perspectives derived from previous experience. Thus, even if there is a blank *tabula rasa* at some point prior to the onset of experience, it doesn't last for long. New experiences or new raw data, then, occur in the context of previous perspectives—related or unrelated to the experience at hand.

#### Process #2: Meaning-making

To respond or to know how to proceed in relation to the raw data, the territory, human beings make sense of, or give meaning to, the data. Or, as Boud, Cohen and Walker suggest, “[they] actively construct their experience” (1993, p.10). In short, human beings find, use or create “maps” to describe the territory (Korzybski, 1994, p. 58). This capacity for meaning-making or symbolic understanding, essential to our humanity (Phenix, 1964; Becker, 1971), forms the second process in the model of reflective thinking and focuses on the manner in which individuals make sense of their experiences by engendering those experiences with meaning. Meaning (interpretation) is added to the raw data of experience (the broad, endless expanse of the territory) in order to enable individuals to organize their perceptions, bring order to their lives and determine how to “be” in relation to that data. Mezirow calls these interpretations of experience “meaning schemes” (1991, p. 5). These schemes enable individuals to create “a map” of, or for, the larger territory (Korzybski, 1994, p. 58) and thus bring coherence to their lives (Mezirow, 1991). The map offers a way to make sense of experience in order to determine how to proceed.

*Experiencing*, then, offers data—be it the experience of reading a journal, attending a meeting, having a heart attack, changing a job, installing a new computer program, finding one’s way in a new city, and/or surviving (or not surviving) a downsizing. *Meaning-making*, on the other hand, assigns purpose or significance to the data and, hence, directs the individual’s response to the experience. The more (and better) “meanings,” the more (and better) options for response; the more (and better) options for response, the more (and better) choices and, hopefully, an improved ability to choose among them; and finally, the more (and better) choices and capacity to choose among them, the more

resilient and agile one's identity—a crucial outcome in a future that is increasingly different from the past and present.

In short, individuals are more the result of their choices (i.e., their meaning-making or maps) than they are the result of their stimuli (i.e., their experiences or territories) or, at least, they can be. Human beings are, or can be, more identity than instinct—more nurture than nature. As Kinget suggests in exploring man's fundamental designation as *Homo Symbolicus*, “[Man's] symbolic capacity [i.e., the capacity to make and/or find meaning] accounts also for his capacity to free himself conceptually from the here and now of the stimulus situation, allowing him to conceive of new modes and models, to conjure new dimensions, new worlds” (1975, p. 8). Reflective thinking, then, is the process of interacting with experience for and through meaning(s) thereby becoming capable of responding choicefully to that experience. Through such, human beings are set free “...from the limiting influence of appetite, sense, stimulus and tradition” (Dewey, 1933, p. 202) or, in the tradition of liberal arts education, they are liberated from “the grip of the single view” (Idhe, 1979, p. 132).

#### Outcome A: Basic Perspective (Initial)

Interacting with experience for, and through, meaning(s) in order to derive a response to the experience is one way to define the process of reflective thinking. As such, reflective thinking happens (whether consciously or unconsciously) in relation to all experience at least once at this basic or fundamental level. The meaning-making process yields a meaning that grounds a response or initial perspective and thereby directs and/or frames future experience. Subsequent experiences are then engaged with previously developed meaning(s) yielding repeated responses, i.e., territories are traveled with old



maps yielding repeated pathways and panoramas. In time, this cycle of experience, meaning-making, and repeated/ratified perspective yields an assumption of fact/conclusion and, consciously or unconsciously, a denial or self-deception of perspective.

As dire as this option may sound, there is a certain comfort in a meaning “made” (past tense) as opposed to wrestling with the ambiguity of experiencing a situation anew in order to “make” (present tense) a deeper or different meaning. Indeed, once “a” meaning is found/made for an experience, it tends to become “the” meaning—internalized to the point that it is assumed. It takes on social acceptance. It becomes a pervasive belief and, in time can result, at the individual, interpersonal, organizational, and/or societal level, in the exclusion of subsequent experiences and/or perceptions that don’t match the accepted reality. Such perceptions can create distortions which affect individuals’ ways of knowing, believing and feeling (Mezirow, 1991).

In other words, the meanings that individuals create, then create them. Over time, one’s array of collected meanings (maps) becomes one’s identity (sense of self) as well as one’s claim to professional status (possessing specialized meaning for specialized data). The more invested human beings are in their meanings “made”, the more they engage in future experience merely to ratify those previous meanings. Those meanings become what Heidegger calls a “house of Being” (1993, 1947, p. 217) and within that house, the individual can become confined.

### Process #3: Testing

How can individuals break out of the house—or, at least, expand the walls? How can they continue to learn—to continue to interact with experience for, and through, new and, hopefully, better meanings? The answer is through the third process in the model of

reflective thinking, testing. Through testing, one's process of meaning-making/discovering—heretofore frequently automatic (i.e., assumed from one's past, one's peers, one's emotional reactions, etc.)—is itself made deliberate.

Specifically, previous perspectives regarding a given experience (including those considered to be “conclusions”) are held in the context of acknowledged uncertainty rather than presumed certainty. Heightened attention is given to observable data. Feelings are examined. Inferences and assumptions are challenged and clarified. Multiple meanings are deliberately sought in order to both loosen the grip of the single point of view and give cause for comparing and contrasting varying viewpoints. Ambiguities and anomalies are explored rather than ignored. Confirming data are balanced with a deliberate search for, and continued valuing of, dis-confirming data. “Wrong” is viewed more as additional information than as a state requiring defensiveness.

The aim of testing is threefold: (1) to slow the process of arriving at conclusions or judgments in order to infuse them with additional perspectives; (2) to highlight the importance of sifting and winnowing between and among such conclusions; and, (3) to underscore the context of humility in which conclusions are eventually drawn. Such conclusions are always subject to further sifting and winnowing as a result of additional experiencing. The ultimate aim then is better (vs. worse) reasoning, not right (vs. wrong) answers. As such, reflective thinking—particularly at the testing level—involves an ongoing process that yields tentative judgments, not definitive conclusions. It is not a means to an end (knowledge) that once attained no longer requires individuals to think but to merely obey—even mindlessly obey—the knowledge. Rather, reflective thinking is a

means to a *tentative* end (a judgment call) requiring continued and enduring reflective thinking beyond the moment when the judgment call is initially rendered.

This process of testing rests on a presupposition regarding truth as constructed in contexts. Whereas traditionalists find truth in the mores, sacred texts, and wisdom of certain traditions, scientific rationalists find it through continued application of empirical methods of investigation, and New Age romanticists find it in and through disciplined introspection, this model presupposes the non-existence or elusiveness of foundational truth per se. Rather, it draws upon multiple ways of knowing in order to fuel the process of testing in the ongoing construction of what we know and continue to both act upon and wonder about.

#### Outcome B: Basic Perspective (Deepened)

One possible outcome emerging from the process of testing is a reasoned, deepened understanding (Outcome B) of one's initial perspective (Outcome A). In contrast to Outcome A, which is frequently habitual and dogmatic, Outcome B is more choiceful and subject to rational explanation. It also tends to be less threatened by the existence of other viewpoints insofar as it has emerged through a deliberate, reflective process of considering such viewpoints (i.e., through testing).

#### Outcome C: Changed Perspective

A second possible outcome emerging from the process of testing is a changed understanding (Outcome C) of the initial perspective (Outcome A). Here, the previous learning of Outcome A is altered in light of new learning emanating from testing. A different meaning for the initial experience is chosen and a new perspective is delineated. The focus here is on using the process of reflection to deliberately test the meaning or

meaning(s) one has assigned to previously learned material and through that process to gain new meanings or understandings. This outcome is similar to the transformation of meaning schemes and perspectives described by Mezirow (1991) in his model of transformative learning.

### IMPLICATIONS FOR PROFESSIONAL PRACTICE

A model is an attempt to delineate relationships among variables, explain and simplify complex phenomena, and offer a means of understanding its application in contexts beyond the theoretical. As such, this model of reflective thinking offers important implications for professional practice. Three in particular are explored below: developing reasoned judgment amid acknowledged uncertainty, engaging testing, and, reflecting in the moment.

#### Developing Reasoned Judgment Amid Acknowledged Uncertainty

Professionals are often expected by themselves as well as others to be experts in their fields. As such, they are called upon to make claims and hopefully to do so on the basis of reasoned judgment. Over time, however, repeated claims can take on the presumption of certainty even in a world characterized by increasing uncertainty (Handy, 1996). And, when certainty is presumed, there is little reason to test or test again.

This model of reflective thinking presupposes the illusive nature of certainty. Within the model, all perspectives give way to continued experiencing, which, in turn, gives way to interpreting (for ratification) or testing (for deepened or changed perspectives). Engaging in reflective thinking in order to arrive at better/worse answers is

reinforced over merely obeying previous conclusions. The aim is reasoned judgment or educated opinion. Knowledge is used to inform judgment and, as such, is understood to be more of a dynamic “knowing” than a set of final conclusions.

Such a perspective has important implications for today’s organizations and the individuals who work within them. With the workplace and its assumptions changing continuously, the model provides a framework through which professionals can hold their knowledge/expertise in the service of constantly honing their ability to test interpretations and, in so doing, to eventually arrive at claims characterized by a humble realization of uncertainty. Such humility fosters both ongoing attention to experience and keeps open the possibility of new discoveries. As such, the emphasis is on the processes (experiencing, meaning-making, and testing) more than the resulting perspectives (i.e., outcomes).

Engaging Testing

Individuals and organizations are unique in many ways—their cultures, their personalities, and their values. They are also unique in the degree to which they engage in.

Please see table 1.

Table 1: Postures of Testing

<b>Posture of <i>Avoiding</i> Testing</b>	<b>Posture of <i>Engaging</i> Testing</b>
-search for confirming data; ignore or discount disconfirming data	-search for disconfirming data; consider confirming data in the context of disconfirming data
-discount anomalies	-consider anomalies
-view “wrong” as bad	-view “wrong” as additional information
-use irrelevant data rather than be wrong	-operate with a keen attention to observable data and clarified assumptions
-avoid ambiguity	-explore ambiguity
-operate through private/homogeneous inquiry	-operate through public/heterogeneous inquiry

Those individuals and organizations that tend to avoid testing search for confirming data and ignore or discount dis-confirming input. They tend to view “wrong” as “bad” and, as such, are prone to use irrelevant data for support rather than be wrong, to operate at a high level of inference, and to avoid ambiguity. In addition, they tend to operate as entitled to their own opinions—arriving at conclusions through private/homogeneous inquiry. Argyris (1991) would say that such individuals and organizations are caught in a cycle of single loop learning—a cycle that results in a posture of defensiveness, maintenance of the status quo, and the achievement of less than effective outcomes.

Those individuals and organizations that tend to engage in testing search for disconfirming data and pay particular attention to internal cues that suggest different points of view. They tend to view “wrong” as “additional information” and, as such, are prone to be wrong rather than use irrelevant data, to operate with keen attention to observable data or clarified assumptions, and to explore ambiguity. In addition, they tend to operate as not entitled to their own opinions and to arrive at conclusions through public/heterogeneous inquiry. This is more akin to the double loop learning suggested by Argyris (1991). When double loop learning—or in the case of this model, reflective thinking—occurs, individuals and organizations are able to step back from a defensive posture, test their assumptions in light of disconfirming data, and expand the array of choices available. The result is individual and organizational learning as well as enhanced overall effectiveness.

The model of reflective thinking offers a framework for professionals to use in considering their approaches to practice, particularly in relation to testing prior perspectives. The cyclical nature of the model reinforces the ongoing nature of this

process. This, too, offers professionals a means to both value their experience and maintain a degree of humility about any claims derived from such.

### Reflecting in the Moment

Many authors make a distinction between reflection “on” (after) an experience and reflection “during” an experience. Both types or times of reflection offer the value of developing conclusions to inform subsequent action; however, in the case of the former, the subsequent action involves the next experience whereas the latter offers the possibility of taking different action “in the moment.”

The model of reflective thinking offered here can inform both types and times of reflection. Of particular value, however, it offers a framework for wondering “in the moment.” Appropriately understood, its simplicity and use of gerunds (for processes) vs. nouns (for perspectives) offers a way of conceptualizing one’s experience as it is happening. Translating the model’s processes into their associated questions further enhances its usefulness “during” experience. For example, What am I experiencing? What meaning am I making and how? What other meanings might I consider?

In addition, at the level of testing, the model offers a way to hold and value differences (interpersonal and ideological) both in the moment and thereafter (i.e., as valued disconfirming data helpful in testing interpretations rather than as cause for premature defensiveness). In so doing, the model can assist professionals in uncovering interpretations-held-as-conclusions, in managing desires for confirming data, and in nurturing a frame of mind that truly values (explores rather than ignores or eliminates) disconfirming data.

### CONCLUSION

Whitehead contends, “From the moment of birth, we are immersed in action and can only fitfully guide it by taking thought” (1929b, p. 80). Reflective thinking offers a framework for this taking of thought in the midst of the ongoing experience or action of professional practice. At one level, it provides a means to better understand past experience in order to improve future action. At another level, it provides a means to better understand current experience in order to improve present action. Regardless of level, however, experiences, as Bennis writes, “...aren’t truly [ours] until [we] think about them, analyze them, examine them, question them, reflect on them, and finally understand them. The point...is to use [our] experiences rather than be used by them...so that experiences empower rather than imprison” (1989, p. 98).

The model of reflective thinking proposed here seeks to enable individuals to enhance their overall personal and professional effectiveness through the processes of experiencing, meaning-making and testing. These processes lead to three outcomes: initial perspectives, deepened perspectives and new or changed perspectives. This model, which is cyclical in nature, is applicable across a variety of settings and contexts. It is not time-sensitive and thus can be applied prior to an experience, during an experience and/or after an experience. The model has particular value for reflecting during action as well as for developing reasoned judgment amid the acknowledged uncertainty that is so prevalent in many professional practice settings today. Like many theoretical models, it should be considered a “work-in-progress”—one that will be refined and enhanced both by this author and by others who seek to apply the model and subsequently reflect on their experiences in its application and testing.



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