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FOSTERING THE LEARNING CLIMATE THROUGH COGNITIVE COACHING DISCOURSES: A RESEARCH--BASED MODEL

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> *The nonjudgmental activities that were done including the questioning techniques both on paper and whatever exercises we were involved in—the coaching exercises—made us so relaxed. I felt that my views were important. The choice of questions, and the body language, all the things that were done made us feel so relaxed.* (McLymont, 2000, p. 173)

A learning climate that empowers students so that they can maximize learning is very important in today's society and is also important for the building of the nation of "tomorrow." Students learn best when they are actively engaged in their own learning and interacting with classmates and with their teachers in a setting where trust and respect are the foundation for generating Cognitive Coaching Discourses in the classroom.

The purpose of this paper is to show how in the everyday classroom context a climate can be generated to maximize student participation and learning and to empower students to take charge of their learning. It is also the purpose of this paper to examine the pillars of *Cognitive Coaching Discourses*—trust, empathy, collaboration—and to explore how these pillars can be established through the use of certain techniques for example, questioning, silence & wait time, offering explanation, paraphrasing, and conferencing structure. This paper also explores the integration of faith, beliefs and values from a biblical/Christian perspective, thus uncovering in the concepts the themes and issues that allow for the explicit connection.

The paper is generated from the set of concepts and ideas that have emerged from the research conducted for my dissertation. The objective of this research was to create a learning environment that would maximize student involvement and participation that would further lead to the optimization of student learning and student empowerment, and to generate an alternative approach to teaching that would move away from the traditional teaching method, the direct teaching, that fosters individuality, and competitive ways of learning. This was achieved by engaging a set of mathematics teachers in a professional development process and having them translate their experiences from the seminars into their classroom experiences. Hence, I developed a model using the concept of Cognitive Coaching used in clinical supervision (Costa & Garmston, 1994) and extended it to the classroom context involving students. As a result, students and teachers engaged in the research activities and utilized the tools of Cognitive Coaching *Discourses* in their mathematics classes (McLymont, 2000).

Discourse is "the ways of representing, thinking, talking, agreeing and disagreeing" (NCTM, 1991, p. 34) that teachers and students use as they engage in tasks central to what students are learning in the classroom. Hicks (1995) noted that the term *discourse* implies socially-situated communication that sustains face-to-face interactions between participants or in the case of written texts, between author and reader. According to Gee (1996), discourse co-ordinates and integrates words, signs, acts, values, thoughts, beliefs, attitudes, and social identities, as well as gestures, glances, body positions, objects, and

settings. Discourse is also a "tool for the establishment and distribution of knowledge" (Riley, 1985, p. 2) and to convey the intended messages that one strives to communicate through language in a social interaction in which personal meaning-making and understanding are important goals of the socially-situated classroom activity. The opportunities provided during discourses in the learning context allow students to make public their conjectures while they reason with others about the concepts being explored; as a result, "ideas and knowledge are developed collaboratively" (NCTM, 1991, p. 34). According to Feuerstein and Feuerstein (1991), the mutual questioning and answering that shape the dialogic-interaction of mediational discourses provide a personal experience that allows "a high level of cognitive, self-reflective, insightful processing" (p. 19) to take place.

On the other hand, cognitive coaching, according to Costa and Garmston (1994), is the means of conveyance which takes a person from where he or she is to where he or she wants to be. It is a way of thinking which utilizes the employment of certain strategies, and a way of working that enhances the individual's perception, decisions, and intellectual functions. Thus, the inner thought processes are changed to improve overt behaviors and to enhance learning. Cognitive coaching establishes and maintains trust in self, relationships, processes, and the environment. It facilitates mutual learning and enhances growth of an individual towards autonomous behaviors while simultaneously aiding the development of interdependence.

Costa and Garmston (1994) maintain that cognitive coaching draws on previous knowledge and intuition to guide, hone, and refine actions. It pursues ambiguities and possibilities to create new meanings and seeks perspectives beyond self to generate resourceful responses. As a result, it seeks balance between and among aloneness and togetherness, action and reflection, and personal and professional growth. It further explores choice between self-assertion and integration with others.

Hence, *Cognitive Coaching Discourse,* according to McLymont (2000*)* provides the "how" for ways of knowing, communicating, and being. It is an extension to cognitive coaching to include not only formal conferencing with teachers but informal conferencing, and not only with teachers but also with students. It is also extended to include larger communities of three or more persons instead of just dyads, both on the teacher and student level. It is extended to include not just interactions within the formal setting of conferencing but the constant on-going informal interactions in informal settings both on the student level and teacher level. These informal interactions are not just discussions or conversations; they employ the principles and *tools* employed in cognitive coaching to bring about *Cognitive Coaching Discourse.*

Cognitive Coaching Discourse can, therefore, be formal as well as informal and has a universal nature. It is universal in nature because it can be utilized in the learning context at all levels—elementary to University (tertiary)—and in all subject areas. "*Cognitive Coaching Discourse* is the reciprocal utilization of verbal and non-verbal trust-building tools of cognitive coaching for the enhancement of communication and understanding and the exploration of ideas, beliefs and values to generate a process" and a learning

experience (McLymont, 2000, p. 300). These tools included questioning, silence and wait time, offering explanations, paraphrasing, and conferencing structures or grouping with assigned roles. However, for these tools to be effectively utilized they had to be established on the pillars of trust, empathy, and collaboration. These virtues, inherent in the process, help to foster the climate for maximum student learning and empowerment.

Throughout Jesus' ministry here on earth, He was always engaged in discourses with His disciples (Matt. 5; 19:3-12).

Trust: A Pillar for Cognitive Coaching *Discourses*

In the building of relationships, trust must be established first (Johnson, 1997). Therefore, in this teaching and learning setting, the foundation was laid as negative comments were not entertained neither from students nor from teachers. Participants made conscious efforts not to convey negative messages and this made a difference. One participant stated:

> *Even the negative messages, concerning either what you say or your body language, but deliberately, consciously, creating that atmosphere in the classroom, basically eliminating some words from my vocabulary and my thoughts, mentally preparing to go into the class and deliberately taking out some words . . . is making a difference.* (McLymont, 2000, p.146)

For professional growth to take place through collaboration, researchers (e.g., Costa & Kallick 1993; da Costa, 1993, 1995; da Costa & Riordan, 1997) have found that a level of trust between and among individuals is needed. According to McLymont (2000), the conferencing opportunities promoted collegial relationships which tended to erase judgments as teachers felt free to solicit information from each other without anyone thinking negatively of the one who solicited the information. According to one participant,

> *I think it is because we have to coach each other and the non-judgmental part of it. I think the non-judgmental part has created that. Nobody is there judging you saying you should have known that, . . . I think that part, we have taken that part out of it. I think it has helped tremendously.* (McLymont, 2000, p. 149)

Trust is a prerequisite for successful cognitive coaching relationships (Costa & Garmston, 1994) because when trust exists then anxiety about the collaborating process is minimal or non-existent (McLymont, 2004). As a result, individuals can inquire, speculate, and construct meaning in a safe environment. One participant recognizing the change in herself and in her classroom experience stated:

> *I have also learnt to build trust among my students. I see them more as individuals now, and also my colleagues. I think that part has really improved.... I am trying NOT to be judgmental (laughs). It is difficult . . . but I am trying very much to take out the "NO! Not like that! How could you think like that? Stupid! Rubbish!" You try not to say those terms and things like that, and allow a more*

> *freedom of expression . . .for example, "Why do you think like that? Tell me how. Explain to the class," and things like that.* (McLymont, 2000, p. 147)

Without a foundation of trust learning cannot take place. Hence, for one to process and make meaning of certain information, trust must be in place. Trust must exist for trust to be built in self, in others, and in the community of learners (McLymont, 2004; 2000).

There are certain essential ingredients that are necessary for the building of trust for example, knowing how to relate to others of differing cognitive styles, to value each person's expertise, to respect and appreciate differing views, perceptions, knowledge base, and how to network (Costa & Garmston, 1994). To build trust, openness is needed in a supportive setting (Cragan & Wright, 1999; Johnson, 1997), and is achieved through the creation of a nonjudgmental climate and through verbal and nonverbal behaviors, approaches, or language tools (Costa & Garmston, 1994).

For us to build a relationship with Jesus Christ, we must trust Him. "Trust in the Lord with all thine heart and lean not unto thine own understanding... in all thy ways acknowledge Him and He will direct thy paths" (Proverbs 3:5-6). When we trust God only then can we claim the promises He has made and as a result, develop our faith in Him. By talking to Him more through prayer, and God speaking to us through the written word, we build the communication process with Him by our requests, questions, and the responses received from Him, hence our relationship is enhanced and we will be more prone to take everything to Him seeking His direction.

Empathy: A Pillar for Cognitive Coaching *Discourses*

Empathy as a communication tool is very effective as it increases the efficiency of gathering information (Hardee, 2003). It is very important that within the learning context empathy is expressed. Empathy is identifying and expressing appreciation of the feelings expressed by another person, thus understanding the person's experiences within the person's frame of reference. For example, the feelings expressed or implied verbally or in acts of frustration, anger, fear, joy, sorrow etc. when identified by teachers and other learners in the teaching and learning context and when expressed, helps each to realize the level of importance that is attributed to the one to whom empathy is being expressed. Each gets the feeling that he or she is very important and special. His or her feelings are being identified by the person expressing empathy.

Jesus empathized with the widow of Nain when He came upon the funeral service of the woman's only son (Luke 7: 11- 17). It would appear that Jesus saw His own mother in this woman. He foresaw the moment when His mother would lose her beloved son. He saw her in sorrow, mourning this loss. So He did something about it. "He had compassion on her" (Luke 7: 13). He restored the woman's joy by giving her son life again (Luke 7: 11- 17). His mom would also experience joy when He would be resurrected to everlasting life.

Likewise, in the particular learning context as feelings are expressed and recognized, opportunities for empathy are presented. To a student expressing feelings of frustration,

a teacher or a team member can express his or her recognition of such feelings by stating that, "I see that you are feeling very frustrated about your inability to come up with a solution to this problem. I understand how that might make you feel. How about trying X, Y, or Z?" or "what alternative have you explored?" Recognizing the particular feelings and helping to raise the student's consciousness regarding the alternatives that can be explored help the individual to refocus not so much on the obstacle but on seeking alternative solution paths. It is therefore important that a safe climate be created that feelings can be expressed and recognized and the correct focus can be made as participation and learning are being maximized through collaborative efforts.

Collaboration: A Pillar in Cognitive Coaching Discourses

Collaboration occurs among individuals of similar status. It is an interactive process in which persons work jointly on the same task and not on separate components. Working together on the same task results in negotiation, mutual discovery, reciprocal feedback, and frequent sharing of ideas (Damon & Phelps, 1989; Dillenbourg, 1999; McLymont, 2000). Collaboration allows students to share their expertise in the attainment of learning outcomes (Palincsar, Stevens, & Gavelek, 1989). This necessitates shared responsibilites and participation and engagement in a coordinated effort to solve a problem or perform a task together (Dillenbourg, 1999). According to McLymont (2000), even though the terms *"collaborative learning"* and *"cooperative learning"* have been used interchangeably collaboration involves more than the effective division of labor that constitutes cooperative learning.

Collaborative learning takes place in the setting where each individual is assigned a specific role and is allowed to share different perspectives toward the solution of problems. From my research, we found that this collaborative setting led to an increase in the utilization of the knowledge and skills that each person brought to the learning situation. This setting also served as a basis for building trust and freed teachers from engaging in the act of lecturing. The team spirit that existed in the collaborative learning setting affected individuals in a positive way. Students who while working on their own initially might have experienced feelings of helplessness and frustration no longer experienced those feelings as each one engaged in helping the other to gain the concepts and to experience success (McLymont, 2000). A student experiencing collaboration states:

> *The group led to my success by the first principle of co-operation. Being co-operative in a group is very important because it helps me to express myself in that whatever I did not understand and the persons were there listening to me and trying to help me get the concept of what I did not understand. . . . The group had a very great impact on getting me to understand. The members of my group have also given me the courage to move on and to strive for excellence in mathematics. I liked the way my group behaved; they are very attentive and co-operative in all aspects.* (McLymont, 2000, p. 198)

Co-operation and collaboration among and between group members lead to success as each is given voice in expressing what he or she understands or did not understand as

together they worked on a particular task. As the roles in the groups were effected, each was given assistance to move on and to strive for excellence. Even when members of the group made errors or might have been experiencing some challenges they felt free in the setting to ask questions and to seek explanation. As a result, no one was afraid to express him or herself in addressing the particular problem as they worked together and overcame the particular problem. This was because trust was first established as a foundation. Also, students often recognized the fact that they do not have to struggle by themselves to try and solve the problem. In this setting, when they are faced with a particular problem they discussed it with the members of the team. The team setting allowed for the level of discourse that gave each an opportunity to ask questions, to share opinions, and to grasp the principles involved. In this collaborative setting, each experienced a sense of confidence in self and a level of success so that those who did not like mathematics started to enjoy the subject. According to a student, the execution of the roles in the groups has also

> *helped me to see where I went wrong in working a particular problem, and has helped to develop my skills better, and has also helped me to know my peers better. Most of all, it has helped to build my self-confidence as I showed my group members things I didn't even think I knew.* (McLymont, 2000, p. 198)

Collaboration among students led to a move from a dislike for the subject of mathematics to one where it was being enjoyed as mathematics was made more interesting, understandable, and fun to work. The caring of one team member for the others became an integral part of the nature of the collaborative team. To help each other succeed became one of the major objectives of the team.

> *The group affected my success in understanding the concepts involved in the lessons. Well, this is mathematics! and I'm a little slow in this subject, but the group-work helped me, because not understanding a problem, I am able to ask a person in my group to help me. The advantage in my group was when a slower person keeps stopping to ask a question . . . it was a nice thing to stop and help her to understand what the problem is asking for.* (McLymont, 2000, p. 199)

According to McLymont (2000), students reported that because of the collaborative process, working in their groups did not allow them just to understand the concept at hand but to master the topic in all dimensions. This was done because as one explained *"before attempting to solve a problem, we discussed the problem and then attempted it and if I did not understand, the teacher of the group would explain it to me."* The climate in the group setting was one that lends itself to asking each other questions and offering explanations. Some students stated that: *"There was a lot of questions asked"* and *"if you didn't understand something you could ask the person explaining the problem."* Others stated that they *"liked the way we discussed the math problems and how we attempted them using everybody's views and understanding."* Hence, *"The group worked together in solving a problem and when we worked together we were willing to take everyone's opinion."* Consequently,

> *Working in this group, I learn to work together and to give my own opinion, I also learn that working in the group really helps because if one person in the group*

> *does not understand, someone in the group can explain.* (McLymont, 2000 p. 199).

Students suggested that the level of collaboration within the student-groups generated a sense of team-spirit, allowing everyone the freedom to express himself/herself while other group members were very attentive and willing to listen. When students experienced any difficulty, they said they felt free to solicit help as each "group-teacher" was always available to help. They explained that, in helping others, they also helped themselves. The concepts became clearer while they were engaged in giving an explanation. Each group member was also willing to give and take correction. As group members pointed out mistakes and explained how to overcome them, they worked together collaboratively trying to overcome weaknesses as they no longer had to struggle to solve a problem alone. Students stated that, by helping each other, they experienced a good feeling and greater self-confidence as they gained the courage to strive for excellence. Employing problem- solving techniques within the group-setting, students gained understanding and some also found mathematics to be interesting and fun (McLymont, 2000).

Another dimension addressed by a student was that of communication: *"I work better in a particular group because we communicate with each other more and we can understand each other."* Therefore, as a result of the *Coaching Discourses* generated in the groups, greater levels of communication were being achieved. Comments from various students also endorsed this: *"I like my recent group a lot because we correspond much better."* Hence, *"I like the communication and the working out process in my group," "Someone is always explaining; it helps me to understand more." "We could point out each other's mistakes and work better together . . . as we are able to answer each other's questions;" "everyone helps the other."* The rotation of roles in the group-setting helped each student to be empowered in this learning situation to use the questioning technique they all possess and to bring their mathematical histories to address the problem at hand as they worked toward a solution (McLymont, 2000, p. 204).

As with their experiences at the beginning when they were first introduced to working in groups, students stated that they continued to enjoy the group-climate generated by the execution of their roles. There was always someone to explain what they did not understand. They were also given the opportunity to agree and disagree about issues, and from the discourses, they were empowered to understand better what they were doing. They also liked the fact that everyone was on the same level. They were peers. They worked together. They listened to each other. They laughed together. This form of grouping enhanced communication in this circular relationship and enhanced a climate that did not inhibit their thought processes but encouraged them to share their conceptions and misconceptions and to pool their mathematical ideas. They were also able to generate their own solution paths to problems. As one student stated: *"in this class, you get to find your own way of working out a problem"* (McLymont, 2000, p. 205). This climate to think critically and to be creative developed because of the assigned roles and the conscious removal of negative comments in the setting. Teachers and students made the conscious efforts not to use judgmental comments and even if any

such comments were made they provided an explanation of what they meant by the comment. As a result of the removal of these judgmental comments from the learning setting, students stated that they were now able to focus on the task of learning and to do so at a faster rate.

The employment of group roles in the collaborative process also promoted feelings of equity in terms of the opportunity and freedom to ask questions, to give and accept explanations, to talk and share thoughts and ideas so that students could give and receive help from their peers and build the confidence in themselves that they had the ability to accomplish mathematical tasks (McLymont, 2000). Their problem-solving skills were strengthened as they grasped principles and understood problems to generate solutions. Thus, their craftsmanship in solving mathematical problems was enhanced.

The climate generated for the development of discourses was one in which everyone felt comfortable to express his or her views. The freedom one felt to express one's ideas without feelings of intimidation whether by verbal or non-verbal messages lent itself to a comfortable trust building setting (McLymont, 2003). The reciprocity in roles led to the development of the learning community in which there was freedom of expression, a feeling of security, and acceptance of each individual and the individual's contributions to the solution. During the collaborative process no value judgment is placed on a response as respect for each person's contribution is very important. Each person is unique and special. Therefore, maximum participation by each is integral as each shared his or her ideas that are valued in this setting.

Employing the roles in small groups during this collaborative process, students learned from each other in an interesting way. They were provided with the opportunity to work together and to help each other to work carefully step by step; each was made comfortable to be wrong about anything as mistakes were identified and suggestions for correction were made by team members while solutions to problems were sought. As a result of collaboration, students became more open-minded towards the solutions to problems as they solicited and shared their ideas, opinions, and methods and ensured that each understood before they moved on. Thus, they learned different solution paths for the same problem in a very short time.

Collaboration provides students with the opportunity to explore each other's thoughts and to identify whether solution paths were correct or not. This was very important to each member of the team. Although each might suggest a different path, when ideas were pooled each solution was recognized. Hence, the various solution paths impacted students' understanding as they learned from each other different ways to solve the same problem. The implications suggested by students as a result of the employment of roles in small groups were that they learnt to be more disciplined. They could now attempt to solve any problem on their own. Also, during a test (no group testing is done, each person takes a test individually), if time was running out, they could use the shortest method or if they forgot a particular solution path, they might be able to recall another to solve a given problem (McLymont, 2000). Individual testing is done; this is based on the premise,

according to Vygotsky (1978), that what children learn in a group setting, at a later date, on their own they will be able to perform the same task without any assistance.

The Collaboration in small groups impacted negative feelings and difficulties experienced when working alone and had long-term implications for learning to work collaboratively in the workplace and at higher institutions of learning (McLymont, 2000). Jesus told His disciples to tarry in Jerusalem until they were endowed with power from on high (Luke 24:49; Acts 1:4, 5, 8). During this tarrying process the disciples were communicating more, the competitive nature faded into non-existence as they got to understand each other and to care for each other more. They were in one accord (Acts 1:14; 2: 1) No longer were they striving to be the chief one in Jesus' kingdom but their desire was that each one receives the gift of the Holy Spirit. Differences were put away as discourses were generated. This act of communication led to their transformation and conversion, and as a result, they all received the gift and were filled with the Holy Spirit (Acts 1:4). They were now able to share technical concepts with others (Acts 1: 4). They now experienced "singleness of heart;" (Acts 1:46). Their purpose was now made one, to help one another to come to know God. Collaboration is very essential for the creation of the climate for sharing, caring, and understanding and for maximizing learning. This can be accomplished through the employment of certain techniques.

Techniques

Techniques are skilled methods utilized to enhance the learning environment to make it one that is healthy, comfortable, supportive, and nurturing. The techniques that will be dealt with in this context are the questioning technique, providing explanations, paraphrasing, silence and wait time, and conferencing structures.

The Questioning Technique

Questioning, a language tool, is an essential dimension to the communication process. Asking each other questions helps each one to understand concepts and processes better and also helps to get a clearer understanding of the problems under discussion. By asking questions about the concepts that are posing a problem or that seemed difficult to understand, each is able to seek clarification (McLymont, 2000; 1998). Clarifying, Costa and Garmston (1994) noted, contributes to trust building because it communicates the idea that expressed thoughts are worth consideration and exploration although the full meaning is not yet realized (McLymont, 2004). Hence, the questioning technique provides a vehicle for the full exploration of necessary information and opinions regarding the particular topic under discussion (Cragan & Wright, 1999).

The climate is conducive for each one to ask of each other questions and to help each one to come up with a solution at a faster rate when faced with challenges (McLymont, 1998). In many instances, questions are asked not because one does not understand but because one wants to verify the deductions and decisions one intends to make. By contemplating the questions asked, others are able to approach the solution of a problem from not just one perspective because their consciousness is raised to explore other alternatives. Performance is therefore enhanced by thinking about the question and by being able to ask each other questions (McLymont, 2000).

Many who have been engaged in this process stated that although their minds might have been somewhat blank at the beginning of solving a problem, asking questions, and offering explanations helped. So not just asking questions helped, but being asked a question also helped. Even though in many instances the answer was not readily available, being given time to think about the question and the opportunity to respond to the question raises the responder's consciousness so that as one participant stated: "*When I really thought about it, I was able to contribute in solving the problem.*" Therefore, as a result of being asked, one is impelled to think and to offer an explanation. As individuals are engaged in explaining, steps and concepts that were not clear became clearer or they were able to ask each other questions so as to clarify aspects that were not understood previously. For example, in the Holy Bible, Nicodemus making certain observations (John 3:2) was taken to the next level of the concept of being born again (John 3:3). This concept of being born again puzzled him. So he sought clarification, "How can a man be born when he is old? Can he enter the second time into his mother's womb." (John 3:4) And even with the explanation offered (John 3:5-8) he probed further to gain a more comprehensive understanding: "How can these things be?" (John 3:9). This encounter between Jesus and Nicodemus supports the concept that questioning and probing are integral to learning and grasping new concepts. Probes elicit new information by pushing the response to a new and more complex level of understanding. This type of probe, explained Borich (1988), "builds higher and higher plateaus of understanding by using the previous response as a stepping stone to greater expectations and more complete responses" (p. 209).

Questioning also helped in arriving at different methods of solution or to invent one's own method or procedure of solving a problem as the thought processes are triggered and consciousness is raised. Misconceptions are cleared up as the discourses are generated because others are able to help the individual explaining to bridge the gaps in her/his own understanding through their questions and suggestions. Elaborations and extensions to ideas are also made. Each person's performance is enhanced by the employment of the questioning technique (McLymont, 2000). Individuals felt that it was comfortable to be wrong because it was a comfortable environment in which they all wanted to work. The attitude displayed by each in the group setting caused everyone to participate as there were no negative reactions. This collaborative environment in which they worked was established on mutual respect and trust (McLymont, 1998).

The questioning technique is incorporated throughout the presentation by each individual within the groups and the class teacher. Questions are asked not just when gaps are identified in explanations or when misconceptions are identified by the group members to whom presentation is being made. It is an integral part of each discourse. Questioning helps students to improve their understanding and performance by allowing individuals to have open minds and by providing them with opportunities to recognize their errors, to seek clarification, to investigate, to invent one's own methods of solution and to provide explanations for problems, for solutions, and for decisions to be made.

Empowered with the responsibility to ask questions in the group-setting, students no

longer experienced the level of frustration they had while working alone, but were able to draw from one another's past experiences and previous knowledge to solve problems, and what they learnt in the group-setting they practiced on their own to enhance their understanding of concepts. A questioning technique that impelled thinking, generated probes, incorporated wait-time that allowed for reflection and processing of information and signaled respect and faith in the person's ability to respond effectively to the cognitive tasks at hand, served as an alternative to "telling" in the teaching and learning context (McLymont, 2000).

Silence and Wait Time

How long to wait during questioning before initiating another question is an essential consideration (Borich, 1988). According to Borich, wait time can be equally as effective in contributing to a desired response as is a question or a probe itself because it allows the responder to thoughtfully compose a response of his or her own. It is recommended that a wait time of at least three seconds should be observed before either asking another question or repeating the previous question. However, when questions are likely to require thinking through and weighing alternatives, up to 15 seconds of wait time may be appropriate (McLymont, 2000). The studies of Rowe; Tobin; and Tobin and Capie, (as cited in Borich, 1988) suggested that when wait time is increased to three seconds or longer, the length and quality of responses increased, the number of voluntary responses also increased, and participants asked more questions and showed more confidence in their responses, while on the other hand, failure to respond decreased.

Costa and Garmston (1994) observe that silence during conferencing serves to indicate that the conference is a productive one because a coach who waits is communicating respect for the coachee's reflection and processing time. It also signals respect for the coachee's ability to perform a complex cognitive task. Waiting for an answer is a desirable behavior that demonstrates thoughtfulness and reflection and serves to restrain impulsive tendencies on the part of the coach (McLymont, 2000). Costa and Garmston maintain that, if trust is the goal, then coachees must be given the opportunity to do their own thinking and problem solving. They further stated that coaches who wait for longer periods receive answers with complete sentences and thoughts. They also noticed a perceptible increase in the creativity of the coachee's responses as they offer explanations.

Offering Explanations

Providing explanations generated different levels of thinking that aided understanding and helped individuals who were explaining their ideas to have a clearer understanding as their thoughts and ideas were verbalized. As a result of being engaged in providing verbal explanations during the coaching discourses, students presented their written work in a more logical order and provided written explanations during the solution process of, for example, mathematical problems. They no longer provided only step-by-step solutions but also explanatory statements as an integral part of the solution process. As students engaged in solving problems they were asking themselves questions and providing needful explanations. They deduced that if they are able to ask intelligent questions of themselves or of someone in their working group, it meant that they were understanding

and making meaning of the concepts. They were also able to pool all the ideas together and come up with intelligent solutions thus improving their craftsmanship in solving problems (McLymont, 1998). The fact that students were able to offer explanations provoked different levels of thinking that aided understanding and helped the individuals who were explaining to have a clearer understanding as their thoughts and ideas were verbalized. Questioning and the employment of wait time also helped in allowing the responder not just to provide a response but to organize the response (McLymont, 2000).

There were many instances in which Jesus engaged in explanations while He was here on earth. For example, in recognizing the competitive nature of His disciples as they sought to be isolated one from the other, Jesus explained to His disciples that His kingdom was not of this world so as to get them to strive to collaborate, and work together, thus serving each other (Luke 22:24- 30).

> KJV Luke 22:24 And there was also a strife among them, which of them should be accounted the greatest. 25 And he said unto them, the kings of the Gentiles exercise lordship over them; and they that exercise authority upon them are called benefactors. 26 But ye *shall* not *be* so: but he that is greatest among you, let him be as the younger; and he that is chief, as he that doth serve. 27 For whether *is* greater, he that sitteth at meat, or he that serveth? *is* not he that sitteth at meat? but I am among you as he that serveth. 28 Ye are they which have continued with me in my temptations. 29 And I appoint unto you a kingdom, as my Father hath appointed unto me; 30 That ye may eat and drink at my table in my kingdom, and sit on thrones judging the twelve tribes of Israel.

Being engaged in the process of explaining helped individuals to understand the principles that they did not understand previously, and therefore enabled them to perform better. Explaining aids understanding and performance, and provides individuals opportunities to communicate and comprehend, to clarify misconceptions, to grasp concepts better, and to overcome weaknesses and the tendency to make mistakes (McLymont,1998). Explaining in student small groups enhanced understanding and clarification of concepts, and encouraged open-mindedness, sharing, and the exploration of alternative methods of finding solutions, or the combination of suggestions to produce solution paths (McLymont, 2000). This is accomplished as each is given voice and is listened to attentively.

Listening is key in the communication process and is important to the one providing explanations. Therefore, listening more to the one who is speaking gives more voice and promotes feelings of equity to those who are trying to communicate something. Also, by listening to oneself and reflecting on the process, one is able to identify the weaknesses in one's mode of communication and as a result begin to remedy these defects. The opportunity and freedom to offer and accept explanations, to talk and share thoughts and ideas and to listen to each other allow students to realize they could give and receive help from their peers and build confidence in themselves, and to realize that they have the ability to accomplish the given tasks (McLymont, 2000).

Listening is vital to understanding concepts. When the elders and the apostles came together to consider a particular matter (Acts 15: 6) that seemed to be a misconception by some, Peter spoke (v.7). Paul and Barnabas also addressed the matter (V. 12) and James also made his contribution (v. 13) and "all the multitude kept silence and gave audience" (v. 12). They listened intently to the contributions of each then came to a conclusion and made a decision (v. 22). Each played a particular role in the decision making process by offering suggestions and explanations. While providing explanations, those who are listening always paraphrase so that the person explaining has the opportunity to as it were hear what he/she said and is able to verify information or to realize that what is understood by others might not be what he/she is trying to communicate. Thus, remedial action is catered for. Therefore, paraphrasing is listening intentionally and communicating what is understood. It serves the purpose of validation and clarification and leads to the next question (McLymont, 2000).

Paraphrasing

Paraphrasing is a verbal behaviour. It is one of the non-judgmental accepting responses that is important in the building of trust (Costa & Garmston, 1994). Paraphrasing is "rephrasing, recasting, translating, summarizing, or giving an example of what" (p.49) is said during an interactive discourse and is employed to maintain accuracy of meaning and intent of an idea or set of ideas (Costa & Garmston). Also, according to Leont'ev (1981), meaning is really the effect of the interaction of the speaker with the listener and it is this social interaction that involves speech that really gives colour to the meaning of the particular interaction.

Paraphrasing is very important in the development of discourses and is an essential technique for clarifying ideas that are being discussed (Cragan & Wright, 1999). According to Costa and Garmston (1994), paraphrasing is the most powerful non-judgemental verbal response because the listener seeks to communicate to the speaker that he or she is trying to understand what is being said or asked and also values what is being said. Paraphrasing, Cragan and Wright (1999) further observed, is an excellent way to assure the speaker that one is listening. This is very essential as individuals in a group setting engage in discourses (McLymont, 2000).

Jesus employed paraphrase in several instances during His discourses with individuals and with groups. For example, when Peter was asked by those who received tribute money "Doth your Master pay tribute?" (Matt 17:24). Jesus at a convenient moment recast the question and asked of Peter "...Of whom do the kings of the earth take custom or tribute? Of their children, or of strangers?" (v.25) This was done to take the question from a yes/no response to another level that involved some contemplation (v.26). From the response certain logical deductions were made—"Then are the children free" (v.26) and a further explanation (v.27) was offered. Not withstanding, lest we should offend them, go thou... and give unto them for me and thee.

The Conferencing Structure

Grouping by students' choice, random grouping, and grouping by convenience and with the assignment of specific roles sometimes provide students with the opportunity for friends to work together, to laugh together, to listen to each other's views, and to be interested in each other to ensure each understand through team-work and co-operation. Students stated that they liked *"the co-operation between each member," "the interest each member gave," "how the group worked together as a unit,"* and *"as a team, with every member playing his or her part." "We are very active and co-operative."* According to one student, *"the fact that we all decided to co-operate and work together in unity . . . we were able to be successful in aiding to strengthen our weaknesses and sharpen our skills."* Also, *"I like the way we are able to put our ideas together and conclude on one point"* (McLymont, 2000, p. 212).

This particular structure of conferencing involves the planning, observation, and reflecting conferences and is deemed necessary for sharing and pooling ideas to enhance collegial interaction. To teachers, conferencing is important so that expectations and intents can be made clear; also their energy can be focused on the sharing of ideas and alternatives between and among themselves to create the environment for risk-taking and experimentation (McLymont, 2000).

The grouping of students on the other hand also encouraged maximum participation as students assume their assigned roles given by the teacher in asking questions, providing explanations, making suggestions, and recording the solution processes of problems. The execution of their roles leads to the solution of the problems within the groups. According to one student: *"As the recorder of my group, I see this exercise as being very beneficial, and the group work let me understand the problems better."* Another student who acted the role of teacher stated: *"As the teacher, it has inspired me to work with others and teach them what I understand. To see them understand is the best thing."* The questioners also did not restrict themselves only to questions suggested by the teacher but also generated their own as they saw fit (McLymont, 2000).

Working in this group setting, students expressed that they did not know they could understand the concepts by working in the group activity with their fellow students without the teacher telling them. As a result of the group activities, one student expressed: *"It has shown me that I can work with my fellow peers and understand."* Another stated: *"It has helped me to challenge my brain and my reasoning."* Others also stated that the privilege to work within their assigned roles gave them the opportunity to think on their own as a result of the mediation of their friends without the teacher's prompting. According to one student, *"It has given me an ability I didn't know that I have—to think on my own with the help of my friends without a teacher."* Overall for all students, it was an opportunity for each to understand the problem better (McLymont, 2000).

Students concluded that they were being shown how they could work successfully together and help each other to think critically (McLymont, 2000). Thus, they were challenging each other intellectually and were achieving a deeper understanding of the

solutions to the problems. The roles also inspired students to work with each other and to experience the joy of seeing their peers understand particular concepts. It also provided an initiation to the removal of the fear for mathematics. As one student noted: if this single experience could initiate such a change then should such an experience continue, it would be of great benefit. *"The group has also helped to motivate me to do my work"* (p. 214). According to one teacher:

> *For this Science group, it forces them to investigate; it forces them to question; and I am doing my probing and mediating. . . . They are forced to look into a topic first; afterwards they attempt it, then I come in and clue them. So it forces them to think that way."* (McLymont, 2000, p.212)

Grouping by students' choice, with the assignment of roles, provided a setting where each is active in his or her role and contributes to the solution of mathematical problems through pooling ideas and opinions, motivating each other, communicating better with each other, and helping each other not to approach solutions in a one-track way. The employment of the specific roles also helped students to strive for excellence and mastery of the subject and generated a comfortable setting for them to share their views, discuss, agree and disagree, and to identify and expose their own as well as others' weaknesses and mistakes. Their problem-solving skills were strengthened as they grasped the principles and understood the problems and solutions better. This learning context allowed students to realize that mathematics could be fun, that it could actually be interesting, and could be understood (McLymont, 2000). According to one participant:

> *We have been placed in groups in which we were given different roles such as teacher, questioner, and recorder. Less pressure was placed on us by the teacher as we did not have to face her with our uncertainties. . . . These principles have helped us all and we have all learnt to accept mathematics better. We have also learnt to understand the mathematical concepts better.*
>
> *I feel more relaxed and comfortable when working in my group because I can share my ideas and I work more efficiently. I have played all the roles in my group, and I am comfortable with playing the role of the teacher; . . . it is like I am in charge. I pool my ideas with my group members and they give me feedback if I am wrong.* (McLymont, 2000, p. 217)

The gaps in understanding and the misconceptions that might be revealed during the discourses were recognized by the presenter as well as those to whom the presentation was being made as each took turn in explaining the solution process. As students verbalized in their own "language" what they understood, it is made clear to the "group-teacher" what he or she really understood or did not understand. As this was being done, clarification would be sought for the misconceptions and the gaps that were recognized were also bridged. This resulted in *Personalized Learning* within the group setting (McLymont, 2000).

Personalized Learning, according to McLymont (2000), is the experience during which

whatever has been shared or embraced by individual learners is verbalized or acted out as each used their means of expression to communicate to others what they understood about the particular concept or phenomenon. This further led to conceptual learning and the *"key to conceptual learning is mediation and reflection."*

When Jesus called His disciples, He called most of them in pairs/groups. Already some measure of bonding had taken place. In Mark 1:16, Simon and his brother Andrew were fishing. Together they were "casting a net into the sea." He extended the call to them. Also, walking a little further on, He saw another two brothers, James and John, the sons of Zebedee "in the ship mending their nets" (Mark 1: 19). Jesus extended the call to them also. Phillip after he was called (Luke 1:43) found Nathaniel (Luke 1: 43) and invited him to be a part of the team. The small group of twelve was effective as a whole but within that large group there were other small groups for example the –Peter, James and John— members of the inner circle. The large group of twelve among others were subdivided and sent out in groups of twos to witness, preach the gospel, heal the sick, cleanse the lepers, raise the dead (Luke 9:1-2; Matt10: 7-8). Each one in the group was empowered to question but Peter, in addition to always questioning, could also be termed as having the role of "Responder." He was always quick to give a response even without thinking about the particular response.

Roles are important in the pathway of communication. With questioning as the starting point, it establishes the circularity and reciprocity embedded in the connection between action and experience as the *tools* are employed and as alternative solution paths to a problem are generated (McLymont, 2000).

Conclusion

A positive learning climate through the engagement in Cognitive Coaching Discourses can be generated to empower students and to maximize learning. To engage in and to generate cognitive coaching discourses the pillars for trust, empathy and collaboration must be firmly planted to establish respect and a secure and relaxing environment. Also, the honing of the techniques in questioning, wait time, providing explanations, paraphrasing, and conferencing structures maximized creativity, triggered critical thinking and led to mastery and discovery learning.

For most concepts explored in this essay connections were made to similar concepts explored in the Holy Bible.

The trust-building tools of *Cognitive Coaching Discourses* that included grouping in the collaborative setting with the assignment of specific roles, techniques in questioning including wait-time, paraphrasing were considered important cornerstones of the learning experiences because they generated trust, rapport, and effective interactive coaching discourses in the teaching and learning context. The *Coaching Discourses* facilitated learning by understanding as the act of experiencing this process triggered the creative process of critical thinking that led to mastery and discovery learning (McLymont, 2000). The *Coaching Discourses* encouraged a non-judgmental atmosphere, freedom of expression, and effective communication. Also, the *Coaching Discourses* promoted freedom of expression and development of interactive *Discourses* through the generation of a trust-building, secure, and relaxing environment. Because no value judgments were placed on individuals' ideas, everyone participated and felt safe to express and explore their thoughts and ideas and maximized creativity because each individual was respected and valued (McLymont, 1998).

The *Coaching Discourses* promoted learning by discovery as students in their groups with defined roles, discovered/ "uncovered" concepts and principles for themselves as they recognized their own abilities to solve problems and became less dependent on the teacher, whose role shifted from the expository mode toward one of a mediator. The *Coaching Discourses* brought about a transformation from a formal, individualized, and isolated world to one that manifested itself in professional empathy, in the building of trust, and in empowering teachers to be in command of the teaching and learning context (McLymont, 2003). The creation of a trusting, non-judgmental learning climate is a very important role of the teacher

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