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# Promoting the integration of vocational and academic skills using the principles of the Let Me Learn model: a case study of transformational leadership

Debra Ihunnah

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**PROMOTING THE INTEGRATION OF VOCATIONAL AND  
ACADEMIC SKILLS USING THE PRINCIPLES OF  
THE LET ME LEARN MODEL™: A CASE STUDY  
OF TRANSFORMATIONAL LEADERSHIP**

by

Debra D. Ihunnah

A Dissertation

Submitted to the  
Department of Educational Leadership  
College of Education  
In partial fulfillment of the requirement  
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Doctor of Education  
at  
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Dissertation Chair: Kathleen Sernak, Ph.D.

## **Dedication**

I would like to dedicate this dissertation to my parents, Rudy and Ruth. I also dedicate this dissertation to my husband, Dr. Anthony Ihunnah and my children, Chioma, Chibueze, and Chinyere who have inspired me.

## **Acknowledgements**

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I must acknowledge the exceptional teamwork and collaboration of the teachers who participated in this study. They have enriched this study in many ways. Thank you, Chef Deb and Mrs. Gifford. I could not have done this without you.

**Abstract**

Debra D. Ihunnah

**PROMOTING THE INTEGRATION OF VOCATIONAL AND ACADEMIC SKILLS  
USING THE PRINCIPLES OF THE LET ME LEARN MODEL™: A CASE STUDY  
OF TRANSFORMATIONAL LEADERSHIP**

2003

Kathleen Sernak, Ph.D.  
Educational Leadership

Two educational models, the Let Me Learn Model™ and the Integration of Academic and Vocational Skills Model IV were implemented at the Cumberland County Technical School in New Jersey. The purposes of the study were (a) to introduce and enhance the teachers' knowledge about the two educational models (b) to assist teachers in using that knowledge gained from implementation of the models as a catalyst to change their teaching practices and (c) to enhance student learning. This was an action research study that examined the implementation of the two models and examined my transformational leadership skills. The Let Me Learn Model™ provided the framework for examining the unique ways students and teachers demonstrated their learning. The Integration of Academic and Vocational Skills Model IV provided the framework for teaching academic and vocational curricula. A qualitative case study was used to collect and analyze data on the implementation of the Leithwood transformational leadership model. Findings from this study included the emergence of teaching and leadership practices. Research in other technical environments would be beneficial.

## TABLE OF CONTENTS

### LIST OF TABLES

### LIST OF FIGURES

Chapter 1: Introduction	1
1.1 Reflective Practice	9
1.2 Collaborative Practice	10
1.3 Change	11
1.4 Change in Vocational Education	12
1.5 Leadership and the Change Theory	13
1.6 Leadership Problem and How It Relates to the Change Theory	13
1.7 Significance of the Study	18
1.8 Definition of Terms	19
1.9 Delimitations	20
Chapter 2: Review of the Related Literature	21
2.1 Origin of the Vocational-Academic Split	27
Chapter 3: Methodology	32
3.1 Research Questions	32
3.2 The Change Problem	33
3.3 Setting	36
3.4 Participants	36
3.5 Action Research Model	39

3.6	Data Collection for Action Research Study	42
3.7	Data Collection for Leadership Study	44
3.8	Data Analysis for Action Research Study and Leadership Study	46
	Chapter 4: Presentation of Narrative	50
4.1	Experiencing a New Recipe	52
4.2	Researcher's Viewpoint	
	Chapter 5: Case Study Analysis	68
5.1	Description of the Tiger's Den	69
5.2	Learning Patterns in Use	
5.3	The Concept of Intentional Teaching	95
5.4	Analysis of Quotations from Other Student Participants	96
5.5	Out of the Mouth of Learners	97
5.6	Developing International Learning	98
5.7	Integration of Academic and Vocational Skills	101
5.8	Question 1:	102
5.9	Question 2:	103
5.10	Question 3:	106
5.11	Question 4:	108
5.12	Question 5:	111
5.13	Findings about the Integration of Academic and Vocational Skills Model IV	113
5.14	Meanings of the Findings	113

5.15	Finding 1	113
5.16	Finding 2	115
5.17	Finding 3	116
5.18	Finding 4	117
	Chapter 6: Leadership Study	126
6.1	Analysis of Leadership Effectiveness Index: Sept.2001	129
6.2	Statement 1: Inspires a shared vision	129
6.3	Discussion	130
6.4	Statement 2: Fosters collaboration	133
6.5	Discussion	134
6.6	Statement 3: Exercises power	135
6.7	Discussion	135
6.8	Statement 4: Exerts influence	139
6.9	Discussion	139
6.10	Statement 5: Promotes an environment	140
6.11	Discussion	141
6.12	Statement 6: Adapts leadership	143
6.13	Discussion	143
6.14	Statement 7: Overall effectiveness	146
6.15	Major Findings from the Leadership Effectiveness Index Rating-September 2001	147
6.16	Meanings of the Findings	148

6.17	Finding 1: Collaboration	149
6.18	Finding 2: Professional Development	150
6.19	Finding 3: Flexible Leadership	151
6.20	Finding 4: Collaboration and the Political Front	152
6.21	Summary of the Meanings	153
6.22	Statement 1: Inspires a shared vision	158
6.23	Statement 2: Fosters collaboration	161
6.24	Statement 3: Exercises power effectively	163
6.25	Statement 4: Exerts influence	165
6.26	Statement 5: Promotes an environment conducive for learning	166
6.27	Statement 6: Adapts leadership	
6.28	Findings of the Leadership Effectiveness Index	169
6.29	Finding 1 Collaboration	170
6.30	Finding 2 Professional Development	171
6.31	Finding 3 Flexible Leadership	172
6.32	Statement 7: Overall effectiveness	173
6.33	Overall Results and Discussion	173
6.34	Discussion of My Performance-LEI	180
Chapter 7:		
7.1	Leadership and Change	185
7.2	Implications for further work	194
	List of References	195

## LIST OF FIGURES

Figure	Page
1 Implementation of Educational Models.....	4
2 The Leadership Model.....	17
3 The Interactive Learning Model.....	33
4 Teaching Strategies – Confluent Learner.....	115
5 Teaching Strategies – Sequential Learner.....	116
6 Teaching Strategies – Technical Learner.....	116
7 Teaching Strategies – Precise Learner.....	117
8 Job Success and Let Me Learn.....	118
9 Implementation of Educational Model.....	124
10 Average Raw Scores of Pre and Post Assessment Results – Item 1.....	161
11 Average Raw Scores of Pre and Post Assessment Results – Item 2.....	162
12 Average Raw Scores of Pre and Post Assessment Results – Item 3.....	163
13 Average Raw Scores of Pre and Post Assessment Results – Item 4.....	164
14 Average Raw Scores of Pre and Post Assessment Results – Item 5.....	165
15 Average Raw Scores of Pre and Post Assessment Results – Item 6.....	166
16 Average Raw Scores of Pre and Post Assessment Results – Item 7.....	167

17 Leadership and the Linear Approach.....	179
18 Leadership and the Spiral Approach.....	180

## LIST OF TABLES

Table	Page
1. Teacher Study Group’s LCI Scores.....	54
2. Implementation Processes of the Let Me Learn Process Model and the Integration Model IV.....	61
3. Let Me Learn Patterns – Food Service Class.....	69
4. Teacher Study Group’s LML Patterns.....	114
5. Leadership Effectiveness Index Ratings-Sept.....	145
6. Leadership Effectiveness Index Ratings-March.....	146

## Chapter 1

“Education through occupations combines within itself more of the factors conducive to learning than any other method” (John Dewey, 1916).

The idea that students learn more quickly and thoroughly if they understand how to use academic knowledge and technical skills in the world of work has been around for quite some time. In 1916, John Dewey advocated that learning by doing is the most comprehensive way to learn. Research indicates that a majority of people learn best in practical contexts (Carnevale, Gaines, & Meltzer, 1998; Benson, 1989; Adelman, 1991). This study examined learning in an academic and vocational context. These three purposes guided this research study:

- to deepen the teachers’ knowledge about the Let Me Learn™ model and the Integration of Academic and Vocational Skills Model IV.
- to change teachers’ practice through the application of the models.
- to improve student learning through changes in teacher teaching practices .

Today’s workplace is changing, and the skills of workers must change as well.

Rapid innovations and technological developments are representative of the changes that require an increase in students’ skill levels in order to participate in the future workforce. Both vocational and academic teachers agree that students must gain thinking, reasoning, and problem solving skills in and out of school.

As the implementation leader, I employed transformational leadership strategies during the implementation process of two models; Integration of Academic and Vocational Skills Models IV and the Let Me Learn™ process model. Teachers received assistance in developing knowledge about the models and in gaining practice in using the models. I analyzed the effect of that model on teaching practices and student learning.

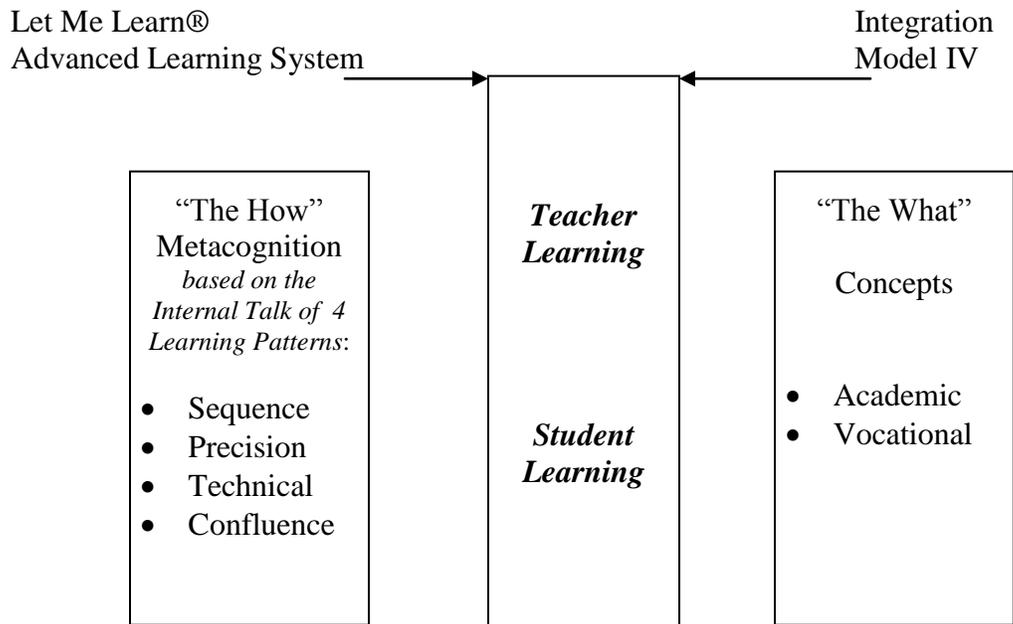
One recommended approach to meet the demands of today's workplace is the integration of vocational and academic education (Johnson & Packer, 1987; Raizen, 1989; Hoachlander, 1991; Grubb, Davis, Lum, Plihal & Morgaine, 1991). A major piece of legislation that gives credence to educational change and learning in the vocational context is the mandate of the Carl D. Perkins Vocational and Applied Technology Act (1985, 1990, & 1998) which emphasized the importance of integrating academic and vocational skills. The Integration of Academic and Vocational Skills Model IV (1992) basic tenets promote the building of a community of learners by bridging the traditional barriers between academic and vocational teaching practices. The integration model provided a structure for a more student-centered and cohesive approach to the curricula. In addition, this model emphasizes, collaborative planning, teaching, and sharing.

The Integration of Academic and Vocational Skills Model IV met the demands of the workplace to improve student learning. During the past ten years, many schools, especially those implementing career academics, integration models, student projects and other innovations, have made integration a key strategy for improving teaching and learning (Stasz, Kaganott, & Eden, 1995).

Additionally, I used the Let Me Learn™ process model (Johnston,1996) to examine the teacher and student learning patterns at the Cumberland County Technical Education Center (CCTEC). The Let Me Learn™ process model examined how teachers and students learn. The Integration Model IV examined what academic and vocational skills should be in the career curricula. The integration processes of the two educational models are in Figure 1.on the next page. The two central purposes for implementing these models were (1) to change teaching practices in selected shops, and (2) to increase student achievement at Cumberland County Technical Education Center. These two purposes emerged from both models in order to attend to thinking and learning patterns in academic settings that have vocational programs.

**How the Let Me Learn Process® and the Integration Model IV**

**Promote Learning in a Technical School Setting**



*Figure 1.* Implementation of Educational Models.

## Leadership Theory

“Theory can help us ‘name’ our practice by illuminating the general elements of what we think are idiosyncratic experiences” (Brookfield, 1995, p. 36).

Numerous studies on transformational leadership describe the qualities of effective vocational leaders. These qualities include the ability to empower others, encourage collaboration, and facilitate change through communication and teamwork (Moss, Lambrecht, Jensrud, & Finch, 1994). My leadership theory is built upon four characteristics of a transformational leader developed by Leithwood (1994, p. 3) and supported by others (Leithwood, Begley and Cousins, 1992; Leithwood and Jantzi, 1990). These transformational leadership attributes reflect my personal leadership theory:

- ability to identify, build and articulate a vision collaboratively
- ability to provide individualized support
- ability to provides intellectual stimulation
- ability to foster teacher development

These transformational leadership qualities in action enhanced my ability to develop the capacity of my organizational members to accomplish their goals and purposes. In this study, I sought to develop the capacity of a select group of teachers to realize their shared vision to enhance student learning through the implementation of the two aforementioned educational models.

Identifying, building, and articulating a vision collaboratively are very important components of transformational leader. Using these transformational elements allowed the teachers to take ownership for implementing the educational models. I introduced the two models. Then, the teachers developed and articulated a realistic, credible, and attractive future for their shop programs. This collaboration provided a framework for teachers to think about how they would implement the models to meet the needs of their students.

Providing individualized support, a dimension of transformational leadership, encompasses behaviors that indicate the leader respects the followers, and shows concern about their personal feelings and needs (Leithwood, K., 1999; Podsakoff, P.M., MacKenzie, S.B., Moorman, R.H. and Fetter, R. 1990). To demonstrate individualized support, I encouraged staff members to try new practices. I coached them throughout the process to support their efforts. We implemented the two educational models as a team and followed through on joint decisions. I kept a pulse on their progress and feelings. During our weekly meeting, we shared all our concerns about implementation.

“Leadership practices that challenge followers to re-examine some of their work and to rethink how it can be performed is the meaning of intellectual stimulation in transformational leadership” (Podsakoff, MacKenzie, Moorman, and Fetter, 1990, p.15).

Intellectual stimulation is critical. I challenged teacher intellect when purposefully encouraging the teachers to reexamine their thinking and by providing teachers professional development. These behaviors stimulated all of us to think and rethink our beliefs and assumptions.

Developing the group capacity for change was one of my goals. In two recent studies of transformational leadership (Leithwood, Cousins & Begley (1992); Leithwood (1990), fostering teacher development and building teachers' capacity for change were major factors. Providing individualized support and intellectual stimulation in my leadership practice fostered teacher development and increased our group capacity for change.

Leading teachers is the act of teaching teachers. Through implementation of the models, teachers had the opportunity to develop a shared vision collaboratively. Their shared vision set the direction of the teacher development process. I assisted the teachers in examining their teaching practices to determine what changes they could make. I assisted teachers as they developed instructional strategies based on student learning patterns and the content to be covered. I facilitated changes in teaching practices that demonstrated movement from teacher-centered instruction to student centered learning. As a result, the Food Service instructor, the Health Occupations instructor, and the Math instructor developed new processes to facilitate student learning based on both the Let Me Learn™ process and the Integration of Academic and Vocational Skills Model IV.

The teachers' knowledge of their learning patterns as well as knowledge of the students' learning patterns was the basis for the development of these new processes. Furthermore, we moved from isolated work to collaborative work. These collaborative efforts centered academic and vocational teachers to learn about one another. In turn, teachers shared information about individual instructional techniques. Ultimately, this led to teachers collaborating to develop classes that integrated vocational and academic

content and instructional approaches. These new changes in instructional thinking created a new paradigm that culminated in the teachers changing their practices based on the students' learning patterns. Thus, my transformational leadership style demonstrated the act of teaching teachers, leading teachers, and fostering teacher development in the arena of technical and vocational education.

As an educational leader, I subscribe to leadership that supports the changes in schooling. It is imperative that a leader recognizes that each leadership initiative in and of itself may be good, but in order for change to be effective and sustainable, a leader should use a multifaceted form of leadership. One size no longer fits all in the practice of leadership.

Transformational leadership is a multifaceted model in Leithwood's (1990) work. It suited the demands of the implementation process for the Let Me Learn™ program and served as an effective leadership style to guide teachers through their learning journey. Leithwood's (1990) model of leadership added to my continuum of leadership tools to provide individualized support and foster teacher development.

Teacher development is a multi-dimensional construct and a fundamental aspect of transformational leadership (Leithwood, Begley, & Cousins, 1992). The Let Me Learn™ process model provided me with the tools to assist the teachers in understanding their own learning patterns as well as the students' learning patterns.

#### Reflective Practice

I engaged the teachers in reflective practice of experiential learning that emphasized the integration of theory and practice as well as thought and action. As I

undertook this study with the teachers, it was important that we had time to think about specific problems in our settings. I came away with meaningful strategies. Reflection opened the door for the select teachers to examine their instructional practices as they integrated their curricula. As I observed how they developed lessons to accommodate the different learning patterns of their students, I realized that their classroom reality was re-framed. The teachers were seeing their classroom realities through new lenses. Together we examined our assumptions, interpretations, and the many new things happening in their classrooms as we implemented the models.

Reflections centered on concrete experiences as we incorporated tenets of the Let Me Learn™ process model and the Integration of Academic and Vocational Model IV. Collaborative teaching and learning framed most of our reflections about the models. Reflection allowed us to observe and analyze the steps we took in the implementation of those two models, and it helped to determine future steps. Hence, reflection was a key factor in the implementation of the models.

### Collaborative Practice

Collaborative learning is important in the ever-changing milieu of schools and in society. Fullan (1993) said, “The real world demands collaboration, the collective solving of problems...learning to get along, [and] to function effectively in a group is essential” (p.45). During the implementation of the educational models, the purposes of collaboration were to (a) share common teaching practices, (b) to approach teaching in

different ways and (c) to apply the academic and vocational skills in the same instructional context.

Collaboration is a different way of teaching and learning. Rugged individualism and hierarchies not seen by many researchers as productive means of teaching and learning in today's schools (Fullan, 1993, p.57). Research on approaches for integrating academic and vocational education often suggests that academic and vocational teachers should collaborate because each brings a different expertise to the teaching and learning process (Finch, Schmidt & Faulkner, 1992; Owens, 1987). The academic teacher brings subject matter expertise, while the vocational teacher contributes career-related knowledge and experience. Through collaboration, new viewpoints may emerge that bridge academic and vocational concepts. We experienced collaboration as windows to view our instructional practices differently. Collaboration for the purpose of learning and teaching did result in my instructors approaching teaching in different ways and sharing different viewpoints. People changed their behavior when I encouraged them to participate in analyzing problems and developing solutions. Collaboration and reflection were important ingredients in implementing the two educational models and are two critical components of transformational leadership.

## Change

“Change by definition involves territory that we have not yet experienced...” (Kanter, Stein, Jick, 1992, p. 489).

In reference to the term, change, Wheatley's (1994) Chaos Theory, forecasts that, "The world is not a thing... it's a complex, never-ending, always changing tapestry" (p. 38). She explains that the world's tapestries of events are constantly manifesting themselves in the educational setting during the movement from one state or condition to another. Her concept of change is not change created in a uniformed pattern like a tapestry, but manifested by unsystematic, multidirectional events usually occurring simultaneously. All change, and in particular educational change, is viewed as knowable and unknowable, planned and unplanned, and always occurring in one form or another and usually not as we had envisioned (Fullan, 1991; Stacey, 1992; Kanter, Stein & Jick, 1992; and Evans, 1996).

Educational change for me was comparable to the act of taking a few threads of a tapestry and directing or redirecting those specific threads for some specific purpose. The two models, Let Me Learn™ and the Integration of Academic and Vocational Skills Model IV acted as threads in the tapestry of educational change at the Cumberland County Technical Education Center.

#### Change in Vocational Education

Contextual considerations are important aspects of change. For the purpose of my study, the context is the frame of reference that provided meaning to the emergent change. The context for this study, a vocational setting, provided the lenses for examining the nuances of change in a particular environment. The major pressure and directives for change and reform in vocational education are comparable to that

experienced in general education. Legislation is a critical factor in change forces for both academic and vocational education. The most powerful piece of legislation affecting vocational education is the Carl D. Perkins Vocational and Applied Technology Act Amendments (1995, 1990, 1998). It addresses the importance of integrating academic and vocational education.

Section two states: It is the purpose of this Act to make the United States more competitive in the world economy by developing more fully the academic and occupational skills of all segments of the population. This purpose will principally be achieved through concentrating resources on improving educational programs leading to academic and occupational competencies needed to work in a technologically advanced society. (Section 2- (11a) and (11b))

This federal act also supports and intertwines with the New Jersey Core Curriculum Content Standards that call for similar objectives in the form of the Cross-Content Workplace Readiness Standards. Those reforms are the primary forces that presently affect general education and vocational education simultaneously.

#### Leadership and the Change Theory

Educational reforms demand that teachers assume new roles and work in different ways. According to the National Center for Research in Vocational Education (NCRVE), teachers were more likely to change their teaching practices, implement school reforms, and encourage colleagues to do likewise, when the professional development they received met the following criteria:

- teachers were involved in all stages of school reforms, including planning, implementation, and evaluation.
- teachers received extensive assistance and support as they begin the change process.
- teachers received additional assistance at regular intervals during implementation of the reform.

By utilizing my leadership theory that encompassed the elements of providing individualized support and fostering teacher development, I was able to facilitate the process of teachers assuming new roles.

#### Leadership Problem and How It Relates to the Change Theory

The problem was that academic and vocational classes had divided and distinct curricula with separate instructional approaches and no integration of the two educational disciplines. It is important to note that these separate instructional approaches occurred in the same building. The structure of the classes never changed. All of the students were required to pass the National Occupational Competency Institute (NOCTI) exam, an industry-based exam that incorporates academic and vocational concepts. Successful completion of the NOCTI qualified the student for licensure or certification in their specialty area. With academic concepts and vocational concepts taught separately, this test presented the challenge to make the connections between the two sets of disciplines on their own and make these connections during the testing situation. The gap between academic and vocational educational emerged when I generated an environmental scan that required me to study the artifacts and curricula. In addition, my interviews of teachers and administrators confirmed it.

From my viewpoint, it was imperative that CCTEC make a concerted effort toward improving the cohesiveness of the entire educational curricula. However, for purposes of

this study, I chose to work with select teachers in the specific areas of Food Service, Health Occupations and Mathematics in the integration of their curricula. I chose to accomplish this process through the implementation of the Integration of Academic and Vocational Skills Model IV and the Let Me Learn™ process model.

These tools provided a framework to view the options for integration according to the specific needs of the teachers and students in each classroom or shop. In essence, the integration model had the potential to make vocational courses stronger academically, and make academic courses more applied and relevant to the students. In addition, integrating the two models would provide a framework for the teachers and students to see the connectedness of their teaching and learning of the academic and vocational skills.

The Let Me Learn™ process model served as a springboard for integrating the models. It is very important that teachers and students are aware of how they approach learning tasks, for we all learn in diverse ways. I sought to determine whether the diversity of learning among the teachers as well as the students would in turn influence integration strategies used by the teachers. Both models fostered teacher development. A direct result was that teachers used different approaches to instruct the students. Furthermore, through the change process, the students had opportunities to demonstrate their learning in different ways other than the traditional paper and pencil methods.

Because of those efforts, the result was that CCTEC had more students in selected shops meeting with success on the NOCTI exam, as well as being able to learn classroom and shop information in different ways. Based on the anticipated findings of this study,

teachers and students at CCTEC raised their mutual understanding of how individuals learn and accomplish tasks, particularly through the implementation of these two models. In addition, the teachers in the selected shops and academic areas for this study began to develop cohesive curricula that integrate both academic and vocational skills.

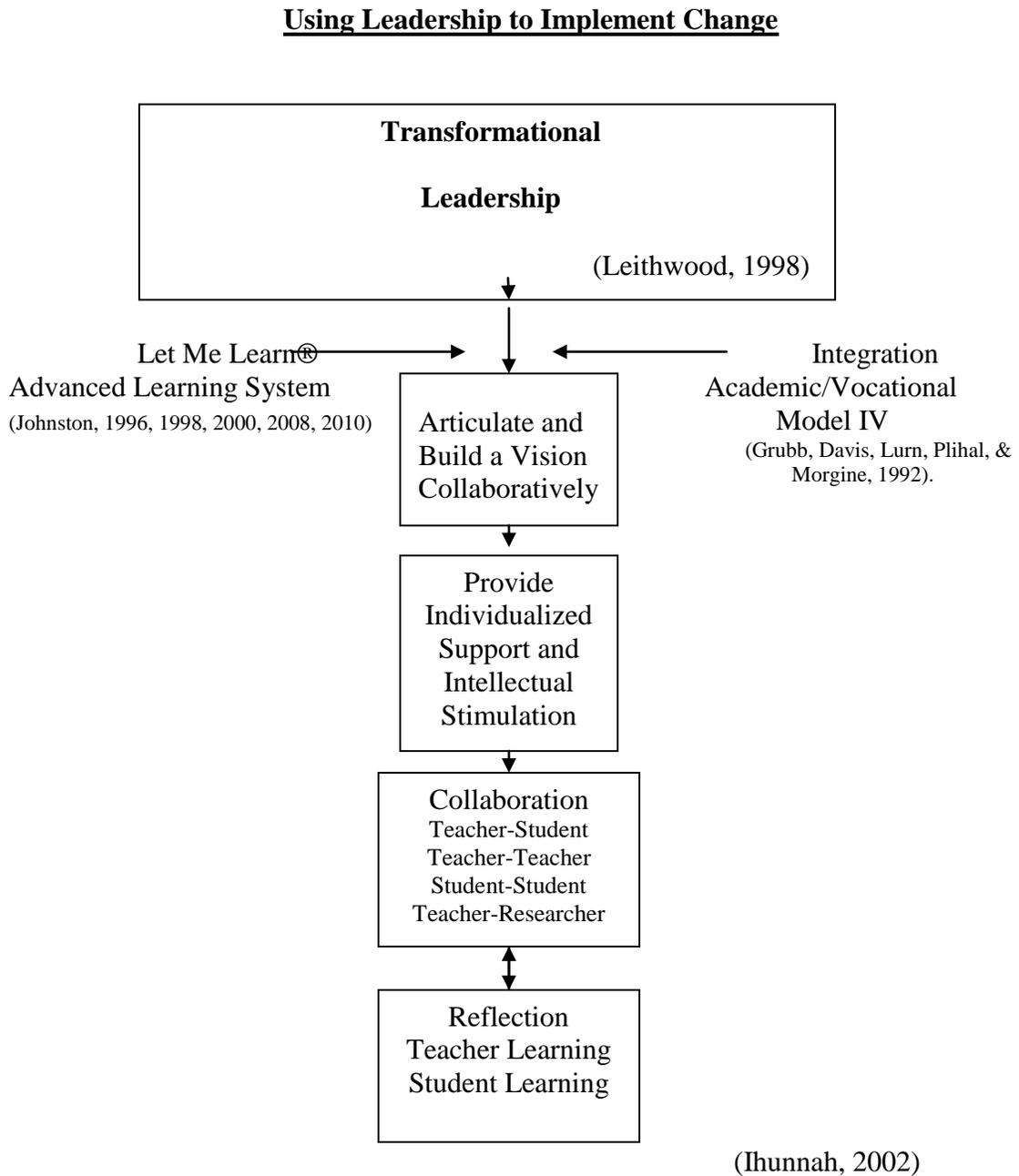
My intention as a transformational leader was to become a catalyst in facilitating changes in teaching and learning at CCTEC by using the two educational models. I anticipated that the common ground of these two models would promote change in teaching and learning such that:

- both models provided opportunity for collaboration among the teachers.
- both models provided opportunities for the examination of new approaches to teaching.
- both models provided an exploration of the diversity of learning.
- both models promote the concept that there are many different types of instructional approaches that can be utilized to maximize learning for all students in today's world. Johnston, (1994); Finch, Schmidt, & Faulkner, (1992).

The implementation of these two models presented an historic opportunity at CCTEC. Using these models promoted educational change in selected shops and classrooms with respect to aligning academic and vocational skills in the curricula. Using the models concurrently, enabled CCTEC to gain new knowledge about teacher and student learning aimed at improving teaching practices. The core tenets of

educational change at CCTEC are in figure 2. Figure 2, *Using leadership to implement change*, is shown on the next page.

Figure 2. The Leadership Model



### Significance of the Study

My proposed study offered teachers the opportunity to be active participants in change initiatives in their settings. It connected to the vocational reform movement while simultaneously providing opportunities for teachers to be at the heart of improving teaching and learning in their vocational shops and academic classrooms. A major tenet of vocational reform emphasizes, “There must be a major redefinition of the teaching and learning processes” (Finch C.R., Schmidt, B. J., & Faulkner, S. L., 1992). Both of the learning models emphasized that teachers become developers and implementers of their own ideas and strategies to improve teaching and learning as well as collaborating to promote organizational changes.

Teachers at CCTEC typically had little time for collaboration and were accustomed to working in isolation. Bringing the Food Service instructor, the Health Occupations instructor, the Math instructor, and the Learning Consultant together to establish a “community of practice”, a framework for collaboration emerged. Other professionals witnessing this process saw evidence that collaboration could be useful in other areas of vocational instructional at CCTEC. In effect, challenging the school to integration calls for schools to function in new ways (Grubb, Davis, Lum, Plihal & Morgaine, 1991). As a result, this study provided a model for other teachers in the school to see how teachers and students in technical shops and academic classrooms could utilize learning patterns to accomplish an integrated instructional approach to master academic and vocational tasks. I set a role model for transformational leadership and displayed how a leader can bring about change in teaching and learning in a vocational school setting. My approach

enabled me to provide strategies for the teachers to help their students increase their scores on the NOCTI exams. The impact of this study reached beyond the boundaries of CCTEC. It was a model of transformational leadership as a style to create change in any vocational/technical settings.

#### Definition of Terms

The following definitions provide meaning for terms used in this dissertation:

*Learning Combination Inventory:* This tool is an instrument that registers the degree to which individuals use each of the four learning patterns. The four learning patterns are: (1) sequential, (2) precise, (3) technical, and (4) confluence. Three open-ended questions require the participant to respond in writing about learning (Johnston and Dainton, 1996). This instrument presents individuals with 28 statements designed to find how the participant prefers to accomplish different learning tasks.

*Academic:* This term refers to an education organized around generally accepted disciplines. Although these disciplines are defined in various ways, at the secondary school level they are usually limited to the knowledge areas of English, foreign languages, history, economics, mathematics, and science (N.J.A.C., 6:43, 1999).

*Technical Education:* Technical education is a program of instruction that provides pupils with the skills and knowledge needed for entry-level employment and/or entry into post-high school education programs which require relatively complex and detailed information, considerable proficiency in college preparatory mathematics and the extensive application of laboratory physical science (N.J.A.C., 6:43, 1999).

*Vocational Education:* Vocational education is an organized education programs offering a sequence of courses directly related to the preparation of individuals for paid or unpaid employment in current or emerging occupations in such fields as home economics, agriculture/agribusiness, business occupations, health occupations, marketing occupations, technical occupations and trade and industrial occupations (N.J.A.C., 6:43, 1999).

#### Delimitations

This action research project pertained to a select group of teachers at Cumberland County Technical Education Center. The Food Service Instructor, the Food Service Teaching Assistant, the Health Occupation's Instructor, the Math Instructor and the Learning Disabilities Teacher Consultant, were the only participants. This study had two specific limitations: One limitation to this study was the fact that I examined my transformational leadership during the implementation process with select teachers. A second limitation was that I was the only one who reported changes in teachers' practices; a direct result of implementing the two models.

## Chapter 2

### *Review of the Related Literature*

In recent years, vocational education has played a leading role in the national dialogue about educational reform and has in fact given rise to many of the elements essential to secondary school reform.

“The National Council for Research in Vocational Education (1997) summarized the direction of vocational education reform initiatives as follows:

1. seeks curricular connections among occupational areas and between vocational and academic components;
2. broadens students’ understanding of occupational possibilities;
3. builds students’ capacity for independent work and cooperative endeavors;
4. emphasizes assessments based on performance... (P.3 NCRVE Executive Summary).”

These goals are part of the Goals 2000 and the School to Work Opportunities Act (1999), too. These mandates call for reforms in America’s educational systems. Integration of academic and vocational curricula has been a priority among educational reformers.

In examining the literature, two predominant goals for integrating academic and vocational education emerge. The first goal is to provide all students with the occupational, academic, and higher-order thinking skills needed to function effectively in a technologically advanced society, a globally competitive marketplace, and an

information based economy (Schmidt, J., Beeken, L., & Jennings, C., 1992); Adelman, N. (1989); Raizen, S. (1989).

The second goal for integrating academic and vocational education is to enhance students' learning using the findings of cognitive psychologists and researchers (Collins, Brown & Newman, 1989; Raizen, 1989; Berryman, 1991; Gardner, 1993). The focus is on the student rather than on the content. Basic academic skills and problem solving skills are taught simultaneously so that they reinforce each other. In addition, students are encouraged to solve problems individually and collaboratively.

There is increasing evidence that many students are able to master much higher levels of knowledge and skills when teachers pay attention to the wide ranges of student learning styles and modify their instruction to accommodate that learning style. Similarly, research in cognitive science supports the integration of academic and vocational teaching methods. Most students will benefit from learning abstract or theoretical concepts in an applied way. This is "situating" learning. Students learn in contexts that reflect how a skill will be used (Collins, Brown, and Newman, 1989; Raizen, 1989; Berryman, 1991; Berryman and Bailey, 1992; Ashman and Conway, 1993; Gardner, 1993). From a situative perspective, the setting in which the cognitive activity takes place is an integral part of the learning activity (Giddens & Stasz, 1999). An understanding of the knowledge base, student attributes and motivation to learn the skills needed for a certain job comes easier within the particular working context. This study used a metacognitive process, the Let Me Learn™ process model (Johnston, 1996, 1998, 2000, 2001), to examine the knowledge, motivation, and affect of the learner in a

vocational setting. The Integration of Academic and the Vocational Skills Model IV was used at the same time as the metacognitive model in the Food Service, Health Occupations, and Math classrooms at CCTEC. This supported the concept of learning in context.

The literature review has two major sections. The first section of the related literature centers on the concept of transformational leadership and its relationship to vocational education. The second section addresses the history of vocational education and the concept of integration of academic and vocational skills.

Transformational leadership is not a new concept. In 1940, Mary Parker Follet described qualities associated with transformational leadership. She described the concept of a leader's "power with" being preferable to a leader exerting "power over". In 1978, James MacGregor Burns revisited Mary Parker Follett's ideas and referred to them as he formulated his own ideas about leadership. Burns coined this type of leadership as "transformational leadership".

Burns described transformational leadership as what happens when "one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality" (p.4). Furthermore, he states that, "Transforming leadership raises the level of conduct and ethical aspiration of both leader and led, and thus it has a transforming affect on both" (p.4). He advocated that by inspiring higher levels of commitment among the organization's members, this commitment would also increase the capacity of the members to improve. This commitment has a moral basis in that the purpose of the commitment is for continuous

improvement and the good of everyone. Leadership based on the ability to empower others is transformational (Burns, 1978; Bass, 1985; & Segiovanni, 1990). The term ‘transform’ implies major changes in the form, nature, function and/or potential of some phenomenon (Webster’s Dictionary, 2000). In my study, I facilitated changes in teaching practices after we had developed and implemented a shared vision for enhancing student learning in the Food Service, Health Occupations, and Math programs.

Research has demonstrated that transformational approaches to leadership can make significant contributions in school settings. Helm (1989) conducted a qualitative study on principals’ leadership in US Catholic elementary schools. She found that the principals’ transformational leadership had a positive effect on teacher morale. Aspects of leadership contributing to teacher moral included warm, informal, positive relationships, which included the element of “individual consideration” a tenet of Leithwood’s model (1990). In addition, the principals created opportunities for shared decision-making and leadership, which are also elements of his model.

Skalbeck (1991) contends that vision building, creating a collegial culture and intellectual stimulation were critical transformational elements that promoted teacher growth in her school setting. In my setting, I practiced of bringing new ideas to my colleagues to provide intellectual stimulation. The new ideas were the models.

Developing a widely shared vision of what an organization should do and be is an important quality of transformational leadership. Leithwood, Begley & Cousins (1992) emphasize the visioning aspects of leadership by characterizing school leaders as “key artisans” (p.5). Predominately, the populous views visionary leaders as innovators, risk

takers, individuals driven by a desire to create new directions and new actions rather than to leaders who perpetuate the status quo (Bennis & Nanus, 1985). Visionary transformational leaders often exercise less heroic traits and are prone to consultative leadership, by working closely with others, facilitating the work of others, and listening to and persuading others (Crowson & Morris, 1990, p.41).

These studies emphasize that transformational leadership entails making a contribution of one's time, energy and resources toward the shared vision of the members of your school. It includes the development and maintenance of a collaborative culture. This type of leadership is quite different from the top-down style of leadership.

Richard Sagor (1992) wrote that transformational leadership is, "Finding a way to be successful in collaboratively defining the essential purpose of teaching and learning and then empowering the entire school to become energized and focused. In schools where such a focus has been achieved, we found that teaching and learning become transformative for everyone involved (p.13)."

Sagor (1992) delineated three key features of transformational leadership; a clear and unified focus; a common cultural perspective; and a constant push for improvement. The emphasis on a clear and unified purpose is parallel to the concept of developing a shared vision and setting the direction for that purpose. Coupled with the idea of a constant push for improvement, Sagor's themes supported a goal of this research study to develop a shared vision about teaching and learning using elements of transformational leadership.

Kenneth Leithwood (1994) makes a strong case for why transformational leadership is particularly appropriate for the challenges and problems currently facing schools. In a future context of declining resources, escalating expectations and turbulent environments, schools will need to structures that consider change as an ordinary activity rather than an extraordinary event (Leithwood, K., Jantzi, D., & Steinbach, R. (1995). They posit that leadership practices that build the capacity of individuals or organizations to be resilient to constant change are practices such as developing a shared vision, promoting a professional culture that encourages collaboration on teaching and learning, and instilling strong norms of continuous professional growth. These guideposts of transformational leadership contribute to building the capacity of individuals in an organization or school to remain focused on their specific goals in spite of planned or unplanned change.

This study utilized the definition of transformational leadership provided by Kenneth Leithwood (1994). As discussed in the first chapter, the following elements are included in Leithwood's definition:

1. identifies and articulates a vision collaboratively;
2. provides intellectual stimulation;
3. fosters teacher development

A great deal of research about leadership is available in a variety of disciplines and fields of practice over the last three decades. These disciplines include philosophy, anthropology, political science, management and the military leadership principles.

Education is a latecomer to leadership research. In vocational education, there is a paucity of research.

The National Center for Research in Vocational Education (NCRVE) perceived leadership as essentially the use of noncoercive influence to direct and coordinate the attributes of the members toward the accomplishment of the group's objectives. This is done using consultation, persuasion and inspiration (1994, p.5).

“Integration must be guided by one central purpose: to increase student achievement (Hoachlander, 1999).

Traditionally, the educational experts approached vocational education and academic education as separate bodies of knowledge and skills development. Not only are they viewed separately, but they are also considered incompatible and on opposite ends of the educational continuum.

#### Origin of the Vocational-Academic Split

The vocational-academic split found in today's high schools traces back to conditions existing toward the end of the nineteenth century. At that time, the public school system was offering a cultural-liberal education while craftspeople were educating craftspeople outside of the educational system (Barlow, 1981).

Concurrently, the curriculums were framed vehemently as separate educational entities as more families, especially the working class, sent their children to school. Social Darwinist and Frederick Taylor's notion of scientific management served as leadership models for schools (Kliebard, 1975). Many any school officials assumed student's innate capabilities determined their probable destinies. These philosophies

served as the foundation to justify the distinguishing between academic training and vocational training.

“Educate the individual according to his capabilities” has an innocent and plausible ring; but what this meant in practice was that dubious judgments about the innate capabilities of children became the basis for differentiating the curriculum along the lines of probable destination for the child (Kliebard, 1975, pps. 56-57).

However, some of the earliest proponents of vocational education saw manual training as appropriate for all students and not as an alternative, or only for those who were not preparing for college. Unfortunately, this broader view did not withstand the arguments made by many educational leaders at that time. The Smith-Hughes Act of 1917 was one piece of federal legislation that mandated and supported occupationally specific vocational education at the secondary level. The ramifications of this legislation are evident today.

Many people (Apple & Weis, 1983; Oakes, 1985; Shor & Freire, 1987; Weis, 1988; and Henry 2001) have voiced concerns about curriculum stratification and differentiation. A major concern today is that the curriculum is not only differentiated but is so fragmented that many students are graduating from high school without an education that prepares them well for anything, neither college, nor work, nor their personal lives (Parnell, 1985; Halperin, 1988; Henry, 2001). In the 1980’s, a series of reports emerged that called for reform in vocational education and reform of the American educational system as a whole. One of the first reports calling for a “back to

basics” movement and the need for more academics was A Nation at Risk (National Commission on Excellence in Education [NCEE], 1983).

This report counterpoint was in the report The Unfinished Agenda (National Commission on Secondary Vocational Education [NCSVE], 1984). The commission members stated that the increased academic requirements ignored the “differences in student interests and abilities, and ... the needs of those high school students who did not plan to go to college and who purposefully choose a vocational program” (p. 1).

The authors further stated that this “narrow focus ignores the fact that approximately 80% of the jobs in America do not require a college degree, and most students will not obtain one” (p.1). Commission members emphasized that education should prepare all young people for their adult lives. They suggest that this task should be accomplished through a “joint effort of vocational and academic educators to ‘bridge the gap’ between theoretical and practical education” (p.1).

The integration of academic and vocational skills is one of the major policy objectives of the Carl Perkins Vocational Act (1985, 1990 & 1998). The purpose of this legislation was to develop more fully the academic, vocational and technical education skills of secondary students who enroll in vocational and technical programs. Other objectives of the Perkins Act pertinent to this study were:

- the integration of academic and vocational skills should be centered on staff development and planning that emphasizes student learning and achievement.
- the curricula must be challenging and relevant.

A review of the Perkins Act revealed that there were no clear guidelines on how to achieve the integration of academic and vocational skill, per se. Thus, this opened the way for educators and policy makers to tailor integration approaches to local needs and conditions. The integration process initiated at the CCTEC began as an initiative tailored to fit the needs of the teachers and students in the Food Service program, the Health Occupations program and the Math program. The purpose of the integration initiative was to change teacher practices and improve student achievement. In this study, the implementation of the Integration of Academic and Vocational Skills Model IV coupled with the Let Me Learn™ process was a pedagogical reform that sought to improve teaching and learning in both vocational and academic classrooms.

There is a growing number of educational reform initiatives directed at improving the quality of the American education system. One major element is to strengthen the academic and vocational preparation of all students. Due to the increased competitiveness in the workplace, it is imperative that what students learned in schools today must be transferable to real-life situations. Equally as important, is that all students experience academic subjects in juxtaposition with advanced technological skills.

## **Chapter 3**

### **Methodology**

One goal of this study was to examine the use of transformational leadership and its capacity to foster teacher learning and development. Through implementation of the Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV, I believe I was able to achieve the goal of promoting teacher learning and development as well as attaining a more integrated and cohesive curricula in selected programs at CCTEC.

This research study will answer the following questions concerning transformational leadership and the integration of academic and vocational skills using

the principles of Let Me Learn™ and the Integration of Academic and Vocational Skills Model IV.

Research Questions:

*Research Question # 1.*

How did the researcher's transformational leadership facilitate change in selected shops and classrooms at the CCTEC through the implementation of the Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV?

*Research Question # 2.*

How did teachers use their preferred learning patterns to integrate academic and vocational skills through collaborative planning and teaching?

*Research Question # 3.*

How did the Let Me Learn™ process model assist students in their academic and vocational tasks using their preferred learning patterns?

The Change Problem

This was an action research study that focused on the issue of building a more cohesive educational program that integrated academic and vocational skills as well as an examination of the teaching practices implemented according to the learning patterns of both teachers and students. The National Commission on Secondary Vocational Education (NCSVE, 1984) fully supports the issue of integration of academic and vocational education. The NCSVE report states, "What is really required today are programs and experiences that bridge the gap between the so-called academic and

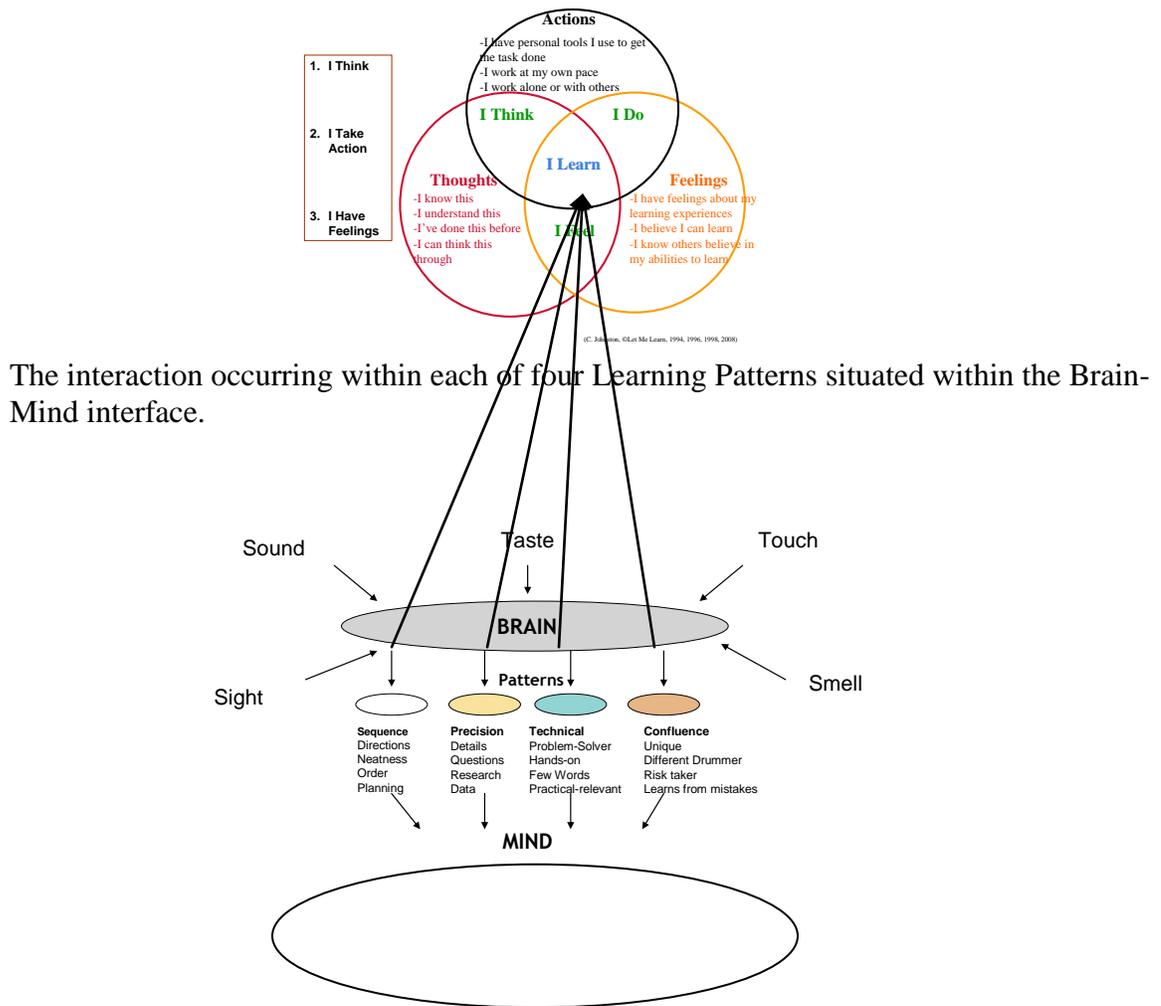
vocational courses. The theoretical and empirical bases as well as the practical and applicative aspects of academic courses and vocational courses must be explicit and meaningful” (P. 14).

The value of this research is that while there is a major thrust for the integration of academic and vocational skills within the arena of vocational education, a key issue needing examination in this reform movement is the issue of teacher learning. Sykes (1996) directs attention to the idea that, “teacher learning must be at the heart of any effort to improve learning...while other reforms may be needed, better learning for more children ultimately relies on teachers” (P. 465). I used the Let Me Learn™ model to enhance teacher learning. The Let Me Learn™ process is an interactive learning model, emphasizing the interconnectedness of the three functions of the human mind: cognition, referring to information processing; conation referring to persistence in performance; and affectation referring to feelings and values. While traditional education methods tend to favor the cognitive part of students’ minds, the interactive learning model seeks to help educators understand how all three functions are vital components of students’ success in school.

The interaction of three divisions of the mind manifests themselves in four distinct patterns: sequence, precision, technical reasoning, and confluence. The sequential learning pattern involves the need for systematic instructions, rules and guidelines, and enough time to finish without interruptions. The precise learning pattern is specific oriented, deals with clarifying questions, and exact information. Independent reasoning, problem solving, and learning from real experiences comprise the important

components of the technical pattern. Finally, the confluent pattern entails intuition, risk taking, and creative alternatives. Each learner uses these patterns collectively and simultaneously.

Figure 3. Interactive learning model.



(Used with permission, Let Me Learn, Inc. (2010), and Johnston, 1996, *Unlocking the Will to Learn*).

## Setting

This study took place in the CCTEC. It is a technical school located in southern New Jersey in a rural section of Cumberland County. It sits on 100 acres of land. The design of the school is unique. It is a large, hangar-like, one-story facility housing thirty classrooms and technical shops. Another campus located in Millville provides for an aviation program. The shops are large, state-of-the-art facilities. Programs ranging from auto technology to welding are available. The student body is comprised of 300 high school students from Bridgeton, Cumberland Regional, Millville, and Vineland high schools. There are approximately 200 adult students. The shops are open to both genders and to students of all ability levels. The technical school has over thirty shop programs as well as the academic offerings of English, Mathematics, Science, History and Health/PE. Students have the opportunity to obtain licenses, certifications, and diplomas.

## *Participants*

As a part of our professional development, I gave a presentation about the Let Me Learn™ process and the need to integrate academic and vocational skills. As a result, some of the teachers volunteered to try the Let Me Learn™ process and the Integration model in their shops and classrooms. In addition, those teachers agreed to be a part of this study. The participants of this study were; the researcher, Learning Disability Teacher Consultant, a Math instructor, a Food Service instructor, a Food Service teaching assistant, and a Health Occupations instructor. The career stages of this group ranged from a first year teacher to a teacher near retirement. Most of the teachers at CCTEC

were college graduates with at least a bachelor's degree in education. The others were teachers with a minimum of 15 years experience. Shop teachers are not required to have a degree in education, *per se*, in order to teach in their particular trade areas. However, they can only teach in a technical school with this type of certification. Other faculty, such as the child study team, guidance counselors, administrators and teachers who teach any of the academic areas must possess the appropriate degrees and certifications. This study took place in the Food Service shop, which is the Tiger's Den, the school restaurant. In addition, the health occupations teacher and the math teacher spent a great deal of their time working collaboratively in the Tiger's Den.

A second group of participants was the twenty-seven students ranging in ages fourteen through eighteen in grades nine through twelve. The teachers divided the students into two groups in each shop (Food Service or Health Occupations). One group had 14 students and the other 13. All twenty-seven took Math. This grouping allowed the research study to have the same group of students and teachers.

#### Rationale for Methodology

A qualitative case study methodology offered me a method to gain an in-depth understanding of how the researcher used transformational leadership to foster change at the CCTEC. The qualitative approach allowed me to capture the processes and interactions as they took place. Bodgan and Biklen (1992) delineate salient features of qualitative research: "Qualitative research has the natural setting as the direct source of data" (Bodgan and Biklen, 1992, p. 29).

As the key researcher and participant observer, I gathered a wealth of data from observations of the teachers in their classrooms and shops as they implemented the Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV. The technical context in which this study took place provided the lenses for the interpretation of teachers' instruction. The natural setting proved to be a powerful influence. It informed me about the teaching practices. It helped me decide the next steps in the research process. In addition, as a participant observer working in the research environment, I understood the nuances of the context, and the work required in each shop. I was known and trusted. I had easy access to the teachers and any information I needed.

“Qualitative research is descriptive” (Bogdan and Biklen, 1992, p.29). My role was that of a participant observer. I collected the data and conducted the analysis. In order to glean as much as possible from my experiences and observations, it was important to recreate in a thick description, the context, meanings, and activities of each event during the implementation process. The implementation and my observations occurred simultaneously because I was a participant observer,

Qualitative research involves fieldwork. I physically went to the people, setting, and site to observe, record and participate in the natural setting. As stated, the context was in the technical shops of the Food Service and Health Occupations programs. The academic math classroom was part of the context arena. Within these shops and classrooms, the teachers, students, and I were involved in the implementation of the two educational models. Collaboratively, the teachers and I planned activities and reflected

upon our experiences. Reflection entailed discussion and recording of how each one of us experienced these activities. Then, we used the models to plan our next step. Kirk and Miller (1986) describe this process as “watching people in their own territory and interacting with them in their own language on their own terms” (p. 547). I collected information on how the teachers and I translated the models into practice because I served as a participant observer. Being a participant observer and using a case study approach allowed me to be part of the experiences of the teachers and the students. It also provided me the lenses to create rich descriptions of the experiences.

As a qualitative researcher, I was concerned with the process more than the products.

#### Action Research Model

The framework for examining the implementation of the two educational models was the Participatory Action Research Model of Yolanda Wadsworth (1998). He defines participatory action research as;

1. “Research, which involves all relevant parties in actively examining together current action (which they experience as problematic) in order to change and improve it” (p.16).The relevant parties in this study were the food service instructor, nursing assistant instructor, and math instructor, along with me, the researcher. Our vision was to develop cohesive curricula, which integrated academic and vocational skills. We changed our teaching methods to accommodate the diverse learning patterns of the students.

2. “Action, which is researched and changed and re-researched within the research process” (p.16). We decided to implement the models, and we anticipated changes in curriculum and lesson planning. This was a recursive process.
3. “Active, co-research, by and for those to be helped” (p.16). As the lead researcher, I supported the teachers by providing them with resources and information about these models as possible. We reflected and planned the steps to take during the implemented.
4. “A genuine democratic or non-coercive process whereby those to be helped, determine the purpose and outcomes of their own inquiry” (p. 16). An important element of my transformational leadership was to practice leadership density. Each participant had input in the implementation cycle. My role was to provide individualized support. I worked with the teachers as a guide, facilitator, and coach.

The literature is replete with models for action research (Lewin, 1952; Sagor, 1992; Calhoun, 1994; Wells, 1994; Stringer, 1996). The model proffered by Wadsworth (1998) in *Participatory Action Research*, was the model I selected. It is a simple model that focuses on a recursive process based on the following seven steps:

1. Reflect on current actions. After reflection and discussion, the teachers and I decided that there was a need for a curriculum, which connects the academic and vocational concepts in their shops. In addition, the teachers were

interested in examining their learning patterns as well as their students’

learning patterns in order to maximize teaching and learning in their shops.

2. Raise a question. After reflection and discussion, our group raised two salient questions that would drive this research. 1. Why do the academic and vocational skills lack integration in the curricula in a technical setting such as CCTEC? 2. What can we do as teachers to maximize teaching and learning in our shop programs and address the specific learning needs of the students?
3. Plan to seek answers. Our plan to answer these questions was through the implementation of the two educational models. I anticipated that many other questions would emerge and need answers as we took this journey.
4. Intensive seeking of answers, checking and challenging of hunches. (fieldwork). The beauty of conducting qualitative research and using the Wadsworth (1998) model was that it provided a structure to raise questions, seek answers and use multiple methods to gather information and to check hunches.
5. Analysis of experiences encountered. It was important for our group to analyze our experiences as we implemented the models. Through analysis we could begin to make sense of what was taking place. We looked for relationships in the teaching and the application of the models. Lastly, we summarized and explained what happened as we implemented the models.

6. Reflection and drawing of conclusions. The act of reflection with the group would be a way to raise new questions and to provide different insights on the same experience.
7. Planning of new actions. This cyclical process provided an avenue for planning the next step in putting the two models into practice.

I used the seven steps as a framework in my action research to collect and analyze data from my field notes, interviews, and audiotapes. This framework provided active participation for all research participants. The seven-part design provided a cyclical and recursive procedure to conduct the study and implement change.

#### Data Collection for Action Research Study

In order to examine the processes of my action research study and my leadership study, I used a variety of methods and resources for data collection. It was important to use multiple data collection methods and sources because this was one method of checking the validity of the findings in qualitative research. This process is “triangulation” (Leedy, 1998).

The first method of data collection for both my leadership study and my action research study was keeping field notes. The field notebook design provided a structure for the collection and analysis of all data. Ely, M., Anzul, M., Friedman, T., Garner, D., and Steinmetz, A. (1997) explain that the keeping of a log of all details and data will serve as solid guideposts. Specifically Ely et al. stated, “The log contains the data upon which the analysis is begun and carried forward. It is the receptacle of a researcher’s description, vision, views, feelings and insights” (p. 69). Landau 1994 (cited in Ely’s

research, pg. 70) reiterates, “The log is the data. Detail is everything and only that which is recorded in the log is available for research”. My logs were tools that gave me the opportunity to review, reflect, and plan as I implemented the research.

I administered the Learning Combination Inventory, (Johnston and Dainton, 1996), (See Appendix, A.) to all members of the teacher group and to the students in the particular classrooms/shops. I collected and scored the LCI immediately in order to begin the next step of the action research cycle and begin implementation of the Let Me Learn™ process model as soon as possible. There were weekly implementation sessions given by me in an effort to support and solidify the change processes with the teachers as they implemented the educational model. We held these sessions at lunchtime and after school. I took field notes and recorded these meetings using audiotapes as part of my ongoing data collection process.

Lastly, I administered one, structured, open-ended interview to the research group at the end of the study. I developed eight, open-ended questions that covered the topic of teaching practices and specific questions about the Let Me Learn™ process and the Integration of Academic and Vocational Skills Model IV. These interviews were a face-to-face process and there were audiotapes for accuracy in data collection and analysis. I asked each respondent the same eight questions from the interview protocol. The questions were open-ended to allow freedom in their responses. I was aware the social interaction between the researcher had the potential to influence the interviewee’s responses even during a structured interview. As pointed out by Ely, et al. (1991), “There is no single interview style that fits every occasion or respondents” (p.53).

To capture the processes implemented in the action research study, I developed grids or matrices as triangulation tools. The grids had the seven major steps of Wadsworth's (1998), *Participatory Action Research Model* delineated. The teachers completed them four times throughout the study. They completed the matrices in the beginning and end of the study and two times in the middle of the study. The researcher completed them after every session. These matrices served as reflection and discussion pieces throughout the study and aided us in planning the next step in our action research. In addition, I collected audiotapes, snapshots, posters, reflection pieces, and artifacts. Data collection began in September and ended in December.

#### Data Collection for Leadership Study

I used several measures to collect data on my leadership theory. My leadership theory stands on four selected tenets of Leithwood's transformational leadership theory. They are building vision, supporting individual growth, supporting intellectual experiences, and fostering teacher development. I used the Leadership Effectiveness Index (LEI), (1989, 1993), an assessment tool that was pertinent to leadership in a vocational setting.

I selected the Leader Effectiveness Index for this study because it is almost a perfect match with the four tenets of Leithwood's (1994) transformational leadership model I chose to examine my leadership behaviors. The seven leadership behaviors correlate with the leadership behaviors stipulated by Leithwood. I received permission from one of the LEI authors, Dr. Qetler Jensrud, Akron University professor to use this instrument in my study. The primary author was Dr. Jerome Moss.

The four instructors serving as participant observers completed the LEI prior to and at the end of the study to measure changes in the researcher's leadership behavior over time. I also rated myself. The LEI provides a multi-observer assessment of the effectiveness of leadership performance in vocational education. Moss, J., Jensrud, Q., (1995); Moss, J., Finch, C.R., & Johansen, B., (1991).

Additional data collection tools:

- field notes/ research log
- Leithwood's transformational leadership theory matrix.
- audiotapes of each session.

I completed the leadership matrices after each session. The four instructors completed the matrices twice during the study.

Data Analysis for Action Research Study and Leadership Study

“To analyze is to find some way or ways to tease out what we consider to be essential meaning in the raw data; to reduce and reorganize and combine...” (Ely, Anzul, Friedman, Gardner, and Steinmetz, 1991, p. 140).

Data analysis focused on determining how my transformational leadership facilitated change. The data analysis determined how the teachers used the two models to bring about change in their classrooms.

The researcher's data analysis was based on three linked processes as postulated by Miles and Huberman (1984, 1994), and Lincoln and Guba (1985). The three processes are data reduction, data display, and conclusion drawing/ verification. I conducted data collection and data analysis throughout the research study. I documented data analysis for the action research and leadership study using the following pieces of data:

- research log and field notes
- Learning Combination Inventories (LCI's) of teachers and students
- structured open-ended interviews questionnaires
- Participatory Action Grid
- Leadership Effectiveness Index
- research study products- lesson plans, audiotapes, etc.
- student work samples.

The first major step of data analysis was the process of data reduction. I reduced the data by using the three research questions as broad sorting files. Then, I coded it. I assigned the code “transformational” to all data that pertained to transformational leadership and research question number one, “How did the researcher’s transformational leadership facilitate change in selected shops and classrooms at the CCTEC through the implementation of the Let Me Learn™ process model and the Integration of Academic and Vocational Model IV?”

I assigned the code “teacher practices” to all data pertaining to research question number two, “How did teachers use their preferred learning patterns to integrate academic and vocational skills through collaborative planning and teaching?”

I assigned the code “student learning” to all data that pertains to research question number three, “How did the Let Me Learn™ process model assist students in their academic and vocational tasks using their preferred learning patterns?”

The second major step of data reduction was arranging the data into “thinking units” as proffered by Loftland and Loftland (1984). These “thinking units” or categories are a method for teasing out essential data. The thinking units used in this research were:

- leadership practices, per Leithwood’s theory,
- change practices- practices implemented through the use of the two models.
- interactions
- teacher/researcher
- teacher/teacher
- teacher/student
- student/student
- products- teachers’, students’, and researcher’s

The data from the thinking units was analyzed into themes as delineated by Lincoln and Denizen (1998, P.179). The researcher looked for linkages and relationships that emerged from the thinking units. The themes pertained to, for example, the participants’ perceptions and discoveries about the Let Me Learn™ Model and the Integration of Academic and Vocational skills Model IV. What actually emerged, as themes were unknown at that time to the researcher? I analyzed all data for possible repeating relationships or even a salient but powerful statement that may emerge that shaped the data.

The next step was the drawing conclusions and verifications as postulated by Miles and Huberman (1994). At this point, I had begun to write structured summaries about the themes derived from the data. I determined how these themes supported or did

not support the research questions. I cited examples and statements of the participants' experiences from the logs, the transcriptions, and audiotapes to support my structured summaries. I used tables to display tables as well as participants' statements. The multiple methods of data collection and data analysis provided validity and reliability through a process known as triangulation (Lincoln and Denizen, 1998; Miles and Huberman, 1984, 1994).

In the final chapter of my dissertation, I synthesized the findings from the action research case study and the leadership study in relationship to my original research questions. I anticipated that there would be a convergence and divergence of the processes, constructs and themes as I portrayed each participant's reality as to how he/she experienced my leadership as I implemented the educational models.

## **Chapter 4**

### **Presentation of the Narrative Data**

To better prepare students for the workplace of the twenty-first century as well as for lifelong learning, many schools are integrating academic and vocational education. An important ingredient for the success or failure of the integration process is a commitment by both academic and vocational teachers to work together. By working together, the academic and vocational teachers have opportunities to learn new teaching techniques as well as new skills. By participating in the implementation of the Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV, the teachers gained more information on how to present concepts to the students. This knowledge acquired provided the teachers with lenses to see how changing their teaching practices might enhance student learning.

This chapter contains the presentation of the data depicted in a reflective story form. It illustrates the implementation process of the study and the data collection strategies. Reflective reporting is a qualitative research method used to bring the case alive for the reader (Gall, Borg, & Gall, 1999, p.584). Secondly, it is a way of recounting events through the eyes of different participants. Thirdly, a significant factor in case study research is to represent the *emic* perspective or reality as constructed by the individuals in the studied. Finally, I took a series of snapshots of my transformational leadership practices used to implement the two educational models.

As stated in the review of the literature, research supports situative learning. Situative learning refers to the setting where the cognitive activity takes place becomes an integrated part of the learning activity (Giddens & Stasz, 1999). Most of our collaborative meetings took place in the, The Tiger's Den, the school restaurant. I used the metaphor of the classic kitchen brigade as a way of presenting and analyzing leadership and teacher- student interactions during the implementation process of the two models. We began meeting in the Food Service program, which trained the students to operate the Tiger's Den. In order to function efficiently, a food service operation must be well organized and staffed with appropriate personnel. We The staff is called a brigade. Auguste Escoffier (1846-1935), a famous French chef, developed the kitchen brigade system used in large restaurants. The brigade system has distinct responsibilities and functions for every member in the kitchen.

Being a chef is a confluent process. Cooking is not a linear thinking activity. This is a story about a group of educators and students and the educational journey we

experienced, as we became members of the kitchen brigade. At the top is the chef-du-cuisine or chef who is responsible for all of the kitchen operations, developing menu items and setting the kitchen tempo and tone. The chef-du-cuisine in this story is the Food Service Instructor. Her principal assistant is the sous-chef (the under chef) and in this case he was the teacher's assistant. The students are the chefs-de-partie or chefs in training. I worked collaboratively with all the groups throughout the study. At the same time, one of my roles as the complete participant observer in this study was that of the chef-de-partie.

#### Experiencing a New Recipe

I found myself in the Tiger's Den. I talked with the chef and her sous chef about this year's new group of students. Teachers and students were excited at the start of a new year. Their minds appeared open and ready for new opportunities. I reviewed the roster of names of fifteen new students with the teachers. My role as a Learning Consultant was to meet with the shop teachers. I let the teachers know that I was available to assist them in teaching the students. Specifically, I was available to help them tackle the learning difficulties that may arise. Based on my experience, I had often provided audio books for the specific shops for students who had reading difficulties and needed testing strategies. I have also assisted teachers in developing different types of assessments and accommodations for students. Thirdly, I have worked closely with the students to improve study skills. I have found that many students attending a vocational school have been surprised at the academic work requirements. However, they have

always understood the importance of mastering the academic and vocational skills in order to earn their licensure or certification.

I had a batch of student records with me and offered to review the records with the chef and sous chef. Chef replied, “I’d like to wait about a month before I review the records. I want to develop my own ideas about the students. I don’t want to prejudge them based on what I have read.” Pleasantly surprised by her response, I agreed that was okay with me.

The next day I visited the Tiger’s Den again. My purpose was to introduce myself to the students and tell them I was there to support them. I observed the interactions in the shop/classroom. After the students left, I discussed the details of the Let Me Learn™ process chef and sous chef. I said, “Chef, this may be a different way for you to get to know your students instead of reading their school records”. I said, “This is a learning process that examines how each person approaches a given task. This may be very interesting in this type of a classroom. Also, the Let Me Learn™ process is being implemented in many schools here in New Jersey”.

Chef was open to finding out more about the Let Me Learn™ process. After I explained the four patterns to her she asked, “Is this similar to the Myers-Briggs Personality Test?” I explained, “This is a process based on how we learn. It is not based on personality”. I told her about the video and invited her and the sous chef to view it with me. We agreed that we would meet during our lunch period. She invited me to lunch at the Tiger’s Den, on the following Thursday, September 13, 2001, to view the Let Me Learn™ video.

The restaurant was closed. We had an uninterrupted lunch period to view the video. As we were watching the video, I could tell by their responses that the ovens were beginning to heat up. The chefs were beginning to catch on fire with this concept of Let Me Learn™. We could not finish the video in one lunch period so we stopped it and we had a brief discussion.

The light bulb came on for all of us. Chef was amazed at the 5<sup>th</sup> grade girl who discussed how her answers in class were always different from what was expected. Some of her classmates did not want her in their groups, because she always saw things differently. In the middle section of the video, the instructor introduced the Let Me Learn™ process to the class. During this section of the video, we observed the students interacting with their classmates and discussing how they learned in different ways.

Chef identified with this student. She remembered having school experiences where she saw things differently. She felt that her teachers rejected her viewpoints because they were not the classic answers the teacher thought were right. We agreed to continue our lunch meetings. Chef and sous chef were very interested in the concept of learning patterns.

Chef suggested inviting others to our meetings. I sent an email to the entire CCTEC staff. We had nine teachers and the principal attend our next meeting, Thursday, September 14, 2001. We showed the video. Discussion ensued and we were running out of time. Then, a surprising thing happened. The principal offered his full support. He saw the enthusiasm of the teachers and the freedom people had in discussing their learning experiences. He saw that this process had value to the teachers. To show his

support, he offered to sponsor our lunches in the Tiger's Den and provide extra time during in-service days for our meetings. We were thrilled. The Tiger's Den had a reputation for gourmet lunches. It was always packed with "gourmands" who enjoying the meals on Wednesdays and Thursdays.

I appreciated the support of the principal because it showed the teachers he felt this could be beneficial for them and the students. He demonstrated that "there is a free lunch in America". We agreed to schedule our weekly meetings on Fridays. After the first meeting, the food service instructor, (chef) the food service teaching assistant (sous-chef), the health occupations instructor and the math instructor agreed to try the Let Me Learn™ process. I believe they got excited about it because they saw the potential for aligning it to their subject matter. They were open to finding new ways to get to know their students and themselves.

We spent our next meeting learning about ourselves. We had an intense discussion about our experiences as we went through school. Four out of five of us did not have an opportunity to choose a vocational education. The idea of attending a school where you could take your academic and vocational training in the same setting was not a common practice. This experience highlighted the differences among us.

We knew each other as colleagues, but at this meeting, we deepened our knowledge about each other. The two chefs and the health occupations teacher highlighted some of the competencies they expected the students to learn. The math instructor discussed her units of study for the year and I discussed my role as the learning consultant.

Another light bulb came on when the health occupations instructor noted, “Well it looks like the only thing we have in common among us are the students”. I asked the math instructor if there were elements in her curriculum that linked to what the shop curriculum. She stated, “I have my own math curriculum and textbooks. I decide what I am going to teach for each year.” After hearing her review, we realized she was teaching basic math operations and consumer skills. Some of the higher functioning math students were ready for algebra. She had all 27 of the students from the two selected shops. Some of them were in health occupations and some were in the food service program. However, they all had the same academic classes. The other teachers realized this gap, too. The sous chef said, “It would really make sense if what was taught in math or any other academic subject tied in with what the students are learning in their shops.” (Field notes, September 21, 2001).

It was apparent we were beginning to think about what was going on in this setting in reference to teaching and learning. I explained, “It really does make sense if the curriculums were integrated or tied together somehow.” I promised that I would look into the other programs and examine curricula to determine the degree of integration implemented in other programs. We agreed to meet the following Friday. I emailed an agenda and included a review of the Let Me Learn™ process. I also noted that we would be taking the Learning Combination Inventories we discussed. The third item on the agenda would be the integration discussion and my findings.

I started the next meeting Friday, September 28, 2001, by briefly explaining the Learning Combination Inventory (LCI). I explained that the Learning Combination

Inventory was a piloted 6-year study. I stated, “It gives us a valid understanding of who the learner is and it is a very objective way of collecting information about the student as well as ourselves.” I had already taken the LCI earlier in a class with Dr. Christine Johnston, professor at Rowan University in Glassboro, New Jersey, the author of Let Me Learn™. However, I did not reveal my scores until after the teachers had completed their scores.

The teachers took the LCI Professional Form and I walked them through the scoring process. I made a transparency to explain and illustrate the scoring process. Here is a summary of our scores.

Table 1.

Summary LCI scores for the Teachers and Learning Consultant

Participants	Sequential	Precise	Technical	Confluent
Chef	20	22	34	30
Sous-Chef	28	27	34	30
Health/Occ. Teacher	23	22	25	26
Math Teacher	24	22	26	30
Learning Consultant	26	33	21	19

I gave each teacher this summary chart to study. We discovered we were teachers with a new dimension and were learning about our learning. I used myself as an

example. I pointed to the chart to explain that I led with the 'Precise' pattern with a score of 33. "This puts me in the 'I use this pattern first area'," I said. "Look around on your tables. As you can see, I have given you many materials even for today's meeting. You have the summary of last week's meeting, a typed agenda, and a copy of Chapter 11 from *Unlocking the Will to Learn* (Johnston, 1996). I have also given you markers and colored paper so that we can make desk cards that show our patterns," I informed. "I also have my tape recorder and I will be jotting down notes throughout our meeting. I like lots of information. I like to share my information with others. I hope you are not having an information overload."

Next, I explained that I used the sequential pattern in tandem with my precise. "I guess that's why I sent an email about the meeting and then gave you an agenda too. I have a tendency to over plan, I admitted. "I noticed that we rarely complete all of the items on the agenda." I highlighted that I used the technical and confluent patterns on an as needed basis. (Field notes, audiotapes, Friday, September 28, 2001).

Then, I briefly reviewed the teachers' LCI results and told them we would spend several sessions on understanding the learning patterns. I emphasized, "I cannot assign a generalized statement about who I am as a learner. For example, I cannot say that I am a precise, sequential learner. It is not that simple. I am a *pattern of patterns*." (Johnston, 1996, p.63). I promised to continue this discussion in our upcoming meetings

At this meeting, Friday, September 28, 2001, I gave the teachers copies of the pages that summarized the learning behavior statements under each pattern. This was

the summary sheet given to the parents. The summary sheet explained the LCI results to the teachers. I explained that our written responses revealed who we were as learners, too. I gave everyone a moment to digest his/her results. Slowly, the comments came forward. One teacher said, “I always had a different way of doing things. I came up with the right answers, but I did not do it the way my teacher wanted me to do it. I always felt odd or different because the teacher said I did not do it right. I would hide my work or only show my final piece. Now I understand why I did things differently.”

Another member of our group revealed, “I was a left-handed student and my teachers always wanted me to write with my right hand. I was dyslexic and I had to come up with my own system for learning to read. My teacher was always getting angry with me because I took too long to read.”

The sous chef stated in a very poignant manner, “I loved coming here as a student. I spent half of my day in a school setting, which was linear and sequential. I had to do everything in a certain way and I had a hard time with that. When I came here for the Culinary Arts program, I experienced a freedom in learning. I loved creating my recipes in my own way.”

The sous chef was a former student in the Culinary Arts program at CCTEC. He was an outstanding student and a gold medal winner in many of the state Vocational and Industrial Clubs of America (VICA) competitions. He also won awards on the national level. Even more impressive, he was a scholarship recipient of Johnson and Wales University. It is a well-respected university for prospective chefs and culinary students.

He returned to CCTEC as a sous chef, assistant chef, in the Food Service program. He has followed his learning patterns and subsequently found his niche.

Our chef hats blew off our heads when we discovered why our learning patterns were in conflict with our traditional schooling. A powerful thing happened to us at that moment. While reflecting on our experiences in traditional schools, we gained new understanding about our past learning and simultaneously built a new foundation for our future learning. Our future visions for teaching and learning included a desire to do something different and more meaningful for our students than what we had experienced in the past.

At our next meeting, Thursday, October 4, 2001, we dealt with the issue of integration of academic and vocational curricula at CCTEC. I explained to the members of our group that I reviewed the curricula and spoke with other teachers about their curricula. At that time there was no linkage of the vocational teachers and the academic teachers in reference to discussions about integrating the subject matter.

Furthermore, I reviewed some of the curricula with the vocational and academic teachers. The curricula assumed that the students brought a certain level of academic underpinnings with them and used this academic knowledge in the vocational class. However, in the Spring and Fall of 2001, there was an effort spearheaded by the assistant principal to have the teachers infuse pertinent academic concepts from the New Jersey Core Curriculum Content Standards into the vocational curricula.

The teachers were experiencing difficulties with this mandate. In our previous meeting one of the teachers pointed out, "What we are doing here should be connected or

tied together. Shouldn't that be the purpose of the vocational school?" Another teacher emphasized, "We really should be teaching the students skills that they will really need throughout their lives. It's really hard nowadays to teach one set of skills and not somehow teach the other skills too."

The health occupations teacher supported this statement when she commented, "Every year I have to review and sometimes teach students how to write complete sentences when documenting something about a patient on a chart. I also teach them to read all types of thermometers, the old-fashioned ones and the digital thermometers. You would be surprised to know the trouble the students have with writing down the temperatures and when we discuss Fahrenheit and Centigrade scales we have a real problem with conversion. Do not even go there! I have to take time to teach them math skills along with our health occupations concepts."

The sous-chef contended, "Tell me about it! We are teaching math in our Food Service classes too. I mean we have had to be very concrete in how we teach the students" (Field notes and audiotapes, October 4, 2001).

Throughout our discussion, I felt that the teachers were serious about making an effort toward integrating the skills taught in the academic and vocational arenas. I asked the teacher this question, "What would be our reasons for coordinating or integrating what we are teaching, if we have the same students for academics and for our vocational shops?" I listed the reasons brought forth on the newsprint chart. The reasons given by the teachers were:

1. "It just makes sense in this setting that we tie things together here".

2. “It can be a more efficient way to learn”.
3. “The students will need as much information as possible in order to get their certifications”.
4. “It brings together in a logical and...effective way instruction that the students receive from both their academic teachers and their vocational teachers”.

This was an extended meeting. I had spoken with my principal about giving us more time for our meetings. On this particular Thursday, many of the students were remaining at their home schools because of a special testing session at the home schools. Thus, I decided to capture this opportunity to meet our learning group. This turned out to be a very productive meeting. Again, we agreed to meet on the next Friday.

We were moving into our second month of meetings. Our agenda for this meeting included a review of the tenets the teachers had decided on in reference to the integration of the academic and vocational concepts. I had typed a summary of the three elements discussed by the teachers in the last meeting. I reiterated that I felt that we were moving in the right direction and making an effort to coordinate the academic and vocational concepts as much as possible.

The math teacher commented, “Since we all have the same students. I think that coordinating our lessons really makes good educational sense for the students. I am the pivotal person here because I have both groups of students. I would like to see where we can go with this. “

Then, I asked, “How many of you are receiving extra funding in your budget

in the form of Perkins's monies? Everyone in the group affirmed that they were receiving Perkins's monies. Chef explained that she was able to purchase a \$12,000 oven with the extra money that she received. She explained it was a state-of-the-art oven used in restaurants and hotels.

She further reiterated, 'This is an oven that uses a form of ultra light for cooking instead of heat. It also cooks faster than the traditional oven. I want my students to be knowledgeable about this type of oven and the cooking techniques when they leave here. This oven is worth the money.'

I was surprised when she told me that. I said, "Chef, I don't even have a \$12,000 budget. The child study team has no such budget! I am happy for you and for the students." I furthered explained there was a vocational law called the Carl D. Perkins's Act that provided some of the funding for vocational schools. One of the criteria for receiving the money was that the concept of integrating academic and vocational skills by implementing them in the curriculum and lesson plans.

I explained that the integration of the skills could be tailor made for each district. I explained we could use a very simple model in our group in order to tie the academic and vocational concepts together. I had an overhead transparency that highlighted the elements of the Integration of Academic and Vocational Skills Model IV. I also gave a copy of this vocational model to each teacher.

#### Researcher's Viewpoint

This part of the story provides my perspective on the implementation processes. In qualitative research, this is the *etic*, or the researcher's viewpoint (Borg, Gall, & Borg,

1999, p.584). The *etic* perspective helped me to make conceptual and theoretical sense of the case study.

We had twenty-six weekly meetings from September to March in the Tiger's Den. I spent a minimum of 1 day per week in the Food Service, Math, or Health Occupations classrooms to ensure I would capture the processes in depth. As a participant observer, I observed, took field notes, audio taped, and often participated in the classroom activities. At the end of each classroom session, I spent 10-20 minutes talking to the teacher about that session. I used my field notes and my audiotapes to offer us data to assist us in gaining deeper understandings of the context of the classroom and the shops.

During the implementation process, my roles overlapped. I served as a change strategist, a change implementer, and a participant observer. As a change strategist, I was responsible for identifying the need for change. I probed for answers to the questions about the lack of integration between the academic and vocational curricula. As a change implementer, I drove the process forward by creating vision and mission statements that I mentioned repeatedly. I developed a matrix to provide a means to illustrate the implementation processes we experienced and the outcomes that evolved.

**Table 2.**

The Implementation Processes of the Let Me Learn™ Process Model and  
The Integration Model IV

Leadership Behavior	Processes	Outcomes

<p>Creating a Vision</p> <p>Provide Intellectual Stimulation</p> <p>Provide Individualized Support</p> <p>Foster Teacher Development</p>	<ul style="list-style-type: none"> <li>• Raise awareness of the need for change</li> <li>• Reflect on current actions</li> <li>• Plan to seek answers</li> <li>• Intensive seeking of answers</li> <li>• Implementation of the Let Me Learn TM Model</li> <li>• Implementation of the Integration Model IV</li> <li>• Analysis of experiences</li> <li>• Reflections and drawing conclusion</li> <li>• Plan new actions</li> </ul>	<ul style="list-style-type: none"> <li>• 26 weekly meetings</li> <li>• Vision Statement</li> <li>• Mission Statement</li> <li>• Administrative support</li> <li>• Learning Combination Inventory (LCI) brings change in teachers</li> <li>• Collaborative planning and teaching begins</li> <li>• Adjust teaching strategies</li> <li>• Identify best practices</li> </ul>
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At our next meeting, we reviewed a summary of our efforts toward improving teaching and learning at CCTEC. The results of our collaboration efforts included:

- We had the support of our principal in sponsoring our luncheons in order to facilitate and encourage the teachers to meet,
- We had a group of professionals who were open and positive about making learning meaningful for the students through the implementation of the two educational models.

We agreed on the elements that would work toward our goal to integrate the vocational and academic concepts. One element we agreed upon was to focus on our efforts in teaching lessons that incorporated the academic and vocational concepts. The next element we decided upon was to use collaborative structures to integrate activities. Lastly, our consensus was to use the Let Me Learn™ process to examine our approaches toward teaching the concepts. Most importantly, we believed the Let Me Learn™ process model would be an effective tool to generate dialogue about how the students were learning the concepts. From there we felt we could formulate strategies to use with the students.

Creating a vision and mission statement presented our next challenge. We wanted the vision and mission statement to serve as guideposts to implement the two educational models. Our subsequent meetings dealt with laying the groundwork for implementing activities from the Let Me Learn model and the Integration of Academic and Vocational Skill Model IV. At the time, we did not realize we were moving from the traditional image of what Metz (1988) referred to as real school to our own concept of a school. He described real school as a place where common tools such as blackboards, textbooks, ditto sheets and overhead projectors supported lecture, recitation and seatwork. This depiction of school tied in with our own school experiences. In this study, we moved toward our concept of school. We combined traditional tools with nontraditional tools in our context. For example, we used the blackboard in our academic and kitchen classroom. We used recitation of words in our academic classrooms and integrated it in creating new recipes. We moved from running our classrooms from isolated,

individualized work, to cooperative and collaborative work. We moved from teacher-centered instruction to student-centered learning. The results of “moving toward new educational recipes for teaching and learning” will be discussed in the data analysis of Chapter Five.

## **Chapter 5**

### **Case Study Analysis**

“The best practices of vocational education include contextual instructional methods...”  
Thomas Henry, New Jersey Department of Education (2000).

I have presented the data analyses from this case study, which involved the implementation of the Let Me Learn Process™ model and the Integration of Academic and Vocational Skills Model IV, in two distinct sections. The first section is an analysis of the students’ learning and their experience with the two educational models. The

second section is an analysis of the interview results about the Integration of Academic and Vocational Skills Model IV. This section also includes an analysis of teacher change resulting from implementing the Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV. Each part of the analysis has a section at the end offering data on the outcomes and meanings. An interpretation of the meanings is the final part of the analyses. This case study analysis sought to answer two questions.

1. How did students use their learning patterns to accomplish the academic and vocational tasks?
2. How did teachers use their learning patterns to integrate academic and vocational skills?

The majority of this study took place in the health occupations classroom, the math classroom, and the school restaurant; the Tiger's Den. The Tiger's Den is a teaching restaurant.

#### Description of the Tiger's Den

All of our collaborative meetings took place in the Tiger's Den. The Tiger's Den is the school restaurant and the Food Services shop and classroom. Our collaborative meetings were for planning, discussing, and debriefing the activities that we had tried as we were implementing the two educational models.

The Tiger's Den is the exact replica of an upscale restaurant. The classroom is about 30' x 30' in length and width. Half of the shop is the restaurant itself. There is a canopy walkway on the outside for people to enter. The restaurant has 15 small tables that seat parties of four to six people each. The front of the restaurant has floor to ceiling

length windows and a glass door. This gives the customer a view to the outside. One wall of the restaurant has a huge yellow and black striped tiger painted on it that covers one entire wall with the words “Tiger’s Den” written under the tiger. The tiger is the school mascot. The back of the restaurant has a serving bar with a series of eight stools, for customers who prefer to sit at the serving bar area.

The serving bar area has a back wall which separates the cooking area of the restaurant from the serving area.

The cooking area or the kitchen is where the teachers conduct student instruction on culinary skills. There is a huge six feet by five feet state of the art oven of chrome and steel. Many items can be prepared at once in that oven. This oven cooks using ultra light. Chef said that this particular oven is the most current oven used in the food industry. On one of my classroom visits, she explained, “I want my students to be trained using cutting edge equipment and to be aware of the current trends. This is one way of helping the students to be highly marketable” (September 19, 2001, field notes).

The kitchen area also has a regular convection oven with another industrial style stove. There is a separate area where there is grill and deep fryer apparatus. Student instruction covers a range of culinary skills, which prepare them to work in restaurants that have grill cooking as well as upscale restaurant preparations. The back area of the restaurant has an area with industry style sinks, dishwashers, and refrigerators. Another section is the pantry room. Canned items, seasonings, and other dry goods are stored. The students have weekly assignments to maintain all areas of the Tiger’s Den.

The Tiger's Den has a moveable wall partition that partially separates it from the restaurant area that serves as a classroom instruction arena. The classroom area is a spacious area of about 15' x 25' in size. The classroom has four large rectangular tables for group work as well as individual desks. There is a panel of blue lockers on one wall where students keep their hats and uniforms. There is a bottom section of lockers for coats and backpacks. On the wall above the lockers, there is a huge 31-inch cable television monitor with internet capabilities. The television provides for Power Point presentations created by teachers and students as well as reviewing cooking shows. Two computers in the classroom area are state of the art. The students use them to research information on the Internet as well as watching specific cooking programs. The chef and sous chef use the computer for classroom management of student grades, work and projects. Another wall has two floor-to-ceiling bookshelves that house all of the culinary resource books. The teachers' desks are in front of the classroom area.

The students' class period is two and a half hours in length. The students have two sessions. The morning session runs from 8:00 am to 10:30 am. Then, these students have lunch. They go to their academic classes in the afternoon. The students who had academics in the morning session go to the afternoon session for their Food Service Program. All of the shops and classrooms are set up on a morning and afternoon schedule. The teachers have lunch and planning time from 10:30 am– 11:30 am. The afternoon session runs from 11:30 to 2:00 pm. The teachers have another planning period from 2:00 pm to 2:45 pm.

Our collaborative meetings were usually 10:30 am to 11:30 am on Fridays. Sometimes we would meet when the students were participating in state testing e.g., High School Proficiency Assessment at their home high schools. This gave us an entire day to meet or plan activities for the Let Me Learn and the Integration of Academic and Vocational models. We would meet on the restaurant side or the classroom side with principal sponsored luncheons for these meetings.

The students prepared luncheons such as Rabbit Etouffee with Bulgar Wheat or Wild Rice Pilaf and a Vegetable Medley. These gourmet meals were not prepared specifically for our luncheons, but these meals were the creations of the students. Our study group was the recipient of the students' practice rounds on these dishes. Many practice dishes were entered in competitions. The Rabbit Etouffee was a winning recipe sponsored by Johnson and Wales University. As you can imagine, we eagerly looked forward to our Friday meetings.

#### Part One: Analysis of Student Learning

Ashman and Conway advise that, "The challenge for teachers is the identification of the individual student's strengths and weaknesses and the cultivation of classroom practices that can assist all students" ( 1985).

This section is a reflection in story format that illustrates how a student and his teacher used many of the precepts and principles that were integral to the Let Me Learn™ process model and the Integration of Academic Skills Model IV. This story also illustrates a culmination of skills that both the teacher and students used throughout the

school year. Furthermore, this story is a demonstration of how a student used his preferred learning patterns to accomplish an academic and vocational task. The story took place in the Tiger's Den and the food service program.

Here is a summary table of the morning session of students in this program. There are eight males and six females in this class. The students took the Learning Combination Inventory (1996) at the end of October 2001. The results for students A through N appear on the next page (see Table 3).

Table 3.

Let Me Learn Patterns-Food Service Class 2001-2002

<b>Student</b>	<b>Sequential</b>	<b>Precise</b>	<b>Technical</b>	<b>Confluent</b>
A	25	21	29	23

B	*	28	21	31	24
C		22	17	17	23
D	*	23	23	30	27
E		27	23	28	22
F		26	24	22	23
G		28	22	20	23
H	*	26	27	26	30
I		24	14	32	22
J		29	25	31	23
K		22	21	24	27
L	*	31	21	30	29
M		30	24	29	25
N	*	24	17	29	25

\*Students representing CCTEC at the skills competition (March, 2002)

Previously described in Chapter IV, the following summary will be helpful in understanding the learning pattern preference of the students in the Food Service program. The Learning Combination Inventory (1996), Form I, gave us a snapshot of the learning preferences of the group. The four patterns of learning behavior include sequential, precise, technical, and confluent.

1. Sequential: The learner seeks to follow step-by-step directions, organize and plan work carefully, and complete assignments from beginning to end without interruptions. (Johnston,1996, pg. 51)
2. Precise: The learner seeks to process detailed information carefully and accurately. The learner will seek out more information, read, and write in a specific manner. (Johnston,1996, pg. 52)
3. Technical: The learner prefers to work autonomously, “hands on”, unencumbered by paper and pencil requirements. This learner likes to use

technical reasoning to figure things out and physically demonstrate his/her knowledge. (Johnston,1996, pg. 53)

4. Confluent: The learner avoids conventional approaches and seeks unique ways to complete a learning task. This learner likes to be creative and generate new ideas.(Johnston,1996, pg. 54)

The Learning Combination Inventory (1996) assists the teacher in measuring the degree that students use or avoid these patterns. Analyses of the student scores reveal this information for the teacher.

The *technical* pattern was selected by 71% of the students as “I used this pattern first” as a preference for completing a learning task.

Concomitantly, the *sequential* pattern was selected by 64% of the students as, “I use this pattern first as a preference for completing a learning task.

The *confluent* pattern was selected by 43% as “I use this pattern first” when completing a learning task.

The *precise* pattern was selected by 14.2% of the group as “I use this pattern first” when completing a learning task.

In summary, over half of the students preferred to use the technical and sequential patterns as their first choice when completing a learning task. Nearly half of the students wanted to generate their own ideas. It appears that this group of students avoided using the precise pattern first as a method for approaching their learning tasks. This summary told the teacher that this group of students preferred to do their work in a step-by-step manner and to demonstrate their knowledge by performing a task, perhaps by cooking,

creating, or using other ways to demonstrate their cooking skills. Many students had a convergence of overlapping patterns that he/she preferred to use first when approaching a learning task.

The important thing we kept in mind was that each student's learning pattern was a combination of all four processes that constantly interacted. It was also imperative that we look at each student's pattern individually. For example, there may be two highly technical students in the food service class that have other leading patterns which cause them to learn differently than others on their class. One student may lead with a learning preference of technical and confluent while another may lead with technical and sequential. Each student may demonstrate his learning in a different way.

As the teacher, it is important to become familiar with each student's learning schema or pattern of patterns (Johnston, 1996, p.56). In order to keep track of each student's learning preferences, the teachers kept a chart on the wall for the teachers and students to refer to, as well as each teacher keeping a summary chart inside of the teacher's plan book.

Students B, D, H, L, and N represented the Cumberland County Technical Education Center in the Food Service competitions. Each classroom or shop held competitions on specific skills. Students achieving the required score, determined by the skills competition criteria and the instructor, earned the opportunity to represent the school. Each county technical school sent representatives to the State Skills Competition held in Somerset, New Jersey.

On March 15<sup>th</sup> at 9:00 a.m., the chef and the sous chef gave final instructions to the students on how to pack their boxes of utensils, suitcases, and uniforms. Forty students went to the competition to represent the CCTEC in Somerset County, New Jersey. Five were from the Food Service program. This is an annual competition called the Skills USA Championship. The Skills USA Championship is the showcase of technical education. There are state, national, and international competitions. Besides displaying the student's skills, this competition urges the students to take pride in their work. The competition provides prospective employees with an opportunity to see dedicated, motivated, potential employees at work. In addition, this competition recognizes vocational students who excel in their occupational areas and leadership skills.

I went to the shop and wished all of the contestants the best of luck in their endeavors. Student L was in his final day of preparation for the skills competition. I walked over to student L's station where he was packing his utensils. "Don't they give you utensils at the competition?" I asked.

L replied, "No, they only provide the food items for the specific dishes that you are preparing, the range, and the freezer, nothing else."

I was a little surprised. He showed me his favorite cook's tools that were the French cooking knife, the fillet knife, the offset spatula, and an assortment of garnishing tools. He also had to pack his own platters and serving dishes. All of the students packed their own cookware for the competition. The Food Service program provided these supplies.

I asked him what dishes he planned to prepare for the competition. He said, “I am preparing a pasta salad, a Cobb salad, a club sandwich, a meat entrée and a dessert.” He explained that the meat entrée and the dessert would be his choice and his creation, but the pasta salad, the Cobb salad and the club sandwich were required dishes for this culinary competition.

I was curious about the Cobb salad. What is a Cobb salad? Just then, the chef directed everyone to start moving his/her things toward the door to prepare to board the bus. I wished everyone good luck told them I would meet with the students the following Monday.

On Monday, March 18<sup>th</sup> I went to the Tiger’s Den to see how the students had fared in the competition. I went straight to the Chef and Sous Chef to see how everything turned out. The news was wonderful! The whole room was one big buzz of excitement. Student L won the gold medal for the culinary areas of “basic dessert preparation, the pasta salad, and the Cobb salad. These foods fell under the area of hot food preparation and cold food preparation.

Student D won a gold medal on his original cake in the “Commercial Baking” category. Student H won a medal for her performance on “Job Interviewing Skills”. I said to chef, “This is amazing, it doesn’t get any better than this!” I gave her the high five-hand signal. We laughed again and I went around the room “high fiving” the students.

I immediately went to L and congratulated him with a high five. He was wearing his medal, which was gold, with the SKILL USA emblem. He was standing with other students so I said, “L, tell me how you did it!” “What is your take on the competition?”

L explained, “I did not know that I had won. When you first get to the competition there are a couple of thousand people there, students, teachers, chaperones, everybody! They had an opening ceremony in this huge hall to welcome us. At the end, they had a closing ceremony where they give out the medals and awards. It was in the closing ceremony where I found out I had won. I was sitting with Sous Chef and we were both asleep in the huge auditorium. I was retired at the end of the two days of competition. I was dozing as the judges were calling other people’s names for their awards.

When they called my name from CCT, Sous Chef said, “Oh, Lord that’s us!” I was surprised. I got up and walked toward the stage. It was unreal, like a dream. I had done my best, but I thought there were others who were better.”

I said, “Not according to the judges! They must have liked what you did! Tell me what you did!” He began to zero in on his experience with making the pasta salad

He continued, “Sous Chef taught me to “KISS”. He always said to us, “Keep It Simple”. He told us repeatedly to follow directions and keep it simple. I was in this huge kitchen with my cooking utensils and so on. I was competing with six other people in my hot and cold foods preparation competition. I laid my tools out and set everything up to go to work. They have an area in the kitchen where you have to go and select the food items you need to prepare your dish. I selected my food items and I tried hard to remember what Sous Chef had taught me.

I asked, “Where was Sous Chef, was he there with you?”

He continued his story, “No,” he explained. “I was in a huge kitchen with the judges and the competitors. No teachers or observers were allowed in the kitchen during the competition.

I heard Sous Chef’s voice in my head telling me, “Now when you go to select your food items select the best of everything. Do not just select any old potato or vegetable from the bin. Search through and find a perfect potato that has good color, an even size and no bumps on it. Get the brightest, reddest, tomatoes for your salad! Everything must look pleasing to the eye.”

I followed his advice and selected the best celery, onions, etc., for my salads. We had thirty minutes to prepare the pasta salad, the Cobb salad and a club sandwich. We had to prepare the food and arrange it on plates and platters ready for serving to the judges. They gave us another 20 minutes to prepare a dessert. You’re judged on everything,” he explained.

L continued to tell his story, “They look at the quality of food that you prepared and even how clean you are in your preparations. They judge everything. I read the recipe for the pasta salad. It called for diced cheese cubes as one of the ingredients. I remembered Sous Chef telling me to follow the directions, and not care what others are doing.

“Okay,” I said to myself. “I will follow the directions. I diced the cheese into cubes, just like the recipe said. I looked around at the other students. One boy was carving the VICA emblem out of cheese. He did a beautiful job. He laid it right on

top of his salad. I could not believe it. I knew that he was going to win.

I completed my salads and club sandwich and placed my items on plates and in bowls ready to serve to the judges. Then, I made my dessert. There were many kinds of cakes, fruits, and toppings to choose from in order to create our own desserts.

I decided to make strawberry shortcake. I selected a thick golden slice of pound cake. Then, I went to the fruit bin and selected the plumpest, reddest strawberry I could find. I got a few chocolate chips and some whip cream as my final ingredients for creating my dessert. I remembered Sous Chef telling me to keep it simple. I cut the slice of pound cake into two triangles. I stood the cake triangles up on the plate and leaned them against each other. I made a bridge for the strawberries to go under. I chopped the chocolate chips into smaller pieces and sprinkled them over the cake and the strawberries. I put a puff of whip cream on top of the cake and strawberries and sprinkled them with the remaining chocolate chips.”

I said, “L is that it? You only used four ingredients to create your dessert?”

L said, “Yes, that was it. Sous Chef said that I had to be careful when creating a dish. He said that if you put too much stuff on a plate when you are creating a dish, then it better be perfect or it will look like garbage.”

I had a good laugh from that response. I asked, “So then what happened?”

L responded, “Three judges came to look at our food preparations. They awarded points and took notes on everything. I did not know what they were writing. I was a

little nervous but I kept myself together. You know it was just that simple, just follow the directions. I cannot believe it was just that simple... I realized that one was judged on doing what you are told to do, just that simple. I wanted to keep that thought in my head for a while. It was a lesson for me to learn as well.”

I congratulated L once again with a feeling of respect for him. Then, I went over to Sous-Chef. I said, “Sous Chef, I have to congratulate you as well. L has really learned a lot from you. I can see the respect he has for you and what you have taught him. I asked him what his thoughts on the students’ success were.”

Sous Chef’s interpretation on the students’ success was described by her when she said, “I am happy about the success of our students at the skills competition. To think that we came away with three gold medals is beyond our wildest dreams.”

I reminded Sous Chef, “You know that it wasn’t that long ago when you yourself were one of the winners. Look at the scholarships that you have won since that moment”.

Sous Chef replied, “I was just telling the students that I know how good that medal feels around their necks and I was speaking from experience.”

Sous Chef and I begin discussing how he used *intentional teaching* to bring the concepts home to the students. Sous Chef explained, “Oh yeah, I did a lot of teaching, practicing, rehearsing and revisiting. Boy, did we do a lot of rehearsing and connecting with our dishes that we were trying to prepare. I made the connection because I knew what the judges were looking for, so I wanted to pass that knowledge on to my students.”

He continued, “Students L and D have been practicing every night since February 1<sup>st</sup>. L was here every evening. We practiced almost six weeks straight, Monday-

Thursday from 6 pm and 10 pm. He really sacrificed his time. He really wanted to excel.”

Sous Chef continued to emphasize L’s preparation time and desire to do well, “I heard L tell his friends that if you want something bad enough you’ll have to sacrifice evenings and weekends. He really had the right attitude. We did a lot of rehearsing and reconnecting until he got it right.”

I asked Sous Chef, “Were you able to see how L used his learning patterns as you practiced together?” Do you think there is a place for Let Me Learn in the Skill Competition preparation? Sous Chef went on to say, “Well, in this business (culinary) we have a standard for the way food should be prepared. There is room for you to use all of your LML patterns and do well in this field. There are times when you must be sequential. You must be precise. You must be technical, and you must be confluent. In most cases, you will use all of your patterns in one cooking preparation. This was exactly the case for L.”

I went over to the chart near the teacher’s desk to review the student’s LML patterns. I restated L’s patterns. His learning patterns were Sequential 31, Precise 21, Technical 30 and Confluent 29. I asked, “What do you think, Chef? What do these patterns tell you now?”

Sous Chef paused and said, “L’s learning patterns told me as a teacher that L used his Confluent, Sequential and Technical patterns first to accomplish his cooking tasks. He used his Confluent pattern to explore new ways of cooking. He used his Sequential pattern to review the recipes, organize his thoughts, and organize his things. He used this

pattern to practice over and over his techniques as well. That is what happened when we rehearsed and reconnected the steps and procedures for the recipes. He was dedicated. We worked Monday through Thursday, from 6 pm-10 pm on his skills.”

I went on to say. “I heard you discussing the Confluent, Sequential and Technical patterns. Is there a need for him to use his Precise pattern?”

Sous Chef responded enthusiastically, “Yes! However, we are very strict in the culinary field. If there are items that you have to be precise on, then you have to be precise. For example, in all recipes you have to know how to perform the proper cuts. Let us take vegetable cuts for a salad. You have to use the proper cutting tools and do the proper cuts for the vegetables. We spent almost 2 months on this. He observed all of my instruction in these two months in order to get his vegetable cuts correct. Now if the recipe calls for diced onions, then it means diced onions! Every chef in the culinary field knows that diced cuts mean 1/8” x 1/8” x 1/8” x 1/8”. The judges will even bring a ruler to measure your cuts. If it is not right then you will lose points. There can be no creativity on certain items where you have to be precise. I always tell the students, just follow the directions specified for the recipe. It is very important to follow directions, he admonishes. They will not pay you \$20.00 an hour if you do not follow directions. You also have to follow the allotted time. The Executive Chef will not pay you \$20.00 an hour to make an \$8.00 salad. The restaurant loses time and money. There is a place to be precise in this field.”

Sous Chef finished his conversation by stating, “L” has the natural talent. It is there and I am trying to get it out of him. He is a hard worker and very creative. He

listens and he follows directions well. The judges told me that L made his pasta salad to a “t”. There may be easier ways to make any salad. However, can the student follow directions? I told the students that they needed to have the knowledge and put their heart and soul in your cooking. It has to become second nature. The essence of experience comes with time, it comes with practice, and it comes with zeal.”

Reflections of L’s story

This narrative scene (Miles & Huberman, 1994, p.82), illustrated a day in the life of Student L and his teacher, Sous Chef. In November, we introduced the students to the Let Me Learn model. The teachers and I had several meetings to become familiar with this model. We also used our time to collaborate on different strategies and materials for presenting the model in the classrooms.

In November, after the students took the Learning Combination Inventory, we used one of the Let Me Learn presentations that was on a CD-ROM developed by Dr. Christine Johnston. The presentation was in a PowerPoint format called *Let Me Learn for the Secondary Student*. We showed this Power Point as a springboard to reinforce our initial introduction of the model to the students.

From November until the end of the school year, we continued to infuse the elements of the Let Me Learn model into our teaching. We printed copies of the Power Point for each student so that they could refer to them as needed. The students were becoming familiar with the concepts, but we realized that it would take many lessons and activities before the students would internalize the concepts to the point of automaticity.

We introduced the definitions of the meta cognitive or learning processes as stipulated by Dr. Christine Johnston in her book, *A Personal Guide to the Implementation of the Let Me Learn Process* (2000). We presented these terms to the students in a short seven-page booklet developed by the teachers, called *Learning about Learning*. The teachers in our group felt that this was a more concrete way to review the terms that were in the Power Point presentation. This was one of the ongoing strategies used to help the teachers and students become familiar with the learning processes.

Reflecting on the experiences of Student L and Sous Chef at the Skills Competition, I could see that the Let Me Learn processes of *intentional teaching* and *intentional learning* were illustrated in L's story. Intentional teaching is using the knowledge of how your students learn and making a conscious effort to have them begin learning using their unique and very personal learning processes (Johnston, 2000, p.1).

The elements of intentional teaching are:

- Values the learner first and the subject matter second.
- Hand the students the responsibility for achieving their own growth in learning how to learn.
- Fosters trust between learner and teacher (Johnston, 2000, p.1).

Intentional learning is the learner's response to intentional teaching. Intentional learning is the student's desire to own the learning experience. Intentional learning leads learners to develop personalized strategies they consider workable and practical (Johnston, 2000). The elements of intentional learning are; mulling, connecting,

rehearsing, expressing, reflecting, and revisiting. These elements represent metacognitive processes as defined by Let Me Learn, Inc. (Johnston, 2000, p.2).

Mulling refers to sitting down mentally in the middle of an assigned task and asking, “What do I know about the assignment? What am I expected to accomplish? Where do I begin?”

Connecting involves looking backward, looking forward and looking all around for ways to connect. Connecting can be: gathering and reading information, asking questions, linking up with a peer and reviewing previous learning.

Rehearsing is taking a first crack at the answer. It is the opportunity to receive feedback and counsel before putting the learner’s knowledge or skill on public display.

Expressing is the “first time around” culminating activity that has resulted from mulling, connecting and rehearsing.

Reflecting is stepping outside the learner’s selves to see their performance through the feedback provided by others. It means being able to look at myself through a variety of mirrors and see myself as a learner engaged in a task.

Revisiting occurs at the next plateau of learning. The student is able to return to the learning activity after gaining insight into what contributed to the student’s success.

Johnston (2000) further stated, “Learning refers to completing these phases in order, out of order or in any order. The phases may also grow, change, and develop from the entire iterative activity (p.4).

Sous Chef used many of the elements of intentional teaching as he spent time preparing the students for the Skills Competition.

1. Values the learner first, the subject matter second.

The Sous Chef was also beginning to internalize the processes of the Let Me Learn model. He heard the voice of the students by first using the Learning Combination Inventory as another set of lenses to view the students. We met weekly and sometimes more. We reviewed the patterns of the students and discussed what we had observed and learned about the students. This was a way of understanding each student from the perspective of how the student would approach the learning task.

In L's case, Sous Chef knew that L was very interested in the culinary field. He facilitated L's success by encouraging him to perfect his culinary skills through practice. He also encouraged all of the students to enter the various competitions, i.e., the chocolate contest and the Skill USA Competition.

2. Allows the Learner to talk responsibility for learning

Sous Chef spent many evenings with the students to practice and rehearse their required cooking techniques. He left the responsibility on the students to achieve. They had to be able to transfer all that he had taught them to another setting such as the Skill Competition. It was up to the students to rehearse and revisit the necessary skills if they wanted to be successful.

3. Fosters trust between the learner and the teacher.

Sous Chef's favorite method of building trust with the learners was to talk through a technique by telling a funny joke and modeling the techniques at the same time. When he was demonstrating his plate presentation, he always told the students,

“It’s better to have a tastefully designed plate with a few items arranged in an artistic fashion. If you have too much food on the plate it will look like garbage”. Then, Sous Chef would do a plate presentation to demonstrate the artistic way and the non-artistic way of presenting foods. Afterwards, he had the learners practice the same skills.

Here is how student L used intentional learning to accomplish his skills needed to be successful in Food Service. Student L had been mulling since February 1<sup>st</sup> while in the process of deciding which dishes to prepare for the competition. He narrowed his dessert choice down to the strawberry shortcake.

#### 4. Connecting

Student L connected with other students as well as with the Sous Chef in his preparation for the competition. He reviewed his previous instructions about selecting the best quality of food items for his plate presentations. By connecting and reviewing Sous Chef’s instructions, he met success with many of his culinary techniques.

#### 5. Rehearsing

Rehearsing permits the learner to make mistakes and learn from them without penalty (Johnston, 2000, p.3). Student L was very diligent. He practiced four days a week, from 6p.m.-10p.m. with the Sous Chef. His goal oriented was to do well in the Skills Competition. Through rehearsing, he became very proficient in using the cooking tools correctly as well as learning to prepare many types of recipes. In addition to wanting to do well at the Skills Competition by practicing, he knew he could transfer his skills into other settings. He could transfer the skills that he learned in the classroom to the classroom at the Restaurant School in Philadelphia.

Student L represented our school as the chocolate contest winner for CCTEC. He used his sequential and technical patterns to become proficient in his culinary skills. This proficiency enhanced his confluent patterns. He extemporaneously created recipes that were not only unique, but well done. Because of the rehearsal process, Student L was able to hear the voice of Sous Chef's voice in his head as when he competed. He evidenced the beginnings of internalizing some of the metacognitive processes that facilitated his success in other food service activities. This student loves working with pastries, cakes, and cookies. She does beautiful work (Chef, Field notes, 3/02).

#### Learning Patterns in Use

Unlike Student L, rather than mentally reviewing the instructions of the sous chef, Student B preferred practice sessions. The following is a brief narrative (Miles & Huberman, 1994, p. 82) that represented how Student B's used her learning patterns. She prepared for a cake decorating contest. The student's scored S=28, P=21, T=31, C=24 on her LCI.

Student B practiced a cake decorating technique called basket weaves. The patterns of the icing replicated the patterns of basket weaving. She practiced making roses and scallop designs. Student B baked a five- tier cake two days before to decorate during open house. The Open House provided her with a practice session in front of the public. She used this practice session as a step toward presenting in front of the judges in a forthcoming cake-decorating contest. Student B took these steps to accomplish her goal.

- Student B asked Chef to demonstrate making a basket weave pattern. Student B viewed a picture of the basket weave pattern on a cake. Chef used an icing tube, icing and a plate to demonstrate the weave pattern. The Chef made 3 vertical lines in the basket weave pattern approximately 3 inches in length. Then, she made 3 horizontal lines that intersected with those vertical lines.
- Student B practiced making the patterns. Not satisfied, she asked Chef to look at her patterns and tell her if they were correct. Chef analyzed the patterns and went to get a cake-decorating book. Chef made a copy of the exact pattern for student B to use as an overlay that helped her place the icing on the pattern exactly. First, the paper copy was covered with a sheet of plastic so Student B could continue to practice as many times as she liked.
- Student B made a new batch of icing. She mixed three batches of icing. One was lavender, one white and one pink. Then, she put each color in a separate decorating tube. She made basket weave patterns laced with pink, white and lavender strips.
- Student B practiced the technique about 12 times. She used the plastic overlay as her guide.
- Next, she asked Chef to check her basket weave patterns. Chef told Student B she was getting the technique. Chef stressed to Student B that the judges looked for a weave pattern that had even strips with smooth interlocking patterns.

The open house program for CCTEC had been scheduled for the next day. Student B set up her five tiered cake in the form of a wedding cake. Many people from the

community attended the Open House. Student B decorated her practice wedding cake. The cake's base was white. It had white flowers and teal blue basket weave patterns. Student B took a picture of her cake for her portfolio. Before the evening was over, one of the visitors requested that Student B do a wedding cake for her son's wedding. Student B and the Chef were very happy about the success of B's hard work. Chef said, "This is an opportunity for the students to begin to earn money using what they are learning to do." The intentional learning processes used by Student B were:

1. **Connecting:** Connecting for student B involved looking at pictures of the wedding cakes with the basket weave patterns to help her visualize what to do.
2. **Rehearsing:** She rehearsed often by practicing with the icing to make the basket weaves. She constantly checked back with Chef to see if she was making the weaves correctly. At this stage, she was able to make mistakes without fear of a penalty. She also used the objective lenses of Chef to gain feedback on her work.
3. **Expressing:** Expressing is the "first time around" culminating activity (Johnston, 2000, p. 3). Student B's experience when she decorated the cake at the open house for the public was her culminating activity.
4. **Reflecting:** This is when a student "steps outside of herself to view her work through the eyes of others" (Johnston, 2000, p.3). Student B received many compliments on her cake. In the end, she received a request from a customer who wanted her to make a wedding cake for her son's wedding.

5. Revisiting: Revisiting occurs when the student gains insights on what contributed to her success. Student B and Chef discussed Student B's techniques and how she can continued to improve.

The methods of intentional learning and intentional teaching are not linear processes. These steps can be used over and over by the learner and in any order. As of the date of this study, I realized that it will take more time for both teachers and students to become familiar with these terms and reflect on the metacognitive processes that they both used to enhance teaching and learning.

Student B used her learning patterns in the following ways:

Sequential: She used her sequential pattern by making sure she had many examples of the basket weave pattern. She asked the teacher for clear step-by-step directions. Finally, she practiced her basket weave pattern.

Precise: Student B used her precise pattern by ask questions and continually checking to see if her work was correct.

Technical: Student B applied what she learned in real life situations. She liked challenging projects with a goal to master the skill. She used her technical pattern when she demonstrated what she learned by making the basket weaves on the wedding cake in public.

Confluent: Student B used her creativity when she mixed the white, pink and lavender icing to make a basket weave with multiple colors. Her confluent patterns evidenced when she decorated the cake by making white flowers and a teal basket weave.

This represents a snap shot of the interactive processes that took place between Chef and Student B. The skills that Student B learned were an accumulation of academic and vocational skills framed by intentional teaching and intentional learning.

#### The Concept of Intentional Teaching

Chef used these intentional teaching tenets.

1. Values the learner first and the subject matter second: Chef demonstrated this by using the Learning Combination Inventory (LCI) as a set of lenses to learn about each student. The LCI helped her to see how each student preferred to learn the food service skills. This helped Chef to collaborate with the other teachers to develop specific strategies for learning the content matter.
2. Fosters trust between the learner and the teacher: One of the first ways to develop trust was to discuss the results of the LCI individually with the students. Throughout the year, Chef allowed Student B and the other students to experiment with their cooking techniques. Each experiment was used as a lesson to analyze what was successful and what was not. Mistakes became another lesson for learning rather than for criticism. The students then began to feel comfortable with trying new things.
3. Engage the students in recognizing how they use their own learning to explore, understand, and grow: Chef used the LCI information along with observations of the students' work to determine the preferred learning patterns of the students. She knew that Student B used the sequential pattern as one of her preferred

patterns. As a result, Chef provided a picture and a step-by-step process for making the basket weave patterns so that Student B could practice.

By using the process of intentional teaching Chef was able to give the responsibility for learning to the students. The students saw that Chef expected them to show her how they would accomplish a specific learning task. Chef provided guidelines, support, and encouragement, but she expected the students to demonstrate their efforts. Intentional teaching promoted many reciprocal processes as well as a healthy learner-teacher partnership.

Student B's Reflection on her experience with intentional learning.

She said, "I really did not know which area I wanted to specialize in when I first entered this class. Chef exposed us to so many things in the food service class. I thought this would be a cooking class, but you learn more than just cooking."

"How did you develop a liking for cake decorating?" I asked. Student B responded saying, "I always liked making all types of cake. Chef let me experiment with making different types of cakes for the restaurant. What really got my interest was when our class went to a culinary show in Atlantic City. I saw a lady decorate six cakes in one hour. She was very fast and good. That's when I decided I wanted to do that too. Chef told me that if you want to work in the casinos you have to learn to work fast. You have to be good too."

The Let Me Learn process and the Integration of Academic and Vocational Skills Model IV facilitated the growth of Chef and Student B. This was a developmental process in which the teacher and the student collaborated on maximizing the potential of

the student. The LCI results were one of the first set of lenses that the teacher used to learn about each student. From there Chef developed lesson plans so that the students could recognize and develop their learning strengths. At the same time, the importance of using the academic skills to strengthen the vocational concepts was also emphasized. Then she passed the responsibility of learning to the students. The students decided if they wanted to learn and excel in their vocational areas.

#### Analysis of Quotations from Other Student Participants

I reviewed the Let Me Learn protocols of the students in the food service to better understand their responses to the following question posed by Dr. Johnston's model (1996): How would you like to show the teacher what you know?

*Out of the mouths of learners (Johnston, 1996, p.47)*

These responses were analyzed to provide additional information about the interactive learning processes of the students. Under each statement I included the student's LCI score. The letter S represents the Sequential Pattern; P represents the Precise Pattern; T represents the Technical Pattern; and C represents the Confluent Pattern. A score ranging from 25-35 indicates "I use this pattern first"; 18-24 indicates "I use this as needed"; and 7-17 indicates "I avoid this pattern".

These are examples of what the learners said in order to demonstrate their learning. Their LCI score is indicated after each quotation.

Student D. "I always have a better idea than the teacher does, to do my work, all the time!" S=23, P=23, T=30, C=27. Student D led with the confluent pattern.

Student M. “Yes, I found out that I was sequential and technical. I even line my spices up in alphabetical order. S=30, P=24, T=29, C=25. Student M led with the sequential and technical patterns.

Student N. “Hands on over and over, it’s the only way to learn.” S=24, P=17, T=29, C=25. Student N led with the technical pattern.

Student H. “To show what I learned, I would do it. If I learned how to fix a car, I would show my learning by fixing a car. If I learned how to write a speech, I would show it by writing a speech.” S=26, P=27, T=26, C=30 Student H was comfortable using any of these patterns.

Student A. “Hands on! I hate taking tests. I don’t feel they are fair. A lot of people know what they are doing, but they can’t take the test.” S=25, P=21, T=29, C=23 Student A would rather demonstrate as a way of being assessed than take a test.

Student B. “I am an individualistic person. I would rather create a project than read or write about it.” S=28, P=21, T=31, C=24. Student B preferred using technical and confluent patterns.

Student K. “If you give me a book, I won’t learn a thing! Tell me what to do and show me. Then I can do it. S=22, P=21, T=24, C=27. Student K wanted to learn by watching a demonstration and then modeling it.

Student L. “I like to do it my way. I will learn to do it your way if I can see the relevancy in it. It has to be for a reason. I would demonstrate in a creative way what I can do.” S=31, P=21, T=29, C=29. Learning must be relevant for Student L.

Developing Intentional Learning

Student responses showed evidence that their learning preferences were served when Chef used the elements of intentional teaching. The teachers and I supported the learner during the implementation of intentional learning. What did this look like during classroom instruction?

We took the students' protocol and analyzed their responses. We wrote the four learning pattern headings on the poster board. Then, we listed student statements from their protocol that belonged under each pattern. For example, we took all of the statements that pertained to the sequential pattern and listed them on one column. We put the students score for that particular pattern under each statement. We did this for all four patterns. We used this data as a teaching tool to discuss the students' learning characteristics with him or her. We called this our Power Card. Therefore, this data had two purposes; (1) we used it as our Power Card/learning tool and (2) we used the data as a means of listening, clarifying and confirming the consistency of the student's responses on the LCI. This process was done for all Food Service and Health Occupations students.

The teachers and I reflected on the data. We realized that the concept of intentional teaching and intentional learning would take time. In order to continue supporting student progress, this data, defining student individualized learning patterns was copied and placed in the student's binder for the student's easy reference. We made a chart of the steps for intentional learning and intentional teaching. Finally, we reviewed the CD-Rom on the Let Me Learn process to solidify our learning.

The Chef and Sous Chef planned a three-week unit on Foods of the Middle East. This unit integrated academic and vocational skills. History, Geography, Mathematics, Reading, Writing and Culinary were all represented in this unit.

Students were arranged in teams and each team selected an activity to illustrate their learning about the foods of the Middle East. One team designed a bulletin board called “Sensational Sizzling Foods”. Another team compiled a recipe book called Food Services, the Profession with Good Taste. They selected recipes from different Middle Eastern cuisines. All of the teams participated in preparing food items. The Let Me Learn™ model along with the Integration of Academic and Vocational Skills Model IV aligned easily with the Food Service program. It is my contention that cooking is not a linear process. Johnston (1996) contends that learning is not a linear process. Rather, our mental processes operate in the turmoil of stirring, mixing, lumping, grating and constantly interacting. (p.18). This mental turmoil described by Johnston (1996) using the descriptors of stirring, mixing, lumping and grating are analogous to the act of cooking itself.

After completing the unit on Middle Eastern foods, I participated in the group discussion in led by Chef and Sous Chef on the Let Me Learn patterns used in the unit. Here is what the students brought forward about the patterns

Technical and confluent patterns were used for:

- Decorating the room
- Designing the bulletin boards
- Making a map of the Middle East

Precise, technical and confluent patterns were used for:

- Researching the spices and writing information about them
- Selecting recipes and designing the recipe book Food Service, the Profession with Good Taste

Sequential, precise, technical and confluent patterns were used for:

- Preparing the Tandoori chicken
- Preparing a Falafel, a hamburger from Israel.

By using the Let Me Learn model and the Integration of Academic Skills Model IV, opportunities were provided for the teaching of academic content such as Middle Eastern terms, reading recipes, history and mathematics. The Let Me Learn™ model promoted the students to choose how they were going to demonstrate what they learned about the academic material pertaining to the Middle Eastern Culture.

Some of the meta cognitive processes of intentional teaching emerged. Students **Mulled**, which means they were able to think about how they were going to demonstrate their learning about the Middle East. They also **Connected** because they were able to ask questions and review their previous learning about the Middle East. The students did a lot of **Rehearsing** through the processes of practicing their cooking skills as they refined their techniques. They **Expressed** what they had learned through the construction of bulletin boards, designing recipe books and preparing the meals.

The Let Me Learn™ process was important in this study because it provided a way for students to give their perspectives on how they learn. The students' voices told the teachers that students approach learning in different ways. The students' voices also

told the teachers that they might do a lot of damage if they tried to narrowly define the path and pace of learning. In summary, the use of the Let Me Learn™ model encouraged students to use their preferred learning patterns, to define their own path to successfully complete a task. It also provided a learning environment to permit students to have a voice in their learning assessment process.

The necessity for teachers to be open to new approaches to teaching and learning is brought to point here. “Teachers can no longer afford to be the Knight of the Order of Improved Test Scores. Their work instead, is to position themselves as guides over the panorama of learning that lies before each child. (Johnston, 2001).”

#### Integration of Academic and Vocational Skills

“There should be a joint effort between vocational and academic educators to bridge the gap between theoretical and practical education” (Adelman, 1998).

The teachers in this research study were interviewed to ascertain their perspectives on their role in the integration of academic and vocational skills. A standard interview protocol comprised of four questions was administered to each teacher. Each teacher was asked the same set of questions so that their responses to the questions could be compared (Babbie, 1995).

The four questions asked were:

- Q1. Are you familiar with the concept of integrating academic and vocational skills?
- Q2. What was your role in the integration process?
- Q3. In what ways did you integrate academic and vocational skills in your classroom or shop?

Q4. How did you collaborate with the teachers in this group to integrate academic and vocational skills?

Q5. How has the concept of integrating academic and vocational skills helped or hindered you?

The responses to the protocol were aggregated and analyzed. Then, they were condensed and are reported as follows:

Question 1: What did you know about the integration process?

T1. (Health Occupations) I did not know much about the integration process. At one point in our meetings we began talking about connecting what we were teaching in the shops with the academic classes here. I didn't really know what was being taught in the other classes. However, that was my point when we first started talking about this. I really feel that it makes sense to tie in what we are teaching in Food Service or the shops with the math and English. The students are in our shop for Food Service and then they go to math class. I mean really...we have the same students between us, we're in the same school but we're on two different paths.

T2. (Math) Last year the big push was to bring our curriculum in line with the Core Curriculum Content Standards. I remember checking my curriculum with the state curriculum to see if I had the required pieces. I'm still not pretty well with this now in our own group. I remember information from your presentation and the handouts you gave. I think that our getting together each week to talk about the academic concepts especially the math concept is great. I know more

about integration processes now because we have been discussing things together as to what it involves.

T3. (Chef) At first, I didn't know a lot about integrating both the academic and vocational skills. I am more familiar now because you explained the model to us in one of our meetings. It makes sense, but it is something that I had always tried to do I just didn't have a name for it. I've always taken time to go over the academic bookwork part of my shop. My students did not like the bookwork though. However, it was a necessary component.

T4. (Sous Chef) I was not really familiar with the integration process. I just thought it was my job to pretty much teach what was in the curriculum for my shop. When you gave the handout with the overhead to explain integration, then I was beginning to see what you were talking about.

Question 2: How did you view your role in the integration process?

T1. (Health Occupations) When we started this project I was not sure about my role in integrating the skills. I knew my own subject matter very well, but I didn't know how to go about explaining it to another teacher. After you explained the integration model, I understood it to be a process of working with the academic teachers to highlight the academic components of our shop curriculum. I saw it as a way of linking our curriculum together... So at that time

I felt my role was to learn from the other teachers how I could teach the academic parts of my curriculum in a better way.

T2. (Math) My role as the only academic teacher in this group was a changing role for me. As we continued with our meetings, it hit me that I was teaching Math to the students based on what I felt was best for them. I was very comfortable with the “stand and deliver” method of teaching. I had my curriculum and I determined what I was going to teach and how I was going to teach. I had been here for five years and this is the first year that I am working with the shop teachers to see what we can do together for the students. This is just so neat working with the other teachers and discussing integrating the math with Food Service and Health Occupations...Believe me, I have learned a lot about each area. I realized that I didn't know very much...I had to go to the shop teachers with my hat in my hand and I had to work with them. There was so much to learn in each shop. I began to realize that my approach toward teaching using the pretest results was really just a start. I had to then go into the shops to see what skills the shop teacher wanted me to work on. I had to keep those concepts in mind. When you're working with other teachers then it's not about what you think is best...

T3. (Chef) My role was to learn as much as possible about the other shops and what they were teaching so that I could help our students. I really know the culinary trade, but I am no whiz at math. The students are surprised that we have Food Service books with all kinds of activities in them. Food Service does have a

little bit of everything in it. Food Service has math, language, history, reading and geography. I guess the major academic element is math. I also shared some of the students' work with the other teachers. To me this helped us all to see that the skills taught in one class could be taught in other classes too. It was very important to meet, discuss and share.

T4. (Sous Chef) I viewed my role in this project in many different ways. First, I saw myself as a teacher. Even though I am by training an Executive Chef, I knew my role was to teach the students what I knew about culinary. I realized that every topic in Culinary Arts had an academic component. There are some subjects in Food Service that are easier to teach than others. The Sanitation unit with the thermometer reading was one of my tougher areas. I really needed help on that area. As we began meeting with the other teachers, I began to learn from them as well. We started off by sharing skill competency lists from our shops. This was a way of familiarizing ourselves with the academic and vocational expectations of each shop. My role was changing back and forth. Sometimes I was the teacher working with my students on a particular concept. In other instances I was a teacher to the other teachers in my group. We were open to having each other come into our shops and observe what we were doing. When I went into the other shops then I became the learner. I learned from the other teachers. In the end, I realized that we all wanted the same thing. We wanted to strengthen our program by making sure our academic and vocational classes supported each other.

Question 3: In what ways did you integrate academic and vocational skills in your shop or classroom?

T1. (Health Occupations) One of the most important things that we did as a group was to share copies of our Skills Transcript lists. Each shop has a list of required skills that each student must master individually. The mastery of these skills or concepts is recorded and dated depending on the pace of each student. After discussing our transcript of skills among ourselves we decided to do a group project. The group project would include the students in Health Occupations and Food Services working on one unit. We then decided on the concepts that each class would cover. Each class would then present their information to the other students. Chef, Sous Chef and I decided to do a unit on food borne illnesses. This topic connected the health issues around food preparation, which interested my Health Occupations students. On the other hand, this topic interested the Food Service students as well.

T2. (Math) I really didn't know where to start. I was the only math teacher and I was working with two groups of students. One group was in Health Occupations and the other group was in Food Service. Since this was our first try at combining the academic and vocational skills we decided to do a group project with the students. We decided to do a unit on food borne illnesses. I was real excited about the unit approach. This allowed me to work with both groups of students and teach the same skills. After some discussion with both of the teachers, we mutually agreed that I would teach the concept of temperature and bacterial

growth. I would teach thermometer reading. I also infused the concept of multiplication to demonstrate how bacteria could grow from 1 cell to 100's of cells in a matter of hours. I enjoyed teaching math in this way. I always wanted the students to see how math concepts are a part of everything. This takes the mystery out of math for the students when they can actually see how math is used in everyday applications.

T3. (Chef) I think that the contents of the Food Service curriculum already include many academic and vocational concepts. I have been working closely with Mrs. S, the math teacher this year. In fact, she comes in my class every Wednesday at 12:15 to work with a group of students. Right now she is helping me with demonstrating and using the different types of thermometers used in Food Services. We have been talking about concepts such as checking the temperatures of foods when we first receive them from the supplier's truck. They have to know which thermometers to use and what the acceptable temperatures are. Mrs. S has been a tremendous help in this area.

T4. (Sous Chef) I am the Sous Chef so my role was to work closely with the Chef. I worked with a small group of students who were doing several things with the Food Borne Illness unit. We are devising a checklist to be used in the Tiger's Den with ways to prevent food borne illnesses when preparing food. Also, my group will present a bulletin board on potentially hazardous foods such as tofu, shellfish, etc. They will discuss each food item and why it is potentially hazardous.

Question 4. In what ways did you collaborate with the other teachers to integrate academic and vocational skills in your classroom?

T1. (Health Occupations) It was my job to teach all of the students about the different kinds of bacteria. This was part of our Food Borne Illness unit. I looked at the chapters on bacteria in the Food Services book as well as the Health Occupation textbook. As a lesson, I reviewed some the names of the bacteria with the students. The lesson did not go well. I went to Chef and I told her, “They are not getting this!” The names of the bacteria are too scientific and they are just not getting this. We then decided that we would look for other ways to teach the information on bacteria. I searched through some of the supplementary materials and found some cartoon representations of the different bacteria along with simplified definitions. I shared these with Chef and we agreed to use these materials instead.

We also reviewed the Let Me Learn™ patterns of the students. We summarized that we would let the students demonstrate to us what they had learned at the end of this unit. An example of the cartoon representation that we used was “Cocky E. Coli.” He stood for the bacterium named Escherichia Coli. So you can see why the students were not getting this! The cartoons were a much better way to present the materials. After we studied the bacteria, I had the students demonstrate to me what they had learned. Some of them presented posters or a skit or a short paragraph to show what they had learned about the bacteria. Using the students’ Let Me Learn™ patterns helped me to see that this group would not be interested

in reading and writing about bacteria. Instead the group made their own learning devices to demonstrate what they had learned.

T2. (Math) We did a lot of collaborating during our meetings. We even had extra meetings because there was so much to talk about and learn. When we did the Food Borne Illness unit I learned a lot about thermometers. I thought that there was only one type of thermometer for cooking and I found out that I was wrong. Chef introduced me to the “Thermistor” and “Thermocouple” thermometers.

These thermometers measure temperatures through a metal probe.

All types of food items can be monitored. These were great for use with the students because they gave a digital readout. This was a lot easier to read than the old fashioned kind of thermometer. This was an exciting experience for me because I learned so much about the proper tools and the proper temperatures for food. I really think the best way to teach academics is to use hands on applications.

T3. (Chef) I collaborated with the math teacher by asking her to teach my students how to use and read the different thermometers. We reviewed the Let Me Learn™ pattern of the students and decided that a “hands on approach” would work best with this group.

I loaned her the textbook and the materials so that she could come up with the best way she wanted to teach the concepts. She had the students engaged in a lot of practice with the thermometers by immersing the probes in all types of foods. The students seemed to enjoy that approach. The health occupations students did

not know that there were so many types of thermometers that could be used for cooking. This was good for everyone.

T4. (Sous Chef) I continued working with the students to develop a checklist that we could use in the Tiger's Den. One checklist was for receiving whole fresh chickens from the suppliers. We listed the criteria for accepting the order or rejecting the order. I met with Chef to get some ideas on how to teach this part of the unit. She said that we should continue with developing the checklist.

Some things that the students put on the "accept list" was that the chicken should be shipped in ice and be free of discoloration and odor. When an order came in we each took turns evaluating the fresh chickens. It made more sense to do this activity then to read about receiving fresh chickens. The students like to be involved. I will also talk to Chef and see if she thinks it is a good idea to invite the Cumberland County Board of Health to give our students a mock tour of what the board looks for when they go to an eating facility.

Question 5: How has the concept of integrating academic and vocational skills helped or hindered you as a teacher?

T1. (Health Occupations) I really understand the importance of integrating the academic subject. I always had math concepts in Health Occupations. We had to have some understanding of reading numbers for all types of reasons. We had to be able to read and understand the concept of blood pressure, pulse rates, thermometer reading and so on. I was exposed to a new way of teaching some of the topics when I worked with the math teacher. I would introduce a topic and the

math teacher would follow up to explain how to calculate the pulse rate. This gave the students another explanation on the same topic. I am learning a lot this year. The only problem is the time it takes to work together and plan. There is just not enough time...

T2. (Math) I have really learned what content areas are being taught to the students in Health Occupations and Food Service. I have the same textbooks that they have. I then had to look for ways to teach the math components. I actually had to get some worksheets on teaching fractions and decimals because this was covered in their shop. I think that my own perspective is becoming more integrated. I now think about ways to make math work in Food Service or Health Occupations. The important thing is to teach the math using the hands on applications approach. The manipulative in the shops are a great help.

T3. (Chef) I am realizing how important it is to spend time together to prepare what we are going to teach. The unit approach is the best way to go when you want to bring in the other teachers. We did a good job with the Food Borne Illnesses unit but the time that it involved was more than I imagined it to be. I was even doing things at home in order to be ready for the next day. I think that we're all learning from each other, but it takes a lot of preparation when you team-teach.

T4 (Sous Chef) I was always aware of the fact that we had academic concepts embedded in our Food Service curriculum. We had terminology for everything for preparing meats, for setting tables, for anything that we do in the Food

Services. I think it's good to have another person emphasize those skills like the math teacher does. Using the integration model helped us to be more aware of the importance of academic concepts that were important for vocational success. The Let Me Learn™ process helped me and the students decide on how we would show what we had learned.

#### Findings about the Integration of Academic and Vocational Skills Model IV

The following findings emerged from an analysis of the interview data.

##### *Finding 1*

- The teachers were not clear about the specifics of the integration of academic and vocational skills processes.

##### *Finding 2*

- The teachers experienced several role changes as they implemented the Integration of Academic and Vocational Skills Model IV.

##### *Finding 3*

- Through the processes of integration the teachers were able to develop new instructional practices.

##### *Finding 4*

- As a result of the implementation of the Integration of Academic and Vocational Skills Model IV, the teachers were able to establish collaborative practices.

## Meanings of the Findings

### Finding 1

The teachers were not clear about the specifics of the integration of academic and vocational skills processes.

After going over the Integration of Academic Skills and Vocational Skills Model IV with the teachers, I gave them a handout with the elements of the model typed up. I emphasized that our goal was that the academic and vocational teachers would integrate academic and vocational concepts into their lesson plans. Our aim was to connect and strengthen the concepts being taught. Therefore, the teachers in each discipline would meet and decide how they would begin the process of integration. The following is the content in the handout given to the teachers about the integration model.

#### Integration of Academic and Vocational Skills Model IV

- Both academic and vocational classes are modified and coordinated to integrate academic and vocational skills.
- Collaboration among teachers is a requisite.
- Academic and vocational classes can be offered sequentially so that they reinforce each other.
- Curricula are developed locally.

The elements of the vocational skills model were taken from Grubb, W. N., Davis, G., Lum, J., Plihal, J., & Morgaine, C. (1991).

The process of integration was new to the teachers. In our presentation to the school board in February, the child study team discussed the concept of integrating

academic and vocational skills. The teachers had previously heard the presentation and the terminology about the integration of academic and vocational skills. However, they had not experienced the processes of integration. The concept was brand new to the school board.

All of the teachers in this study stated that they were not familiar with the concepts of integration before we started the formal introduction to the Integration of Academic and Vocational Skills Model IV, too. None of the teachers were familiar with what to do, but they were willing to adopt the model to fit their needs. One teacher felt that she had been doing a form of integration in her shop, but she just didn't know it at that time. "I've always tried to do it. I just didn't have a name for it."

Thus, the integration process began in stages. The initial stages were nurtured with the collaborative relationships we were building as a result of our weekly meetings. Looking back at the components of the integration model, one of the criteria for the integration process was that of collaboration. Through collaboration, the integration of academic and vocational skills was facilitated.

#### Finding 2

The teachers experienced several role changes as they implemented the integration model. When we first started the integration processes, the teachers were not sure about their role. The teachers viewed themselves as the experts of their particular disciplines. They were not knowledgeable about what was being taught in the other shops and classrooms. As a result of implementing the integration model, the teachers moved out of isolation and into collaboration. By meeting, discussing and planning the

teachers' roles changed from being expert teacher to being an expert learner. The teachers became learners about the other program through planning together and sharing information about their classes. All of the teachers stated they had learned about some of the concepts being taught in the other shops. They started off with sharing the skills transcript lists from each shop. The integration process continued to the stage of going into each other's shops and coordinating instruction through the unit plan. By interacting within these four activities, the teachers were expanding their roles.

As teachers started to learn more about the processes of integration and more about each other, they became more interested and open minded about what was going on in the other shops. They then began to realize the importance of working together to improve the instruction that they were giving to their students. Thus their rolls had expanded from expert teacher to learner and even to team member. The teachers were becoming a team in which they were very willing to share and support each other.

### Finding 3

Through the processes of integration the teachers were able to develop new instructional practices. Some of the instructional processes that were gleaned from the field notes and the interview were surprising. I began to see the inter weaving of the Let Me Learn Model and the Integration of Academic Skills Model IV expressed in the teachers' lessons plans. They were using both models to facilitate their work in the classrooms. Some of the instructional practices that emerged were:

- The teachers moved from isolated work to collaborated work. Team teaching was initiated when the Math teacher went into the Health Occupations class and

taught the Math concepts of decimals and fractions and how it related to reading a thermometer. She also taught concepts of temperature reading in the Food Services class as well. The teachers were forming instructional teams.

- The teachers utilized the unit approach to bridge the concepts of Health Occupations, Math and Food Services. They found some of the common elements that could be emphasized. Some of the common elements were the academic elements such as learning terminology, mathematical concepts.
- The strongest potential contribution of vocational education to academic education is the teaching methods used in vocational education. These methods include teaching and learning in cooperative, problems solving peer groups and in “hands on” situations rather than in a purely intellectual exercise (Plihah, Johnson, Morgaine & Liang, 1992).

#### Finding 4.

Central to collaborative practices was the element of teacher teamwork. Working together as instructional teams allowed the teachers to determine what they could do to support each other as they visited each classroom. An important collaborative practice was the practice of planning. The teachers worked well in planning together what they wanted to accomplish in their classrooms. The planning phase became a very important component because this process helped the teachers to become familiar with what was being taught in the different classrooms.

Another important collaborative practice was the process of sharing information about the different disciplines. The elements of inquiry and discussion provided ways for

the teachers to learn the language of a particular discipline and to have a more robust framework for understanding the different disciplines before they embarked on coordinating instruction. After we had taken the Learning Combination Inventory (1996) we saw and discussed our individual differences and similarities as learners. Thus, we had a mechanism to bring our diverse thoughts about teaching together. Taking time to learn about each other became another essential practice. The Learning Combination Inventory results provided an excellent springboard for the teachers to collaboratively develop strategies for implementing the two educational models in their classrooms. Even though they were teaching in different shops and classrooms, the teachers decided they would use all the same strategies they had developed together in their classrooms and shops. Table 4. presents a snapshot of the teacher study group's learning patterns. In addition, the teacher study group developed strategies for each of the learning patterns. These strategies were put on posters and placed in each of the classrooms and shops. Thus, the group processes had begun.

Table 4.

### The Teacher Study Group's Let Me Learn™ Patterns

Participants	Sequential	Precise	Technical	Confluent
Chef	20	22	34	30
Sous-Chef	28	27	34	30
Health/Occ. Teacher	23	22	25	26
Math Teacher	24	22	26	30
Learning Consultant	26	33	21	19

The Learning Combination Inventory (LCI,1996) scores depicted in Table 1. showed that 90% of our study group used the technical learning pattern first as a leading pattern. The use of the confluent learning pattern was also used by 90% of the study group in combination with the technical pattern. The sequential learning pattern was ranked third as a leading pattern. The precise learning pattern was ranked last as a leading pattern used to complete a specific task.

The implications for me as the researcher and leader of the group were that this group of teachers preferred that this professional development process start at the “concrete, hands-on, let’s figure this out level” as discussed by Dr. Johnston in her book (Johnston,1998,p.30). The group asked questions such as, “How am I going to use this?” “What good is this going to do me?” “Is this going to be relevant to my teaching?” In addition, the group was fond of using their confluent learning pattern first. This indicated they wanted to have fun with the possibilities of using the educational models in many

different ways. They expressed to me that I should let them freely associate this learning experience with different ways to teach their subject matter.

On the other hand, my leading patterns were in the precise and sequential learning patterns respectively. I felt that our patterns actually complimented each other and we would be a very productive group. We spent several sessions discussing our patterns. Our productive work began immediately by building a profile chart of our patterns and posting them in the classroom for our students to see as well.

After formulating our mission and vision statements, our next meeting began the process of collaborating for the purpose of implementing the two educational models. In order to make the learning models more relevant to the teachers in the study group, the teachers decided to develop instructional strategies for each pattern. Here is a summary of the teaching strategies developed for each pattern by the teachers in a collaborative way.

*Figure 4.* Teaching strategies for the Confluent learner.

- Be open to their point of view
- Don't kill their spirit
- Say..."Try it this way( the teacher's way) and then try it your way and see what you come up with."
- Give them " liberty to be me"
- Say , "this is what I want and however you get there is fine with me."

The teachers emphasized as they were developing the strategies for the Confluent learner that there should be plenty of models, hands-on examples, and pictures of the end product on hand for the students to see. The Confluent learner likes to use their own creativity in completing the assignments. Let the students know there are many different ways to complete the work and they are free to develop their methods for completing the work as depicted in Figure 4. This is the strength of the Confluent learner.

The teachers then developed strategies for the Sequential learner. After much discussion this is what they agreed to be the major strategies for the patterns.

*Figure 5.* Teaching strategies for the Sequential learner.

- Give all of the directions
- Give all of the steps
- Give the goals of the assignments
- Give the students: (a) a syllabus,(b) an advanced organizer,(c) an agenda, etc.
- Direct them by saying, “Today we will cover x, y,& z, in chapter such and such...

Sequential learners like to learn in an organized manner. Direct them to “read these pages..., write this down..., and look for this on the test.” A summary of the

strategies developed jointly by the teacher study group is shown in Figure 5. All patterns were illustrated on large 24x24 posters.

Each week a different poster was developed and hung in the classrooms. The student had opportunities to visualize and see the teachers using these patterns to teach their lessons. These posters were great for review and emphasis of the patterns.

The following week the teachers developed strategies for the Technical Learners. A summary of their strategies is shown in the next illustration.

*Figure 6.* Teaching strategies for the Technical learner.

- “Do” the assignment with the student as opposed to “telling”
- Demonstrate! Demonstrate! Demonstrate!
- Talk and walk the student through the activity/task
- Allow the independent thinking side of the learner to work independently and comfortably in his/her environment
- Let the student talk the instructor through the task
- Give a project and let the technical learner give you proof of knowledge in a visual way or any manner that demonstrates his/her learning
- Teach to the forte of the technical learner

The Technical learner learns best by doing the project. This type of learner learns best by having an example, a model or a vision of what the end product will be. He should then be allowed to come up with the desired result in his own way. The Technical learner needs other ways to learn the information other than just reading about it. Figure 6 summarizes that the Technical learner likes to get fully involved in the learning experience.

The Precise learner was the last pattern the teachers developed strategies for. The Precise learner likes to gather as much information as possible before beginning their work. They like to demonstrate their knowledge by giving lots of detailed information about the specific task. They like to be given time to complete their work in a thorough manner. The study group's teaching strategies are shown below in Figure 7.

*Figure 7.* Teaching strategies for the Precise learner.

- Use syllabi and advanced organizers so that students know exactly what will be covered
- Allow time for research on topic via computer, encyclopedia and other references
- Give the Precise learner an opportunity/time to discuss what he/she knows about a specific topic
- Answer questions about topics covered on the tests, grading systems, what is expected of teacher for quality work
- Don't change directions in the middle of assignments
- Teach them team work

Through the use of the Learning Combination Inventory (LCI) the teachers were able to learn about each other's leading learning patterns. They then went on to develop strategies for teaching their students according to the students' learning patterns. By collaborating more with each other they were able to change their instructional practices. The teachers felt it was necessary to lay a firm foundation with the two models before they began implementing them with their students. One lesson plan they developed demonstrated how the teachers integrated the vocational and academic concepts with the concepts of Let Me Learn™. All teachers had a unit on employment success. They came up with a lesson they could all use called "Ingredients for success using Let Me Learn.™" The students were to choose one or more of the ingredients and demonstrate how they would portray, illustrate, or enact the ingredients for success with a learning pattern. Figure 8 illustrates how the Let Me Learn™ model and the vocational model are tied together for use in the vocational setting and classroom.

*Figure 8. Job success and Let Me Learn™.*

Ingredient	Pattern(s)
1.Successful Worker	Sequential, Precise, Technical, Confluent
2.Be Prompt	Sequential, Precise
3.Take Initiative and Responsibility	Confluent, Technical, Precise, Sequential
4.FollowInstructions	Precise Sequential
5.Suggests Improvements	Confluent

The theme of this activity is that you can use many of these patterns to be successful.

## Chapter 6

### Leadership Study

Leadership is the process of perceiving when change is needed and influencing the group by such noncoercive means as persuasion and example in its efforts toward goal setting and goal achievement (National Center for Research in Vocational Education, 1993).

This conception of a leader's role as posited by the National Center for Research in Vocational Education (NCRVE) was essentially one of facilitating the group processes and empowering group members through the use of consultation and persuasion. My conception of a leader's role was demonstrated through the use of transformational leadership that facilitated the purposes of the group. This was done by helping the group members develop their own visions and initiatives as well as helping them to develop ways to implement and accomplish those visions. I also used the processes of consultation, collaboration and active participation as components of my leadership behavior.

I used selected elements of Kenneth Leithwood's (1998) transformation leadership model to examine my implementation of the Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV (1991) in a technical setting. Leithwood's model was also used to determine if my leadership affected changes in pedagogical practices in selected shops and classrooms at CCTEC. Leadership processes selected from the Leithwood model were:

- Articulate and build a vision collaboratively
- Provide individualized support
- Provide intellectual stimulation
- Promote collaboration
- Foster teacher development

In examining my leadership I posed the following question, "How did my transformational leadership facilitate change in selected shops and classrooms at the CCTEC through the implementation of the Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV?"

A method of interpretational analysis was used to examine the leadership study data for outcomes and meanings that could be used to describe the leadership processes as well as the participants' interactions and experiences as they were influenced by my leadership in the implementation of the two models (Gall, Borg & Gall, 1996, p.562). I wrote structured summaries or meanings to describe the relationships between the outcomes and meanings that emerged from the leadership data. These structured summaries were written to correlate with the five leadership processes selected from the Leithwood (1998) model. The sources for my data analysis were my field notes, artifacts and the results of the Leadership Effectiveness Index (LEI) (1988, 1993).

The Leadership Effectiveness Index (1988, 1993) was given in September 2001, and again in March 2002 to the teachers in the study group. I filled one out, too. This instrument was given twice during the study to measure any change in my leadership performance over a specific period of time. The four instructors and I completed the LEI

at the same time. A professional in my school administered and scored the instrument thus hoping to eliminate any chance of bias on my part. The results were shared with me afterwards. All protocols were coded with numerals instead of teacher names to ensure anonymity. I re-analyzed the data to determine my leadership growth and to glean outcomes and meanings from a comparison of the results.

#### Analysis of the Leadership Effectiveness Index Results

The LEI results were analyzed according to the following topics that framed the questions on the questionnaire. The topics were: (1) inspire a shared vision and establish standards that help the organization achieve its next stage of development; (2) foster unity, collaboration, and ownership, and recognize individual and team contributions; (3) exercise power effectively and empower others to act; (4) exert influence outside of the organization; (5) establish an environment conducive to learning; (6) satisfy the job related needs of the members of the organization as individuals and (7) overall effectiveness of the leader's performance. There were a total of seven questions and the respondents were also told to add comments as well. The respondents rated each of the questions with a six-point response scale that followed each question. The scale was as follows: (1) Not effective; (2) Slightly effective; (3) Somewhat effective; (4) Effective; (5) Very effective; (6) Extremely effective. Not Applicable was also permitted with a score of 0. The individual ratings were aggregated and averaged for each question for an overall representation of my leadership. The responses were delineated as teacher responses (T) and my responses (MR). The teacher responses were compared with my responses to determine patterns, themes and meanings about my leadership performance.

An analysis of the individual teacher responses was first depicted on a chart to get a better view of the results, from the pretest given in September 2001. Patterns, themes, and meanings were derived from the pretest data. Second, an analysis of the individual teacher response from the posttest data of March 2002 was illustrated on a chart. Outcomes and meanings were derived from this data as well. An overall summary and reflection was given to interpret the impact of my leadership as illustrated by the LEI results. Third, an analysis of the patterns, themes, and meanings derived from my field notes was also incorporated in the patterns, themes, and meanings derived from the LEI. The field notes were incorporated to corroborate the results of the LEI. In addition, the field notes were also used to show commonalities and differences when compared with the LEI results.

#### An Analysis of the Leadership Effectiveness Index Ratings: September 2001

Statement 1: Inspires a shared vision; defines reality in the larger context.

##### Results

Teachers 1, 2, and 4, gave me a rating of 4 indicating that I was Effective in the concept of inspiring a shared vision. Teacher 3 gave me a rating of 5 or Very Effective in inspiring a shared vision. My response on this question was also a 5 or Very Effective in the concept of inspiring a shared vision.

Leithwood (1998) believes this leadership practice of inspiring a shared vision entails a leader to assist his or her colleagues in identifying and articulating a vision. Inspiring a vision also means to identify new opportunities for the organization while at the same time help developing, articulating and inspiring others with an achievable vision

of the future. Looking at all of the responses to this question, there appears to be an alignment among all of the respondents in reference to my leadership in inspiring and defining the vision in a way that was Effective or Very Effective.

## Discussion

In February 2001, my child study team and I made a presentation to the CCTEC school board explaining our vision that emphasized the linkage of academic and vocational skills. Our goal was to get others in the organization to think of the possibilities of making learning more meaningful for the students. We asked the members of the board and all those attending if they thought it possible to identify and support the academic skills needed to be successful in the vocational shops. We did not know if it was possible to identify skills, but we were at least thinking about it. At that point, I was defining another and perhaps better reality for the teachers and the students. The idea was to get people thinking about other possibilities and realities for CCTEC. Based on an environmental scan, I explained that there was no clear linkage of academic and vocational skills or curricula that could be determined at that time.

In September 2001 I began meeting with a volunteer study group to introduce them to the Let Me Learn™ model. During one of our meetings, the Health Occupations instructor, the Chef, the Sous Chef, and the math teacher had just completed a discussion about their individual programs and the competencies required of the students. At one point in the meeting the Sous Chef spoke up saying, “It really would make sense if what we are teaching in math or any of the academics could be tied in with what the students are learning in their shops (Field notes, September 2001).

This was the beginning seed of our shared vision. Our shared vision was to improve our teaching practices using the concepts of the Let Me Learn Model™. This model provided the structure for teaching the academic and vocational concepts needed for success in each shop. After several more meetings we agreed to implement the Integration of Academic and Vocational Skills Model IV. This model helped to answer the Sous Chef's question about linking the academic and shop curricula. This integration model helped us delineate the academic concepts and the vocational concepts. The Integration of Academic and Vocational Skills Model IV specified what to teach while the Let Me Learn Model™ specified how to teach those concepts. See Figure 9, on the next page of this document.

*Figure 9. Implementation of the Educational Models.*

At the same time, we were still in the stage in which we were designing a vision. The responses to this question told me that we were beginning to articulate and build our vision as a group. We knew that we wanted to implement the two educational models. As a transformational leader, my role was to help clarify the group's vision and to assist in finding ways to implement our vision. Based on the total responses to this statement, it

is reasonable to assume that I was effective in assisting the teachers in my study group to articulate and build a vision.

Statement 2: Fosters collaboration, sets a positive tone, nurtures the skills of the group members.

### Results

The teachers and I were unanimous in the evaluation of my collaborative skills. I received a rating of 5 or Very Effective on the tenet of collaboration and setting a positive tone. Collaboration can be defined as the cooperation of equals who voluntarily share decision-making and work toward common goals (Friend and Cook, 1990).

In September, the Let Me Learn™ model was introduced to the group. After I introduced the Let Me Learn™ model to our group, my collaboration process began with a cooperative sharing of our collective stories about our individual school experiences. For example, the Sous Chef brought his experience forward when he explained, “When I was in school everything was taught in a linear and sequential format. I had a real hard time with that because I was not that type of learner. I loved to do experiments and come up with the answers in my way. I just could not use reading as a way to find the answers that the teachers wanted (September 2001, field notes).”

Subsequently, all members of the group gave examples of their school experiences that influenced their learning. The Math teacher explained, “A lot of my math experiences were by rote learning and memory. Also, I took math courses in high school so that I could get into college. Sometimes I had a bad teacher and if he did not get the concepts across, then I was just stuck. I had to struggle. There wasn’t a second

thought given in reference to how I learned or how I preferred to learn (September 2001, field notes).

### Discussion

Through the process of cooperative sharing of our experiences, I was able to build an environment of mutual support and professional acceptance of the experiences and the expertise that each teacher brought to the group. One of the most important elements was the desire for continuous learning about our students and ourselves. Second, as a transformational leader, it was important to plant a seed to establish an atmosphere of openness where we could discuss our uncertainties and to help each other and work toward finding shared solutions. This was a crucial element that became the foundation for building the collaboration process. In terms of being a transformational leader, I used the process of collaboration as a means to change and alter the patterns of interaction among the teachers in our group. We were beginning to move away from isolation and professional autonomy to collaboration and professional collegiality.

I was also changing our principal's interaction patterns with the teachers and myself. After experiencing an invitation to one of our luncheons, the principal offered to sponsor our lunch meetings. This opened the door for the teachers to get together over a free lunch and to engage in collaborative planning and sharing of information. He also attended several meetings during the study.

Furthermore, my collaborative processes had begun to bring about changes in the way that the study group interacted with each other and me. New ways of engaging in

our roles emerged. This was the beginning of new role changes that continued throughout this study and beyond this study. Thus, by providing a model of professional cooperation, I was also promoting the practice of collaboration.

Statement 3: Exercises power effectively, facilitates change, and shares authority.

#### Results

Teachers 1 and 2 rated me as 4 or Effective in this area. Teachers 3 and 4 rated me as 5 or Very Effective in this area. My response was a rating of 5 or Very Effective in this area. The range of responses was from Effective to Very Effective in the perception of how I used power.

#### Discussion

I used my power and political strategies in a dynamic way in order to raise awareness for the need to change the way academic and vocational instruction was being delivered. Understandings gained from the literature informed me that the way in which leaders manage the political milieu is critical to school success (Fullan, 1990, 1996; Bolman and Deal, 1991; Telford, 1996). Here is a snapshot of how I used power and political strategies to craft the vision about the integration of academic and vocational skills concept.

Nanus (1992) described a vision as a realistic, credible, attractive future for an organization (p.8). He explained that visions clarify purpose and direction. My vision for the concept of integration of academic and vocational skills came in December 2000. I had just completed reading a summary of the board meeting minutes for December. I

was amazed to read that a recommendation had come forth from the administration to eliminate academic programs such as English, mathematics, history and science and offer only vocational courses.

I voiced my concerns to my fellow child study team members and also discussed this matter with some of the instructors in academic and vocational areas. Later that week, I spoke briefly with our superintendent. He summarized that the reason for the recommendation of eliminating the academic programs was because of the impact of the Core Curriculum Content Standards and the cost factor of implementing the standards. He explained, "We're a technical school and this is what we do best." I agreed, but I explained that other technical schools were integrating the academics through strategies such as curriculum alignments and also through the concept of career academics.

I offered to do some research on the integration concept. I also offered to do a presentation for the board. He granted my requests. I garnered the support of my child study team members and they agreed to join me. I offered to do the research for the presentation. The other members worked on the PowerPoint presentation. I suggested we call some of the guidance counselors and child study team members from the sending districts to let them know about the board's recommendation to eliminate the academic programs.

Many of them offered to send a letter of support for the program. We also asked the sending districts that supported our position permission to use their statements in our PowerPoint presentation. We stipulated that we would only use the name of the district and not the name of any individual who wrote letters of support. To our surprise, we had

many letters of support for the academic programs. Our presentation was set for February 2001 board meeting. My role at this time was that of a change strategist. A change strategist is responsible for identifying the need for change and creating a vision of a desired outcome (Kanter, Stein, & Jick, 1992, p. 377).

Upon reflection, I can see that there were many political processes at play surrounding the vision of integrating academic and vocational skills. First of all, I understood that political processes are a part of everyday school life. My political process was the practice of talking with many people about the integration concept before, during, and after the presentation.

I wanted to know how teachers, child study team members and even administrators felt about this issue. I was open and honest in presenting my views. I believe that is why the superintendent granted my request to present to the board. I fostered active participation of as many constituents of the school community as possible.

I thought it necessary to seek advice from our union president. I spoke with other union members outside of the CCTEC community. I provided a vehicle for a variety of educational representatives in the vocational technical field of education to express their views to me in a safe and positive way. As I gathered their thoughts and opinions, I documented them in my field notes. In turn, they discussed these ideas with each other.

I did everything I could to make sure that my child study team was well prepared for the board meeting. I did the research for the presentation. Another team member did the technical aspects of the power point. All members of the child study team spoke

during the presentation. This was an example of sharing the power and the glory during the presentation. In the end, we were prepared to accept the board's decision.

The next day there were many positive responses from my peers at CCTEC. One teacher sent me an email that said, "Debbie you are a star. Your presentation was great!" The Teacher's Union President was quoted in the Bridgeton Evening Newspaper as saying; "We've never had a presentation like that. It was very well done and it showed everyone that there were options" (Bridgeton Evening Newspaper, February 2001).

I believe that the teachers in my study group gave me a rating of Very Effective because they viewed me using power and the political processes in a positive way. I shared the power with others and I provided opportunities for others to make decisions in respect to the issues at hand, which was the integration concept of academic and vocational skills.

Statement 4: Exerts influence outside of the organization, builds coalitions, and advocates for the members.

#### Results

All of the teachers gave me a rating of 4 or Effective on exerting influence outside of the organization. My response was a 5 or Very Effective in reference to this leadership behavior.

#### Discussion

The teachers in the study at the time of this survey were not aware of my outside activities or of the influence I had with my colleagues; other child study teams from other districts. The teachers at CCTEC knew of my presentation to the board the previous

February. Many of them were at the presentation. They saw how the child study team and I were received by the board. We were given as much time as needed to give our presentation and questions were asked by the board members in a respectful manner about specific points in our presentation. The CCTEC teachers saw how the child study team and I conducted our presentation. Having seen us in action, I believe their rating of Effective in this area was a result of their observations.

They saw how I shared the authority for presenting the information with my fellow child study team members. They also saw how I showed respect for and valued the board's point of view. The members of our board were professionals from every walk of life in Cumberland County. By presenting to the board our viewpoints in a well-documented format, we were able to demonstrate to our peers how we could exert influence outside of the organization. It is my belief that this is why the teachers felt that I was able to exert influence outside of the organization. After the presentation, we received many positive remarks from our peers.

In addition to observing the influence I was having on the board, they could see that I was also able to garner a statement of support from other guidance counselors and child study team members throughout Cumberland County. We even began the presentation with statements of support for the program from the sending districts. Some of them were as follows, "Many of our students are not at a level academically and socially to cope with a large high school with many classes geared for the college bound students. The vocational school offers a wonderful option for students to get their academics and vocational training with less pressure." (Millville Child Study Team)

A Cumberland Regional High School Child Study team member wrote, “Your academic program has enabled students to pursue a high school diploma in a small, structured environment, which fosters academic programs and increases self-esteem (February 2001).”

These statements were extracted from the letters of support that were sent to us from other child study teams and guidance counselors.

Looking back through my field notes and reviewing the collective responses of the teachers on the LEI, I was able to see why the teachers viewed me as being Effective in being able to build coalitions and exert influence outside of the organization. My presentation to the board was a model of how to use political processes to champion one’s vision.

Politically, I used my influence to build a coalition between our child study team and the county child study teams in a constructive way to advance my vision of promoting the integration of academic and vocational skills. Our presentation to the board provided a forum for everyone to express their opinions about the issues at hand. Secondly, after the board presentation, our child study team reflected upon what happened and we felt that we were given an opportunity for a fair hearing.

Statement 5: Promotes an environment conducive for learning, facilitates professional development and provides intellectual stimulation.

#### Results

My response was in congruence with the teachers’ responses. I received a rating of 5 or Very Effective in this area from all respondents.

## Discussions

Early in September I briefly mentioned that I would be showing a video about the Let Me Learn™ process in the Tiger's Den. I sent an email to the entire CCTEC organization inviting them to join me along with another group of teachers to view the video as an introduction to the Let Me Learn™ process. This meeting was scheduled for September 2001 at 10:50-11:35 in the morning. The video was a big success with the initial group of teachers who attended the lunch meeting. Because we were not able to finish the video, we agreed to meet again the following Thursday. These were the initial seeds of our professional development. The teachers showed their willingness to further explore the Let Me Learn™ process when they agreed to meet again to continue the discussion. One teacher commented, "I think that this is something that can really help me with my teaching. I have tried to teach the students in the way I thought was best and some things are working and some things are not working...I have some difficult students to teach (Field Notes, Sept. 2001)."

My role at that point was to let the teachers make a decision on what they felt were their professional development needs. As a collaborative leader, I was learning to adjust my implementation strategies to fit the realities of what the teachers felt was beneficial to them.

In reference to providing intellectual stimulation, I used the video about the Let Me Learn™ process as well as giving the teachers a two-page overview of the LML process as a method of presenting concrete examples and models (Bal. & Cohen, 1996; Fullan, 1991).

The teachers viewed me as a person who was interested in what was happening in their classrooms. I facilitated opportunities for interested teachers to meet to discuss what the teaching and learning issues were in their classrooms. I also provided a model for them to explore and examine for possible use in their classrooms. It is my belief that this is one of the reasons there was a strong congruence between my rating and the teachers rating of me on the concept of professional development in the September survey.

Another reason was that by inviting the teachers to the initial meeting in which the LML video was shown, I provided a different way for us to regroup. This was the beginning of some teachers forming collaborative relationships based on examining a new way to teach their students. Secondly, the teachers were shedding their isolated identities as teachers of this discipline or that discipline and putting on the concept of working together to solve common problems in their classrooms.

Statement 6: Adapts leadership, respects and has confidence in members.

#### Results

We were all in congruence with the responses on this concept as a 5 or Very Effective. I was viewed as a leader who was flexible and at the same time had teaching strategies.

#### Discussion

When I first presented the Let Me Learn™ process model to the teachers along with a two-page overview, I had a vision of how the model should be implemented. I was prepared to follow the implementation steps as delineated in the Let Me Learn™

manual. After our initial meeting, I realized that I did not have a working knowledge of the Food Service discipline nor the Health Occupations discipline and what these disciplines required of the teachers as well as the students. I was undergoing an immediate, eye-opening experience as to the paucity of knowledge I had about these disciplines.

Through observations, conversations, and additional meetings I began to make a shift in my thinking. I realized that this professional development was not going to be something that I was doing for the teachers, rather it was going to be a professional development experience that we would do together. I realized that my role would have to be that of a collaborative leader.

I had to rely on the teachers' expertise and their experiences in order to learn the professional development needs of the teachers. My role was shifting from leader to learner, while their roles were shifting from learners to leaders. I noted in my field notebook a summary of the changes I was experiencing in the implementation of the Let Me Learn™ model. This entry highlights the use of cartoons to illustrate the patterns. My entry of October, 2001 noted, "Well, the implementation of the Let Me Learn™ process model is going to be a lot different than what I had planned. It is also going to take longer to establish this model in the classrooms, than I had planned here on my chart."

I further ruminated on what happened, "Sous Chef had a good point about the "Unlock Your Learning Patterns" handout that I gave them to review. I had just explained that this is what we will give to each student to use as a guide to refer back to

as they are learning about the characteristics of each pattern. The handout was a two-page summary of all four patterns. It also had a grid for graphically illustrating each student's individualized patterns.”(See Appendix)

Sous Chef's concerns were immediately voiced, “I don't think that this handout is going to work with our students. There is no way that our students are going to take the time to read all of this information. The print is too small and it's too much information at once. Our students will shut down when they see this handout. I just don't think it's going to work...”

I looked at the Sous Chef and then referred him to the summary chart of all of the students' patterns. I noted that there were very few students who led with the Precise pattern. I told them that it looks like we'll have to find another way to get this information to the students. I asked for suggestions. What did they see as other ways of explaining the patterns?

The other teachers suggested, “Yes, you're right these handouts are not going to work. We need something that will get their attention, but will also be easy to remember.”

Sous Chef made another suggestion saying, “ What about using the cartoons as a way to illustrate the patterns?”

The Health Occupations teachers took the suggestion and offered her viewpoint, “The cartoon idea is a good one but we should not use a whole comic strip. Let's use one

single cartoon that will demonstrate each pattern. If they see a cartoon that represents each pattern it will be so much easier to learn the patterns.”

Sous Chef further comments, “We can also put the characteristics of each pattern under that cartoon picture.”

At this point, I was very excited and pleased with the different suggestions that the teachers were making. I realized that I would have to change my plans and embrace the suggestions of the teachers. They knew what was going to work and what was not going to work with their students. I had confidence in their knowledge about their students.

I ended this session by asking that each teacher bring in cartoons for next week’s meeting. We would share those cartoons and then decide which cartoons were applicable to each pattern. I realized that the teachers were willing to use the model, but the model had to be useful and relevant to them. I had to let the teachers construct their own usage of the model.

Essentially, the teachers in my study group were adaptable and flexible in expressing what they felt was important to them. I believe the teachers and I were in one accord in stating that I was Very Effective in being adaptable to the needs of the study group

Statement 7: Overall effectiveness of the leader’s performance.

#### Results

Teachers 1 and 3 rated my overall effectiveness as a leader as a 4 or Effective. Teachers 2 and 4 gave my leadership performance a rating of 5 or Very Effective. My

own rating of 5 or Very Effective was congruent with Teachers 2 and 4. My overall effectiveness as a leader ranged from Effective to Very Effective, in all categories of the Leadership Effectiveness Index taken in September 2001.

Major Findings from the Leadership Effectiveness Index Rating-September 2001.

A review of the collective responses given for each of the seven statements revealed the following outcomes or findings:

Finding 1

The practice of collaboration had emerged as one of my leadership strengths. Setting a positive tone and nurturing the skills of the group members facilitated the collaboration process.

Finding 2

Facilitates professional development and promotes an environment conducive for learning and also evidenced leadership strength which was equally as important to my study group.

Finding 3

Flexible leadership that was amenable to the needs of the group was indicated as a strength area.

Finding 4

The positive use of political processes to exercise power effectively and facilitate change was seen as leadership strength as indicated by the responses of the group.

## Meanings of the Findings

Collectively, the findings above contribute to a description of my emerging and evolving leadership paradigm. Initially, my leadership framework was built on the Leithwood (1998) leadership model, which encompassed these selected elements:

- Articulate and build a vision collaboratively
- Provide individualized support
- Provide intellectual stimulation
- Promote collaboration
- Foster teacher development

I used this model throughout the study as a scaffold for my leadership behaviors. After reviewing my field notes from each session, I used the model as a compass for direction and reflection. The model helped me to see some of my behaviors in a more concise way. Also, I was able to see other leadership behaviors that did not strictly adhere to the Leithwood model.

Based on an analysis of the four findings that emerged from the pretest data, I was able to see that some behaviors were in congruence with the Leithwood model and some behaviors were new emerging behaviors different from the Leithwood model. I discovered that flexible leadership and use of political processes were necessary attributes of a leader.

## Finding 1-Collaboration

I used collaboration as a framework for educational problem solving. I used the Let Me Learn™ model and the Integration of Academic Skills model as a process to introduce my study group to some of the educational problems at CCTEC and to consider the background of the problems. A primary educational problem revealed in my environmental scan was that there was no connection between academic and vocational teaching. Teachers in the study group also brought this issue forward in one of our meetings.

After the introduction of the Let Me Learn™ model we discovered through our discussions that our teaching was more teacher centered than student centered. The Let Me Learn™ model gave us a new lens to examine our instructional practices. We began the process of brainstorming to think creatively and generate many ideas.

Collaboration is defined as a dynamic process, not an end product or static state (Welch, M; Sheridan, S; Fuhrman, A; Hart, A; Connel, M.L; & Stoddart, T., 1992). I viewed collaboration as a dynamic process as well. Our meetings were dynamic. There was a great deal of give and take of new ideas through many conversations and there was respectful listening and sharing. This reciprocal process promoted professional growth among the study group.

As a transformational leader, I viewed collaboration as a process for promoting collegiality and interdependence among the teachers and myself. We worked as a study group and a collaborative unit. Friend and Cook's (1990) work summarized this experience confirming that collaboration is a set of values or principles that endorse collegial action versus independent action as professional work together.

## Finding 2-Professional Development

The teachers in my study group indicated by their responses that I was Very Effective in facilitating professional development and providing intellectual stimulation. I always had a set an agenda for our weekly meetings. The agenda was necessary because I knew that our time was very valuable. The agenda provided a direct focus for the meetings. I provided intellectual stimulation by giving them copies of an overview about the Let Me Learn™ model. In addition, I shared chapters from the Let Me Learn books that were pertinent to what we were implementing in the shops and classrooms. Thirdly, the Let Me Learn videos and CD presentations were invaluable in strengthening our efforts.

Another important outcome of providing professional development through weekly collaborative meetings was that this process allowed for the study group to develop collectively in our knowledge about teaching and learning. This was very much in contrast to individual development. We used this time to develop strategies and products that the entire group could use in their individual classrooms. Very rarely did one teacher work in isolation in trying to develop a strategy.

Here is an example of the strategies that were developed by the group for teaching the Confluent Learner.

- Be open to their point of view
- Give them the liberty to be me themselves
- Say, “This is what I’m looking for and whatever way you get there is fine with me.”

- Have plenty of models, hands on examples, and pictures of end products
- Let the students know there are many different ways to do this project
- Explain and demonstrate how this applies to real life.

(Jointly developed by the CCTEC-LML group-Nov 2001).

Our study group continued developing strategies for each of the learning patterns i.e., the Precise, the Sequential and Technical patterns. Through consensus we decided to make 24” x 36” posters of the patterns to be displayed in each shop or classroom. The posters were in color with a cartoon emblem for each pattern for easier internalization by the students. The posters represented one of the many artifacts used in this study.

In the context of collaborative development of teaching and learning strategies, each teacher’s role and my role was beginning to take on a new form and function. The professional development process of implementing the educational models was also a way of supporting and nurturing our new roles.

#### Finding 3-Flexible leadership

Initially, I used the Leithwood (1998) model as the framework for my leadership. Through collaboration with the teachers I realized how important it was to involve the teachers in identifying for themselves what they felt would be beneficial to them in their quest for knowledge in implementing the models. I realized that unilateral decision-making would limit the teacher's scope and participation in finding ways to make the models adaptable for them. I had to move out of the expert role and move into the facilitator/collaborator role. It became quite clear to me that the more that I involved the teachers in a multi-lateral decision-making processes, the greater the chance that the

teachers would embrace using the models. This would increase the base of shared decision-making and input also.

Finally, I discovered that when the teachers perceive a leader as flexible, then they are more willing to experiment with a method or strategy in their classrooms. Flexibility also gives space for the element of surprise, which in turn can be another opportunity for growth. Leadership cannot be a static process. It should be an ongoing and dynamic process.

#### Finding 4-Collaboration and the Political Front

In September 2001 I continued my effort to champion the vision of integrating the academic and vocational concepts in the academic and vocational programs. In addition, I wanted to bring forward the issue of examining our teaching practices. I did this by going into classrooms and shops and informally having discussions with the teachers about these issues.

Upon reflection, I analyzed that this was one way of using power in a positive way. As a transformational leader, I was establishing the practice of a collaborative form of leadership by seeking input from others about these issues. I made every effort to let the teachers know that I supported a diversity of opinions, openness, and teamwork. At the school board meeting in February 2001, I demonstrated that a vision could be brought forward in a positive manner. In addition, I demonstrated that support could be garnered from inside the organization, e.g., the teachers' union president, and one's colleagues (study team). Equally, support can come from outside the organization as with the guidance counselors and child study team members from the other schools.

What I was beginning to learn was that one does not have to be at the top of the hierarchy in order to make a difference. One of the most powerful lessons that I learned from an analysis of my political processes was that it was better to use networks to link with others, rather than use hierarchies to link with others. I felt that I was leading from the middle of my organization, rather than exercising authority. I engaged in the use of political processes in a positive and constructive manner for the good of the larger population.

### Summary of the Meanings

Through an analysis of my field notes, artifacts and the results of the LEI (1988, 1993), four positive factors began to emerge as leadership strengths. The leadership strengths that emerged were:

- Using collaboration to promote professional development. The practice of collaboration was embraced by the study group as a pillar of how we would do our professional work. Our group blossomed under active participation in the implementation of models. Collaboration promoted shared decision making that answered the question, "What will be our next step?" We were moving away from the traditional top-down model of professional development. Our study group moved toward collaborating and working together, rather than working in isolation, as we had been accustomed to in our traditional ways of doing things.
- Providing professional development that was linked to improving and assessing our teaching practices was an important factor. Through the

implementation of the two educational models, the teachers were beginning to see how the Let Me Learn™ model and the Integration model linked to what they were teaching the students and how the students were learning this information. These models were feeding back into the teachers' work experience. Through implementing the two models, I was able to provide continuous meetings to help strengthen the feedback of the teachers' new knowledge into their daily practice. This form of professional development developed into one of my areas of strength.

- Flexible leadership was very important in implementing the two educational models. It was important that the teachers were involved in learning about the models and then identifying how the models would be implemented in their shops and classrooms.
- I demonstrated that there were many forms of political processes and that power can be use in a positive way.

In summary, there were some areas of my leadership that were congruent with the Leithwood (1998) model elements. Collaboration and professional development were the parallel areas. The flexible leadership and political processes were the new emerging areas. Table 5 and Table 6 on the following pages represent the comparisons of my leadership effectiveness as rated by the teachers in this study group.

Table 5 represents the September 2001 pre-ratings for my leadership effectiveness. T1 is for teacher ratings and MR is for my rating of my leadership effectiveness.

Table 5.

Leadership Effectiveness Index Ratings-September-2001

	T1	T2	T3	T4	MR
Q1: Inspires a shared vision defines reality in the larger context	4	4	5	4	5
Q2: Fosters collaboration; sets a positive tone; nurtures the skills of group members	5	5	5	5	5
Q3: Exercises power effectively <ul style="list-style-type: none"> <li>• Facilitates change</li> <li>• Shares authority</li> </ul>	4	4	5	5	5
Q4: Exerts influence outside of the organization; builds collation; advocates	4	4	4	4	4
Q5: Promotes an environment conducive for learning; provides intellectual stimulation and facilitates professional development	5	5	5	5	5
Q6: Adapts leadership, respects and has confidence in members	5	5	5	5	5
Q7: Overall Effectiveness of the leaders performance	4	5	4	5	4

Table 6.

Leadership Effectiveness Index Ratings-March-2002

	T1	T2	T3	T4	MR
Q1: Inspires a shared vision defines reality in the larger context	5	6	6	5	6
Q2: Fosters collaboration; sets a positive tone: nurtures the skills of group members	6	6	5	6	6
Q3: Exercises power effectively <ul style="list-style-type: none"> <li>• Facilitates change</li> <li>• Shares authority</li> </ul>	5	5	5	5	5
Q4: Exerts influence outside of the organization; builds collation; advocates	5	5	5	5	6
Q5: Promotes an environment conducive for learning: provides intellectual stimulation and facilitates professional development	6	6	6	6	6
Q6: Adapts leadership, respects and has confidence in members	5	6	6	6	5
Q7: Overall Effectiveness of the leaders performance	5	6	6	6	5

The following post-rating analysis lists the results and discussion of the results for each of the aforementioned LEI statements.

Statement 1: Inspires a shared vision; defines reality in the larger context.

#### Results

Teachers 1 and 4 gave me a rating of 5 indicating that I was Very Effective in the concept of inspiring a shared vision. Teachers 2 and 3 viewed my leadership in inspiring a shared vision as a 6 or Extremely Effective. My own response concurred with teachers 2 and 3 as being Very Effective.

#### Discussion

In September during one of our study group meetings we were discussing the concepts of the Let Me Learn™ model. At one point in the meeting the Sous Chef reiterated, "It really would make sense if what we are teaching in math could be tied in with what the students are learning in their shops" (Field notes, September 2001).

This was another beginning seed of experiencing our shared vision. Our shared vision was to improve our teaching practices. Later in September, we agreed to implement the Integration of Academic and Vocational Skills Model IV. This model emphasized the linkage of vocational and academic skills in the curricula. We were building on our shared vision by making it even more comprehensive by including this model to examine "what" we were teaching as well as "how" we were teaching the academic and vocational concepts. Our shared vision was going through a process of

refinement. It was at this stage of our shared vision that the LEI was administered to our study group.

One tool I used in my leadership practice to connect our vision with our practice was to introduce the group to the Let Me Learn™ process model. This model was a way to improve our teaching practices and to connect with the students. After viewing Dr. Christine Johnston's videotape about the Let Me Learn™ model the teachers were excited about what they may be able to accomplish using this model in their classrooms. In essence, this was the beginning of creating an overall sense of direction and purpose for the upcoming school year. This was the initial step toward creating a shared vision. These are some of the statements made by the teachers in our professional group. Chef's response was, "I can see this as a way for us to learn about ourselves as first learners and then as teachers. This model is a real eye opener for me because when I was a student I was always criticized for doing things in a different way. I am excited about his Let Me Learn™ model as a way of teaching in our shops (Field notes, September 2001)."

The Health Occupation's Teacher asserted, "This model gives credit to the many different ways that people learn. I had a difficult time in school too because I was not allowed to be creative. I had to do things exactly the way the teacher said to do them. I definitely want to look at this a little bit more to see what I can do in my classroom (Field notes, September 2001).

At the end of our sessions in September, all members of the group had decided to use the Let Me Learn™ model in their classrooms. The members included the Health Occupations teacher, the Food Service teacher and the Math teacher.

My role became that of implementer, facilitator, and coach of the Let Me Learn™ model. I created a formal participatory, vision building process by having weekly meeting with a prescribed agenda. For the October 16, 2001 meeting I had set the agenda to include drafting our own vision. I used Burt Nanus' (1992) definition in the meeting and I explained that a vision is a realistic, credible, attractive future for our organization.

We began by reviewing the CCTEC handbook. There was no vision statement; per se but there was a mission statement that read, "The purpose of the Cumberland County Technical Education Center is to provide a vocational education to any student who may benefit from it" (Cumberland County Technical Education Center Handbook, 1999).

The Chef spoke up and stated, "Let's make ours (vision statement) something that will suit our needs and what we are trying to do with our students"(Field notes, audiotapes, October 2001)."

The Health Occupation's teacher commented that, "That's all well and good, but I think that we should have something in it that speaks to their educational lives and their personal lives (Field notes, audiotapes, October 2001)."

The Sous Chef agreed and said, "We should also say something about turning their disadvantages to advantages. These students have really overcome a lot of obstacles (Field notes, audiotapes, October 2001)."

After much discussion, I wrote the vision statement that emerged from this group on newsprint.

Vision Statement

- To provide the atmosphere and the teaching techniques that let the students learn
- Students should be able to identify their strengths as well as their limitations
- Students will learn to turn their disadvantages into advantages

Our vision statement was printed on a large 22" x 36" poster. We laminated it. Each member of the study group had the vision statement posted in his/her classroom. We also made copies and placed them inside of our planning books. Our vision statement was proudly on display for anyone who entered their classrooms to see. We referred to our vision statement throughout the year as another important element that strengthened our efforts to improve our teaching practices. Our vision became symbolic to us as a daily reminder of how we were beginning to intertwine with each other as a collaborative group with a shared vision and purpose.

By March 2002 our study group was well versed in our vision statement and what it meant to us. This supports our response of the study group in stating that as a leader I was Very Effective in inspiring a shared vision among our group.

Statement 2: Foster collaboration, sets a positive tone, nurtures the skills of the group members

### Results

Teachers 1, 2, & 4 indicated that I was Extremely Effective with a rating of 6 in my leadership toward fostering collaboration. Teacher 3 viewed me as Very Effective.

My response was in the Extremely Effective range.

## Discussion

The process of collaboration was an evolving process throughout the study and administering the Leadership Effectiveness Index in September and March gave me an opportunity to capture some of the collaborative processes experienced by our study group. Some of the collaborative processes that emerged as a result of my leadership behaviors were:

- By meeting regularly we moved away from working in isolation to working together as a study groups to discover ways to improve our teaching practices.
- By working together, all members of the group had input on the shared vision of how we wanted to implement the models.
- By working together we were able to redefine the parameters of the models to meet our emerging needs as we grappled with making the models meaningful to us in our vocational context.
- Our study group became a cohesive group held together by respect for one another's differences as well as respect for the commonalities among us.
- Through collaboration multiple opportunities were available for the sharing of ideas and teacher-made products. As a result of collaboration, our understandings about the educational models and about ourselves deepened over time.

Based on the responses of the teachers and myself, collaboration continued to be a leadership strength area.

Statement 3: Exercises power effectively, facilitates change and shares authority

### Results

The teachers and I were congruent in our ratings of how I exercised power and facilitated change. My rating on this leadership behavior was a 5 or Very Effective.

### Discussion

Facilitating change and exercising power effectively continued to be viewed as leadership strength by the teachers and me. One way of exercising my power was to find ways to maximize the time that the teachers were using in our study groups. I realized that this was yet another way to use our study group time as a feedback experience into the teachers' daily practice. I experienced my leadership as that of a transformational leader. I contributed to my teachers' professional growth. Leithwood, Begley and Cousins (1992) speak to this style saying, "To the extent that school leaders solve the problem of contributing to teachers' growth, they can be viewed as exercising transformational leadership" (p.113).

On September 27, 2001 I had an opportunity to contribute to the growth of the teachers in my study group. We had just finished our faculty meeting and the topic of the 100-hour professional development requirement came up. The Health Occupations Instructor asked the Assistant Principal if we could incorporate the time we were using to meet in reference to learning about the Let Me Learn™ process, as part of the 100-hour professional development requirement. The Assistant Principal stated, "I want a written rationale that demonstrates how this plan is consistent with the standards for professional development".

In our next study group meeting on Tuesday, October 2, 2001, we discussed our rationale. We wrote it up and projected that we would spend at least 30 + hours this year in our meetings from September 2001 to June 2002 with the Let Me Learn™ process model and the Integration of Academic Skills Model IV. We anticipated additional hours might be needed. We invited the Assistant Principal to come to our meeting towards the end to briefly review our proposal to use the educational models in our professional development plans. He was impressed with our detailed proposal and approved our request immediately (Field notes and Artifacts, 10/2/01).

The, I asked if each teacher could incorporate this proposal into our Professional Improvement Plans also known as PIPS. This is a plan that each teacher develops with his/her immediate supervisor that outlines his/her plans for improving their teaching. The Assistant Principal agreed to this request, too. He appointed me as one of the Professional Development Providers and asked that I keep track of the activities and document what we had accomplished. He also gave me Professional Development Certificates that I could issue to each teacher after our weekly meetings.

This turned out to be a win-win activity for all of us in the teacher group. The time that we had invested was paying off in many ways. Professional development should involve teachers in the identification of what they need to learn and in the development of activities that are meaningful to them.

Statement 4: Exerts influence outside of the organization, builds coalitions, and advocates for the members.

### Results.

All of the teachers rated me as a 5 or Very Effective on this leadership behavior. My response was a rating of 6 or Very Effective.

### Discussion.

In February, 2001 the teachers in this study were present for our presentation to the board. They were able to see how the child study team had forged coalitions with other child study teams in the county to garner support for integrating the academic programs with the vocational. The letters of support showed us as being able to get affirmations from others as to what we were trying to accomplish.

In October, 2001 the study group teachers and I worked with the assistant principal in order to get professional development hours and credit for the work that we were doing in reference to implementation of the two educational models. This showed the teachers that our study group had formed a coalition with the assistant principal in order to meet several goals at once.

Throughout that year, I invited members of the child study teams from the different school districts to see what we were doing with the students in the shops and classrooms. The teachers were well prepared and also appreciated the support of the outside child study teams. It is my belief that the study group teachers viewed our networking with the assistant principal and the outside child study teams as a way of exerting influence as well as advocating for ourselves.

Statement 5: Promotes and environment conducive for learning, facilitates professional development and provides intellectual stimulation.

## Results

The teachers and I were in total agreement in our rating on my professional development activities. My rating was a 6 or Extremely Effective on this leadership behavior.

## Discussion

The implementation of the two educational models proved to be an excellent professional development experience for the teachers. An analysis of my field notes revealed that there were several reasons for my strong ratings on this leadership practice.

First of all, the practice of meeting collectively as a study group to implement the educational models proved to be an effective way for the teachers to take ownership of the models. Taking ownership of the models was a way for the teachers to decide as a group on how to implement the models. We engaged in shared decision making on what materials to develop for use in our classrooms. The implementation of the educational models was not an overwhelming task. It was an exciting and fruitful experience for all of us.

The teachers developed a vision statement, posters, and other materials that they could use in their classroom to keep the project in the minds of teachers, students and classroom visitors. The teachers were actively involved in the professional development. The professional development was a continuous yearlong process. By meeting weekly, we were able to share new and emerging ideas. Meeting regularly and frequently helped sustain what we were doing.

The most powerful element of this professional development experience was that the Let Me Learn™ process. It really captured the attention of the teachers. It opened up discussions about teaching and learning. The teachers immediately identified with the concept of people learning and approaching tasks in different ways. The teachers better understood themselves as learners as well as understanding themselves as educators. Seeing the video about the Let Me Learn™ process with other teachers explaining the applicability of the Let Me Learn™ process was an experience that shifted the thinking of the study group teachers toward embracing this model.

In essence, this professional development experience focused on what the students were to learn and that was the academic and vocational content in their specific shops. The Integration of Academic and Vocational Skills Model IV helped us to delineate those skills and to share lesson plans and techniques throughout the year. The Let Me Learn Model™ taught us that there was more than one way to teach a lesson. Most importantly the Let Me Learn™ model emphasized the different learning preferences that students may use as they approach a specific task and the importance of developing instructional strategies best suited for each student.

In summary, our professional development was effective because it was continuous, pertinent, and actively involved the teachers in the essence of the professional development experience.

#### Statement 6

Adapts leadership, respects and had confidence in the members.

## Results

Teacher 1 rated me as a 5 or Very Effective in my leadership flexibility. Teachers 2, 3, and 4 rated me as a 6 or Extremely Effective in my leadership. I rated myself as a 5 or Very Effective in the context of flexible leadership.

## Discussion

In September and in the early months of this study, it became clear to me that I had to be flexible in my leadership in order to facilitate the participation of the teachers as they shaped and modeled the educational models for use in their shops and classrooms. I had theoretical knowledge about the models, but I did not know if the application of the models would be useful to the teachers in their programs. I moved out of the role of expert into the role of collaborator.

I did this because I realized that teachers had the knowledge and expertise about their vocational areas and I did not have that experiential knowledge about their shops. I had to allow time and space for the teachers to determine how the educational models could be meaningful to them. I also had to give myself time and space to learn about their specific discipline areas.

This became a growing process for all of us in this study. I realized that in order to be successful with the teachers I had to first observe in the classrooms and shops. Through observation, I became familiar with the context and content matter of the Food Service and Health Occupations programs. After becoming familiar with the context and content matter of the shops, I felt that I could offer advice and be supportive to what the teachers were trying to do in implementing the models. I earned the trust of the teachers

by going into their programs on a weekly basis to either observe or to be a participant in some of the lessons that they were implementing.

It is my belief that the teachers viewed me as a leader who was adaptable to the needs of the study group members as well as being supportive of them during their efforts to implement the models.

Findings of the Leadership Effectiveness Index (1988, 1993)- March 2002

A congruity of many of the responses on the past rating data of the Leadership Effectiveness Index (1988, 1993) led to the following findings.

Finding 1. The practice of collaboration has continued to be one of my leadership strengths.

Finding 2 .The practice of promoting an environment conducive for learning by providing intellectual stimulation and facilitating professional development was also an area of leadership strength.

Finding 3. Adaptive and flexible leadership was emphasized by the teachers as one of my leadership strengths.

The following explanations detail three major findings of the Leadership Effectiveness Index.

Finding 1.Collaboration

The practice of collaboration continued to be a salient process that facilitated the implementation of the two educational models. I used the process of collaboration because it helped us to focus on our shared purposes. We were meeting on a regular basis to co-plan and share new ideas. I realized that these regular weekly meetings became the

means for us to construct meanings and knowledge about what we were doing. We really used that time to raise questions and to bring new ideas forward that we wanted to experiment with in our classrooms.

The Let Me Learn™ process model and the Integration of Academic and Vocational Skills Model IV by their very nature promoted the practice of collaboration. The Let Me Learn™ process model emphasized collaboration between teachers and teachers, teachers and students, and teachers and the researcher. In addition, it emphasized collaboration among students.

Collaboration was a process that was very helpful toward eliminating the dichotomy between the vocational and academic programs i.e. the Math program and the Food Service program. The teachers began working together to discuss the students they had in common. They began to coordinate information that they wanted to emphasize. Collaboration allowed us time to meet for specific purposes, such as sharing of lesson plans and competency lists. This was just the beginning of the process of actually integrating the two curricula. We began to understand that this would take a lot of time and coordination. The practice of collaboration was one of the sustaining elements of this research study.

#### Finding 2. Professional Development

Using the two educational models to provide professional development with the teachers in our study group proved to be an effective way to assist the teachers in changing their practices. The models were pertinent to what the teachers were teaching

i.e. academic and vocational skills. The Let Me Learn™ model promoted a way to change instructional practices in order to maximize student learning.

I used the two models because they were pertinent to the needs of the teachers in that they questioned why the academic and vocational skills were not being taught or coordinated for the students at CCTEC. Secondly, the teachers in this study group were looking for a way to teach and enhance learning for all of these students. The teachers wanted to move away from teaching in the same manner that they were taught years ago.

I included the teachers in the planning, implementation and reflection about the two educational models. The professional development was a continual process. I also provided assistance and resources as we developed ways to implement the models. I went into the shops and classrooms weekly, in addition to our collaborative meetings. Thus, it is my belief that the intellectual stimulation and the individualized support that I provided throughout the professional development turned out to be one of my leadership strengths.

### Finding 3. Flexible Leadership

Two major outcomes emerged from an analysis of the data on my leadership. The first outcome that emerged was that I demonstrated flexible and adaptable leadership by allowing for a redefinition of predetermined objectives. I used agendas and implementation charts that were given as examples for implementing the models.

By the end of this study I had moved away from predetermined goals and objectives. They were useful guideposts and parameters, but I soon realized that the process of implementing change could not be contained by guideposts and parameters. The processes of implementing change and in particular implementing the two

educational models, brought about changes within this professional development experience which were unknowable and unpredictable. Thus, I began to understand that I could not take on a stance of rigidity and loyalty to predetermined models, agendas and parameters. If I wanted to move forward in bringing positive changes in our teaching practices at the CCTEC, I had to be flexible.

I purposely used the practice of collaboration to open up the professional development experience for my study group. I had to shift out of a hierarchical frame of leadership in implementing the models and move to an integrated approach in leadership in which there was a shared vision and purpose for how we as a study group would implement the models. I still used the agenda and elements of the Leithwood (1998) model for my leadership practices. However, these guideposts were enhanced and supplemented by the questions, opinions, and input of the entire group. Then, we developed an agenda with shared input from all of the study group members.

Statement 7 Overall effectiveness of the leader's performance

Results

I used the following charts to give a snapshot of my leadership effectiveness over the time period of September 2001 and March 2002.

#### Overall Results and Discussion

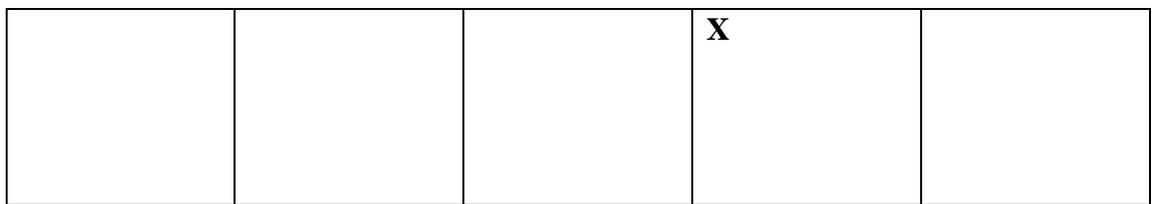
The LEI manual stipulated using the results to show a total picture of leadership effectiveness by averaging the raw scores for all of the items into one total score (p. 45). I asked the administrator who was assisting me in analyzing the LEI to average the total

responses for each item on the instrument. I felt that this would shed some light and reveal further information about my leadership in specific areas.

The following Figures 10-16, illustrate the average Leadership Effectiveness Indicators (LEI) given to me during the months of September and March.

*Figure 10.* Average raw scores of pre and post assessment results.

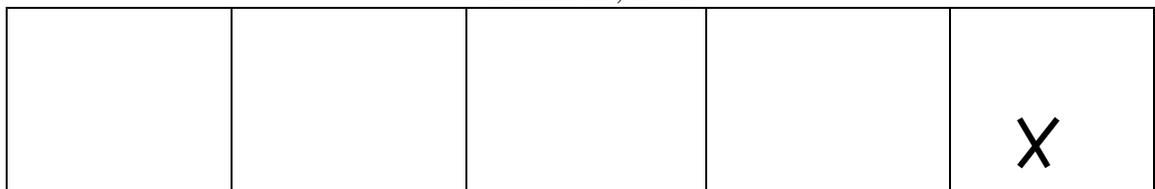
Item 1. Inspires a shared vision and establishes standards that help the organization achieve its next stage of development.



September 14, 2001

1	2	3	4	5	
Not	Slightly	Somewhat	Effective	Very	Extremely
Effective	Effective	Effective		Effective	

March 15, 2002



1	2	3	4	5	
Not	Slightly	Somewhat	Effective	Very	Extremely
Effective	Effective	Effective		Effective	

Figure 10 shows the average of my leadership performance comparing the pre and post assessment data for item number 1. *Inspires a shared vision and establishes standards that help the organization achieve its next stage of development.* In September my leadership in this area was described as Effective with a rating of 4.0. My leadership performance in March 2002 had shown movement from Effective (4.0) to Very Effective (5.6) in this area.

Figure 11. Average raw scores of pre and post assessments results.

Item 2. Fosters unity, collaboration and ownership and recognizes individual and team contributions.

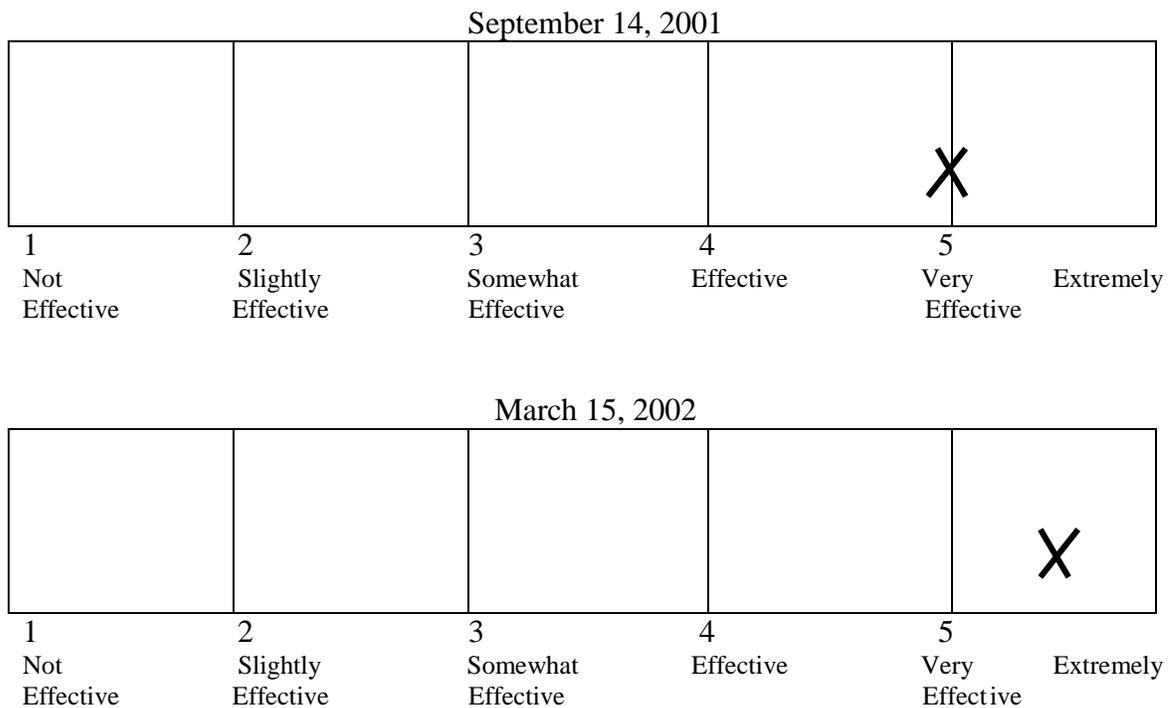


Figure 11 portrays my performance comparing the pre and post assessment data for item number 2. *Fosters unity, collaboration, and ownership and recognizes individual*

*and team contributions.* This element pertains to the practice of moving from isolated work to collaborated work through teamwork (LEI Manual, p. 41). My leadership performance on this element in September 2001 was perceived as Very Effective. In March 2002, my performance expanded from Very Effective to Extremely Effective in the area of collaboration.

Figure 12. Average raw scores of pre and post test assessments results.

Item 3. Exercises power effectively and empowers others to act.

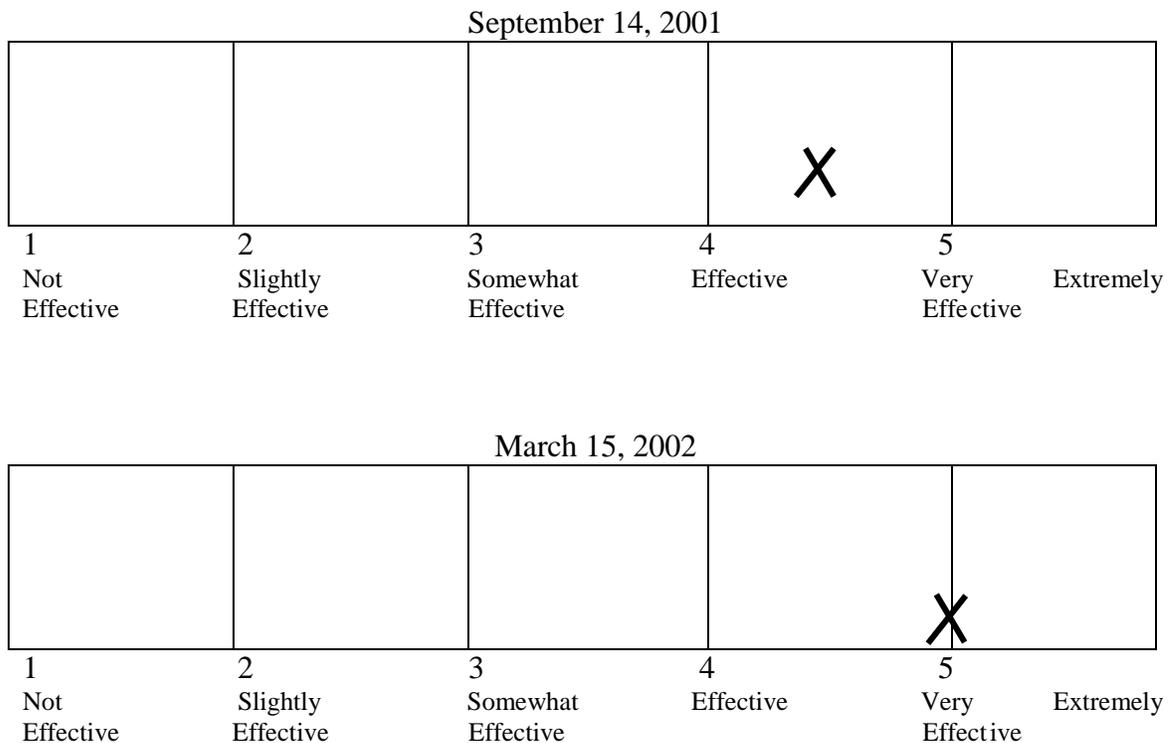


Figure 12 highlights my performance comparing the pre and post assessment data for item number 3. *Exercises power effectively and empowers others to act.* This tenet

pertains to facilitating change and nurturing the skills of group members (LEI Manual, p. 41). In September, 2001 my group felt that I was Effective in this area. By March 2002, I was assessed as Very Effective.

*Figure 13. Average Raw Scores Test of Pre and Post Assessment Results*

Item 4. Exercises influence outside of the organization in order to set the right context for the organization.

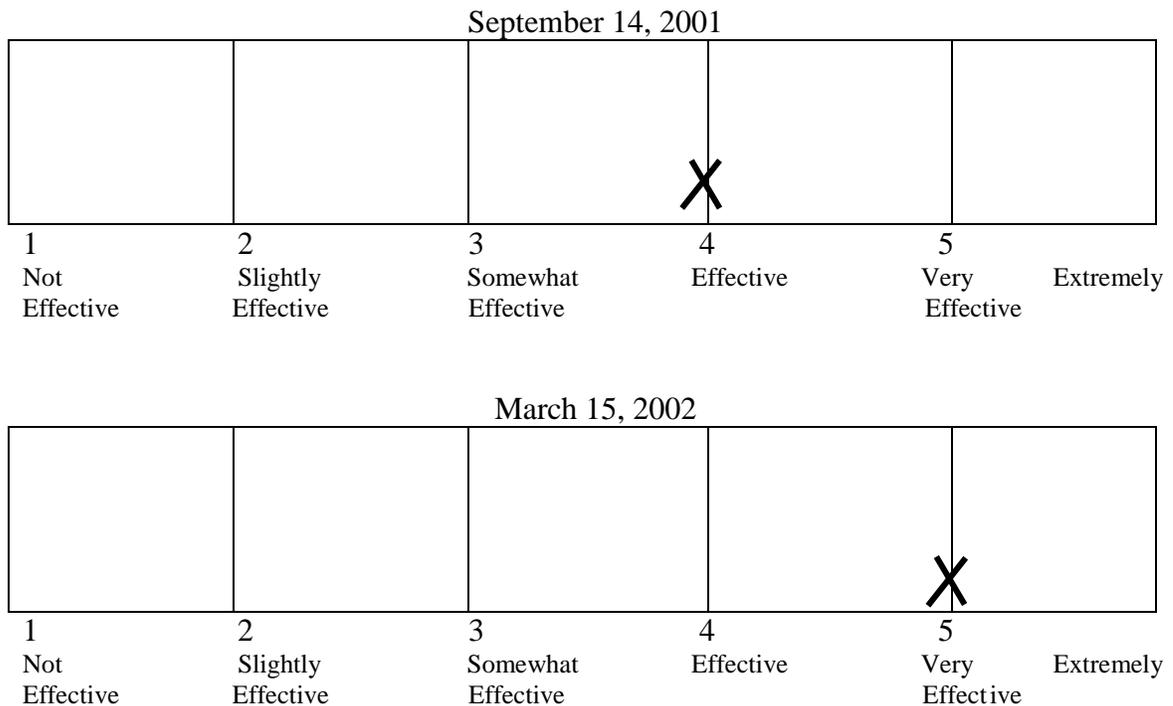


Figure 13 depicts my performance comparing the pre and post assessment data for item number 4. *Exerts influence outside of the organization in order to set the right context for the organizations.* This item represents someone who builds coalitions and

act as an advocate for the group (LEI Manual, p. 41). My leadership performance in this area was seen as Effective when the study began in September, 2001. By March 2002, my leadership performance in this area was assessed as Extremely Effective.

Figure 14. Average raw scores of pre and post test assessment results.

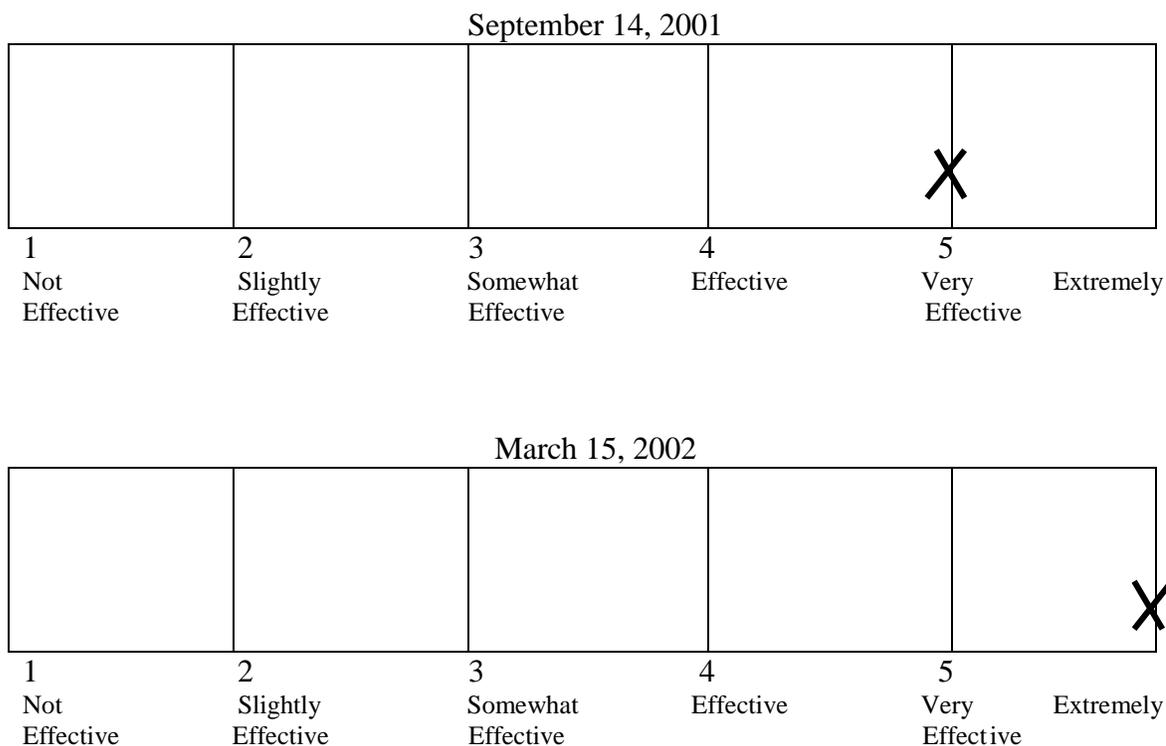


Figure 14 illustrates my performance comparing the pre and post assessment data for item number 5. *Establishes an environment conducive for learning.* This element examines the practices of providing intellectual stimulation and facilitating professional development of the staff (LEI Manuel, p. 41). In September, 2001 I was perceived as

Effective in this area. In March 2002, my group rated me as Extremely Effective in this area.

Figure 15. Average Raw Scores of Pre and Post Test Assessment Results

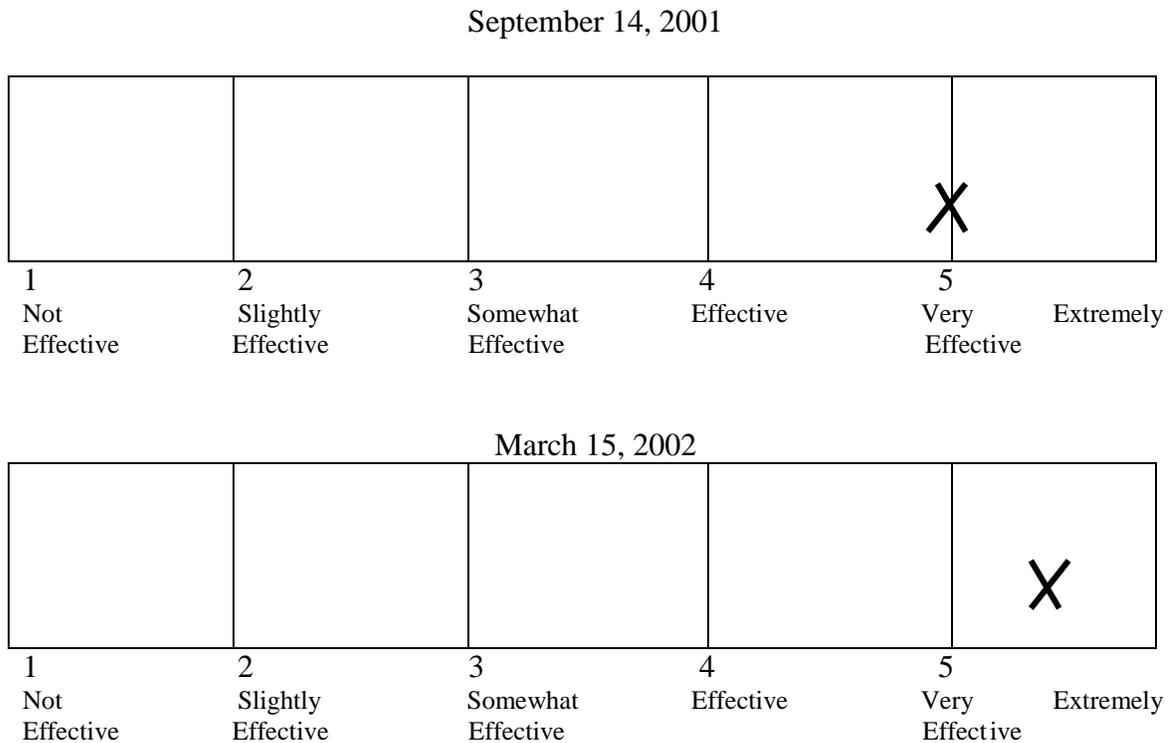
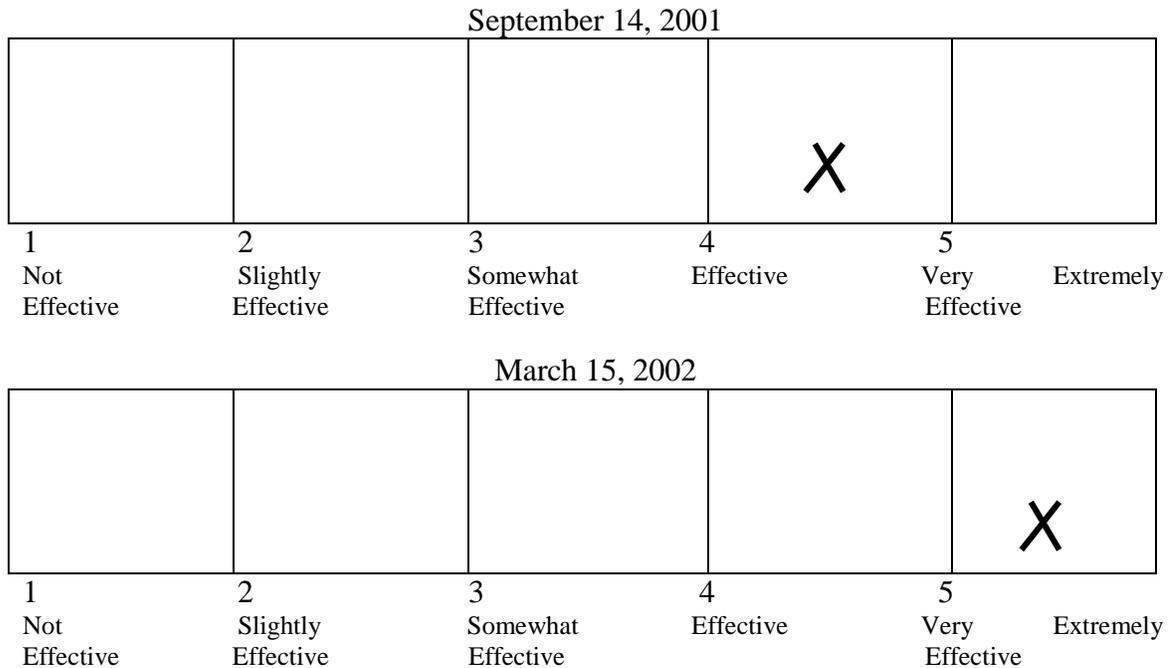


Figure 15 portrays my leadership performance comparing the pre and post assessment data for item number 6. *Satisfies the job related needs of members of the organization.* This practice pertains to having respect, confidence and trust in the group members and adapting one's leadership style to the situation (LEI Manual, p. 41). In September, 2001, I was perceived as Effective in this area. March 2002, I had moved to being Very Effective in this area.

Figure 16. Average raw pre and post test assessment results.



Permission was given by Dr. Jensrud to use the template for these charts.

Figure 16 illustrates my performance comparing the pre and post assessment data for item number 7. *Overall, how effective is the leadership performance of the person you are rating?* My performance in September, 2001, was perceived as Effective. My leadership performance in March 2002 had expanded to being Very Effective to Extremely Effective.

#### Discussion of My Performance as Measured by the LEI

I chose the Leadership Effectiveness Index (Moss, Lambrecht & Jensrud, 1989, 1993) as a method of viewing my leadership over a period of time. In addition, the

elements in this instrument were closely aligned with my selected elements of the Leithwood (1998) model.

The first element of Leithwood's model (1998) was to *Articulate and build a vision collaboratively*. The results of my group's rating on item 1 which assessed building a shared vision showed that I had achieved this goal. This was evidenced when the group formulated their own vision statement in October, 2001 which reads as follows:

- To provide the atmosphere and the teaching techniques that "let the students learn".
- Students should be able to identify their strengths as well as their limitations
- Students will learn to turn their disadvantages into advantages

(Jointly brainstormed by the Let Me Learn group @ CCTEC, 10//01, Field notes and Audiotapes).

The next tenet of Leithwood's model (1998) was to *Provide individualized support*. I provided individualized support throughout the year in our weekly meetings as well as by visiting each individual classroom on a weekly basis and meeting with each instructor about our progress in implementing the two educational models (Field notes, 9/2001-March, 2002).

I was careful to take the individual teachers' opinions and concerns into consideration as we were implementing the educational models. I was a participant in their classrooms and I became a chef de partie of the Food Service class as well as a student of the Health Occupations class. I experienced the approaches toward teaching as the teachers developed lessons based on our learning patterns. As a result of my participation and

efforts the teachers rated me as Extremely Effective in this area as evidenced by items 1, 2, 5 & 6, on the Leadership Effectiveness Index.

The tenets of *Providing intellectual stimulation and fostering teacher development* intersected throughout this case study. By introducing the teachers to the Let Me Learn™ process and the Integration of Academic and Vocational Skills Model IV, I provided material to fulfill this tenet. I provided intellectual stimulation and teacher development which was fostered through the process of collaborative work.

We met weekly to develop a vision and mission statement to determine what our specific direction would be in implementing the educational models. Collaborative work was the catalyst for learning and acquiring new roles for us as educators. We were accustomed to working in isolation, but through collaboration we were able to share decision making about how to implement the educational models. We had a mechanism in place that fostered us working toward common goals.

On one hand, we were differentiated professionals, but on the other hand, we were professionals doing collaborative work. Working collaboratively facilitated our work toward the meeting our mutual goal of improving our teaching practices.

In summary, I did foster teacher development through the process of collaboration. The process of collaboration enabled the teachers to have access to expanded knowledge and each other's expertise and creative solutions as to implementing the Let Me Learn™ process and the Integration of Academic and Vocational Skills Model IV in their classrooms.

All of the items on the Leadership Effectiveness Index supported my practices in this area. I reviewed the feed back results of the LEI with my teacher group. I thanked them for their support throughout our learning processes. I emphasized that we would continue with this research study and we would start this process again with a new group of students in September, 2002. I explained that I would like some input on how we could improve our implementation of the two educational models. These are some of their responses.

The Health Occupations Instructor stated, “Debbie you’re doing a great job in relating with the students. For one thing you’re African American... and the girls are really relating to you because you’re such a good role model for them and they feel that you really care about their learning. I like the lessons in life that you discuss with them along with helping them with their schoolwork. You have been a great help to me in coming into the class to work with the students (March 26, 2002).”

The *Chef* reiterated, “I can’t tell you enough what the Let Me Learn™ process has done for me as a teacher. I just really enjoy watching the students mature in their learning since September. I know the preferred learning pattern of all of my students and I understand who needs what. I am looking forward to continuing this for next year (March 26, 2002).”

The *Sous Chef* explained, “What you can do to improve is to let us meet with the teachers at the end of the year on one of our in-service days in June. We need about two hours to show what we have done with the Let Me Learn™ process and how it has

helped the students and us. Let's get more teachers to try the Let Me Learn™ Model in their shops for next year (March 26, 2002).”

When I compared the pre and post ratings the following outcomes emerged:

- (1) My leadership performance improved in all areas.
- (2) The commonalities of my leadership strengths were similar for pre and post rating data. I had leadership strengths in the areas of collaboration, professional development and adaptive leadership.
- (3) The practice of inspiring a shared vision and using power effectively were the second most important leadership strengths. These areas also improved over time.
- (4) My leadership provided multiple sustained opportunities for participation and professional growth as indicated through the practice of collaboration.

## Chapter 7

“To the extent that school leaders solve the problem of contributing teachers’ growth, they can be viewed as exercising transformational leadership,” (Leithwood, Begley, and Cousins, 1992, p.113).

Leadership and Change.

Many qualities of transformational leadership have been described in recent studies of vocational leaders. Ways of leading that include empowering others, encouraging collaboration, and facilitating change through communication and teamwork have been identified as attributes of effective vocational education leaders (Moss, Lambrecht, Jensrud & Finch, 1994). My leadership theory was built upon four elements selected from Kenneth Leithwood’s (1998) theory of transformational leadership.

The elements selected were:

- Identifies builds and articulates a vision collaboratively
- Provides individualized support
- Provides intellectual stimulation
- Foster teachers development

Many studies support these tenets as positive for bringing about change (Leithwood, Begley and Cousins, 1992; Leithwood and Jantzi, 1990).

Transformational leadership involves developing the capacity of organizational members so that they may be able to accomplish their specific goals and purposes. My goal was to develop a capacity of a select group of teachers to accomplish the shared

vision of enhancing student learning through the implementations of the two educational models.

Using select elements of the Leithwood Transformational Leadership Model (1998), I was able to affect teachers' approach to interpreting and implementing academic and career curricula. The following four concepts served as lenses through which I reflected upon my leadership: (1) articulate and build a vision collaboratively (2) provide individualized support (3) provide intellectual stimulation and (4) foster teacher development. I provided the core ingredients needed to facilitate change in selected shops at the CCTEC. The changes that came about were not only in reference to the teachers' instructional practices, but also in my leadership practices. Based on the findings from my case study and leadership study analyses, my leadership theory developed and changed from the initial implementation of the study to the end of the study.

Upon reflection, I was able to see that I was effective in *articulating and building a vision collaboratively*. Looking back, I realized that I had a vision that included three tiers of participants. The first tier of participants included the school board members. They were only observers of what our child study team was trying to present in reference to integrating the academic and vocational skills at the school board meeting. The second tier of participants involved the county child study teams who supported our vision through letters. The third tier of participants included the members of my study group. My study group revisited my vision and early in October my vision became a shared vision for all of us.

At this point, my leadership elements were beginning to include political processes. We have not reached the goal of integrating the academic and vocational curricula. However, we have begun the process of sharing lesson plans and observing in each other's classrooms. The process of integrating the academic and vocational curricula will take time. We must realize that it takes most teachers two years to master a new practice (Gersten, R., Vaughn, E., Deschler, D., & Schiller, E. 1997; Hall, G., 7 Loucks, S, 1997).

The practices of *Providing individualized support and providing intellectual stimulation* was affirmed through the process of ongoing professional development. The weekly meetings provided my study group with many opportunities to think through, share and discuss the ways that they wanted to implement the educational models. Through these weekly meetings, the teachers also had time to gain an understanding of the two models.

The leadership practice that kept the research study moving toward fruition was the practice of collaboration. Collaboration became a developmental process for our study group. As a leader, I quickly realized that I could not get a group of teachers together and assume that they knew how to collaborate.

As a group, we developed agendas that gave us focus and direction for our meetings. A major goal was to develop ways to implement the educational models. Our conversations became a medium for constructing our meanings and interpretations which we translated into developing our vision and mission statements.

Through conversations we constructed ways to make the educational models meaningful for our use in the classrooms. We sustained our collaborative work through weekly meetings. We began having what Lambert (1995) defined as sustaining conversations. Lambert (1995) states, “Sustaining conversations are those that continue and endure over a period of time, and are essential for accomplishing a specific purpose” (p.92).

Then, I began to timetable joint eating and planning times in order to support the continuous learning of the group. During these planning times, we collaborated. This brought about change over time in the ways we interacted with one another. We moved from-isolated work to collaborated work. We also moved from factual, knowledge based teaching to teaching based on critical thinking and informed decision-making. Most importantly, we moved from an isolated context for our lessons to an applied context.

We also managed our feelings, dreams and hopes for implementation of the educational models through the processes of conversation, collaboration, and reflective thinking. Wallace and Wildy (1995) sum up the collaborative process as “a process where ideas from multiple sources are combined into meaningful wholes” (p.15).

Another important leadership element that emerged from our collaborative meetings was the element of reflection. We engaged in reflection when we spoke about our experience with past learning, i.e., how we were taught in school and how this influenced our teaching. We also used reflective thinking to assess and reevaluate what we were doing in the shops. For example, the Sous Chef brought up the topic of the

posters that the students had made to reflect who they were as learners. His reflections were described, “On the surface it appeared that the students were just taking Polaroid pictures of themselves and cutting out magazine pictures. In the end, after they had constructed the posters and explained to the class what the pictures meant to them as learners, this became a learning experience for all of us. It really helped me to learn more about the students. This reflective thinking process helped the students and the teachers to change their thinking about each other because of their new knowledge about each other.”

A surprising piece of data that emerged as a result of collaboration was the element of role shift. Our roles became integrated and transcended each other. We continued to shift back and forth as leaders, learners and participants. Our roles shifted based on the needs and interests of the group. Role shifts were also based on who had the experience and expertise about a particular topic.

The Math teacher pointed this out when she went into the Foods Service program, “When I went into the Foods Service program, I thought that it was a shop about cooking. I found out that it was not just about cooking. I found out that it was about sanitation, tools equipment, and a term called “mise en place.” I knew that I had a lot to learn from Chef before I could start talking about integrating math concepts. (Field notes, October, 2001).”

The role shifts happened because of the collaborative meetings. Through collaboration, we had many opportunities to get to know each other as just plain people. We shed our roles as learning consultant, math teacher or chef. We were just people in

the process of building working relationships. Our primary purpose was to expand our instructional practices and to enhance the learning of our students. My leadership also changed from a chain of command type leadership to a more reflective type of leadership. Here is a snapshot of this process.

In one of our meetings the Sous Chef and the Chef were discussing the two students who had similar patterns but they did not work well as a team. I had observed that the two students were very competent in their culinary skills. I also observed that there appeared to be a power struggle between the two students. As we were reflecting on how the afternoon class had done on their teamwork, I brought up my observations saying, “Did you see the interactions between ‘B’ and ‘J’ when it was time for them to present their meal to the class? I noticed that the potatoes were not mashed and some of the salad ingredients were missing. I heard ‘B’ say to ‘J’ that her mother fixes mashed potatoes in a different way and that’s the way she was going to do them... they were really going at it.”

Sous Chef spoke up and said, “They are both very strong personalities. We put them together purposely. This has been going on all year.”

I inquired, “Why did you put them together? They did nothing but fight all afternoon? Do you want me to talk to them about their behavior? I can meet with them separately or together.”

Sous Chef and Chef gave me a surprising answer, “We put them together on purpose because we are trying to teach the concept of a winning team. We want ‘J’ and ‘B’ to learn that if you are working as a team you have to look out for each other and help

each other. They may have had very good cooking skills, but we didn't see that in their presentation to the class. They have to learn to support each other, and pick up where the other left off. If 'B' finishes before 'J' then she has to see what she can do to assist 'J', and vice-versa, so that they can accomplish their goals together when they are working as a team. We have others in the class doing just that. That's teamwork! They have to learn to live as a team or die as a team. (Field notes, Feb, 2001)"

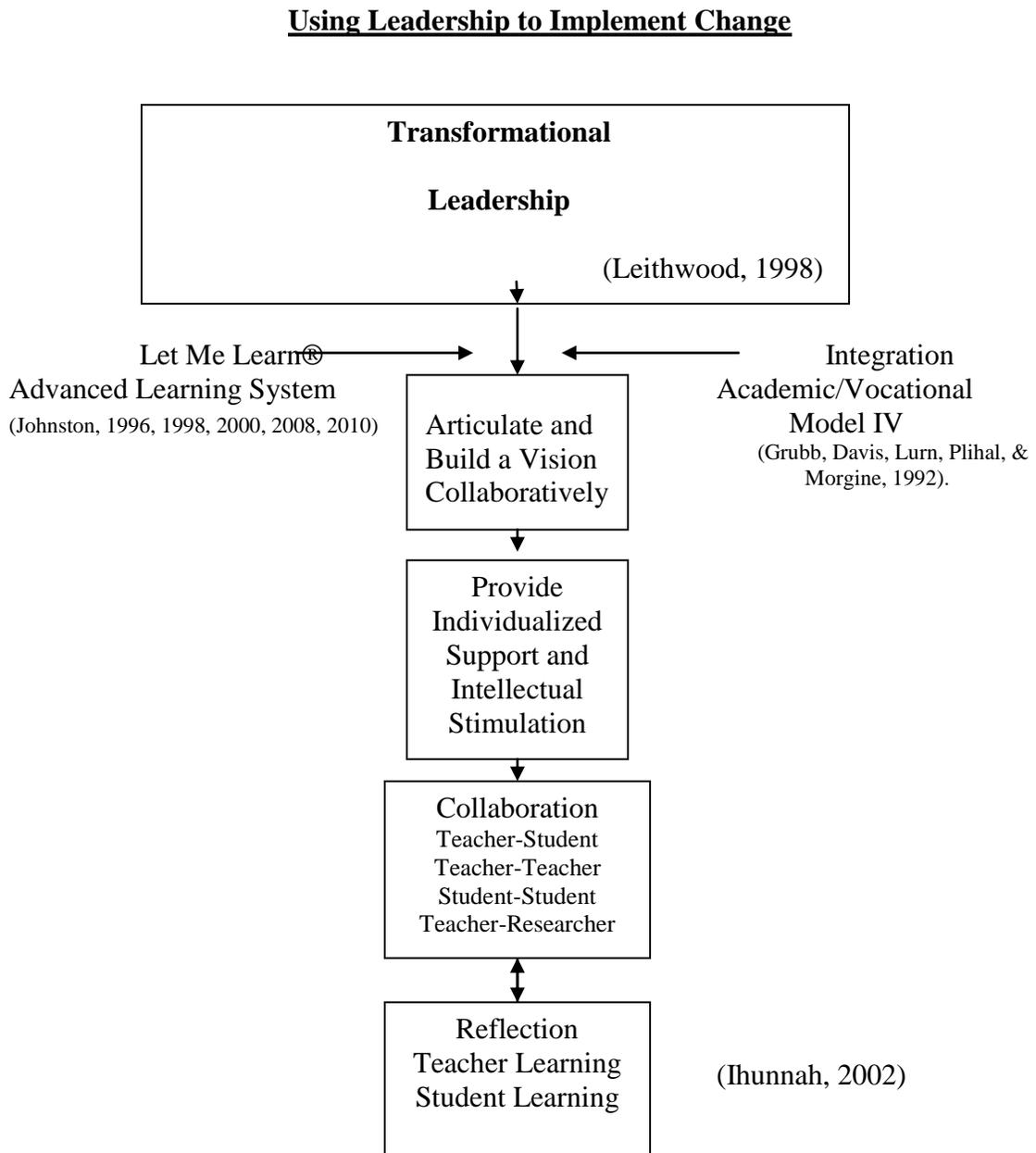
Looking back at my leadership at that moment, I realized I had made several assumptions that were incorrect. First, it was my hope that all was going well with our students teams. I assumed that if they had similar patterns, then they would have been able to present a successful meal to their peers. I assumed that it was my role to fix the situation between the two students. Perhaps I thought I would be helping the teachers if I offered to speak to the students about their behavior. However, through the processes of conversation and collaboration, I realized that the teachers had their own vision for the students and that vision was to bring them to the concept of working together as team. I realized that this was not an issue of discipline but an issue of learning both for the students and for me.

Through the processes of conversation, collaboration and reflective thinking, I realized that the teachers were shaping my leadership. My leadership was changing to include a combination of elements of Leithwood's(1992) transformational leadership model coupled with the two educational models. I was moving away from researcher-centered leadership to teacher-centered leadership. This was the same type of change that the teachers had experienced as they moved from teacher-centered instruction to student-

centered instruction. Their teaching practices now included elements of the Let Me Learn™ model and the Integration of Academic and Vocational Skills Model IV because they were listening to the voices of their students.

A powerful form of leadership had developed in me which encompassed the dynamics of conversation, collaboration and reflective thinking. In addition, I used leadership practices to accomplish my purpose of expanding the teachers' repertoire of instructional practices and to help the teachers understand the implementation of the two educational models. Figure 17 illustrates the inter-relatedness of the leadership practices of Leithwood's (1992) model and how I used those practices to implement the Let Me Learn™ model and the Integration of Academic and Vocational Skills Model IV.

Figure 17. Using Leadership to Implement Change.



### Implications for further research.

The Let Me Learn™ model is an exceptional metacognitive model that is amenable to the technical-vocational context. The learning patterns with the instructional strategies fit the realities of the technical shops. The Foods Service and the Health Occupations shops were the only two shops used in this research study. I recommend that additional research should be conducted using the Let Me Learn™ Process model in other shops, such as Dental Assisting, Carpentry, Cosmetology, and Welding in order to expand the knowledge base about the Let Me Learn™ process in a technical setting.

This was a unique study because I pioneered the Let Me Learn™ Process and the Integration of Academic and Vocational Skills Model IV in a vocational technical school. The Let Me Learn™ Process was an excellent model to promote the integration of the academic and vocational skills. However, I discovered that the integration process takes a great deal more time to implement fully. We will need to continue beyond this study in order to get to the different stages of the integration process.

Finally, from my perspective as a Learning Consultant working with both teachers and students, I feel that it is important to do a study to include more of the students' perspectives. This research study included more of my perspective as the researcher as well as the teachers' perspectives. Further research would be fruitful to get an in depth analysis of the students' various perspectives. The question to be asked would be, "How do the views of the students in a technical setting reinforce, contradict, or complicate what we know about the Let Me Learn™ process?"

## APPENDICES

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