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**Teachers' perceptions of instructional improvement through  
learning styles**

**Gassaway, Jesse Redyard, Ph.D.**

**The University of North Carolina at Greensboro, 1994**

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TEACHERS' PERCEPTIONS OF INSTRUCTIONAL  
IMPROVEMENT THROUGH LEARNING  
STYLES


by

Jesse Redyard Gassaway

A Dissertation Submitted to  
the Faculty of the Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
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Approved by

  
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The purpose of this study was to investigate a four-part in-service training model (training, observation at a demonstration site, practice with observation, and evaluation) to see how it directly impacted the consequent adoption of practices in the classroom. This case study analyzed the perceptions of 21 participants at a middle school as they attempted to apply the learning styles instruction received from the training sessions. Through participant/observation, the researcher described changes in instruction. The researcher examined the correlation of data sources to see how these perceptions affected the degree of success with this in-service model on learning styles instruction.

The data revealed how the Performance Based Accountability Program encouraged faculty participation by giving monetary incentives but also permitted teachers to accumulate staff development credits in so many ways that only 11 teachers completed the program investigated. Attrition limited the program's success, as did concerns regarding accountability. Participants who completed the program indicated that this type of staff development provided them an opportunity to gain the knowledge and expertise they needed to implement learning styles

activities. Their awareness of learning styles grew as the year progressed and they expressed increased commitment to learning styles as an approach to instruction.

This study concluded that approaches like this could increase teacher acceptance to change and allow for more collegiality among peers, especially if teachers were given more time and support.

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APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

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CHAPTER I  
INTRODUCTION

Preface

As I reflected upon my reasons for doing this study, I began to ask myself why I wanted to embark upon this challenge. What useful purpose or impact would this study have for me and others? Then I ran across this:

Good change processes that foster sustained professional development over one's career and lead to student benefits may be one of the few sources of revitalization and satisfaction left for teachers . . . Significant educational change consists of changes in beliefs, teaching style, and materials, which can come about *only* through a process of personal development in a social context. (Fullan, 1991, pp. 131-132)

As I pondered these ideas, I began to reflect upon the many staff development programs in which I had been involved over the years. Each staff development program appeared to have a variety of effects upon colleagues and me.

I recalled many programs that enabled me to bring some innovative ideas into the classroom. Some of these ideas

even came from programs that I did not particularly enjoy. Staff development programs that I recalled had worthwhile content but fell short of the intended goals. For example, my prior school system decided to implement a program to increase discipline in all schools. This program was my first experience with staff development. I eagerly awaited the training since I was just beginning my career in teaching. The content of this staff development program came from a noted expert in the field of discipline, yet in this instance, I witnessed a glaring example of how not to implement staff development. Initially, central office personnel decided that training in this approach would be a beneficial disciplinary program. They then offered a six-hour workshop and promised support and follow-up afterwards. We received a three-day notice regarding the workshop through the mail. Central office required us to forfeit a workday customarily used for planning lessons and preparing classrooms to attend the lecture in an auditorium. Most of the staff found the program to be too cumbersome to use effectively. Many teachers reacted negatively, expressing feelings such as "how dare anyone tell us how to conduct discipline within the classroom."

From my point of view, some ideas for rewarding appropriate behavior were helpful. I still use a variety of the coupons as a reward method in my classroom. In



retrospect, it seemed to me that the planning, cooperative atmosphere, training design and support for this program were not there.

Before the year was out, less than 25% of the faculty at my school used the program, and no one from central office ever followed through to witness the successes or failures of this staff development program as promised. Of course, the program basically disappeared from the school system the following year. The types of comments from teachers regarding the training included:

- I do not have time!
- Whose stupid idea was this one?
- I cannot believe they are wasting my time on this kind of program. I have real work to do.
- We do not need this program.
- I hope they know what they are doing.
- This is a joke. Get serious.
- I am doing fine on my own. I do not need to learn a new strategy. My kid's scores and behavior are fine.
- I do not want to learn something new.
- I need to work in my room instead of wasting my valuable time here.
- I have papers to prepare.

- I do not need this program?
- What purpose will this program serve? They do not even realize what the real problem is.
- Why does the central office always know what is best for us? They need to spend some time in the trenches.
- No one asked for my input.
- I do not need any more CEUs.
- What do I get if I stay?
- I hate staff development programs. They are all the same-boring, boring, boring.
- I hope this one is better than the last one. I do not know anyone who even considered doing **that** program.
- How will this program help me? I'm doing fine now.
- How will this program really benefit my kids?
- May I keep the materials?
- What kind of support will we receive? Will the support be better than the last program?
- I do not think they understand the complexities of our kids.

Over the years I began to see some changes in the perceptions of my colleagues as site-based management became more prominent. Individual schools and teachers had some input into schoolwide decisions including the staff development programs. Teacher autonomy began to give way over a perceived dictatorship by the central office. The comments from teachers reflected a more positive outlook on education. Yet, the attitudes of some teachers toward staff development remained somewhat negative as they seemed to see staff development as an antiquated tool for professional development. Typical concerns were:

- last minute programs
- lack of organization
- lack of clear purpose or objective
- lack of support and/or follow through
- teacher autonomy
- instructional style
- program design
- clear vision of a need
- central office decision-making
- teacher input

These colleagues may have had negative perceptions of staff development from previous experiences as I had when I went through the staff development program described above. Yet, on the other hand, I believed these colleagues accepted

staff development as an avenue toward implementing innovative techniques for improving education. They understood the need for keeping up with new ideas through staff development but were reluctant to give up the time to make a change.

Earlier studies of staff development looked more at the content of the material and how this material could help the student. Not many studies looked at the problem of meeting the needs of a faculty within a staff development program. Therefore, as I reflected upon my views of staff development and the input I have had at my school concerning staff development programs, I wanted to expand my knowledge of the components involved in a successful staff development program.

Understanding staff development was especially important to me because of my interest in learning styles instruction and development. In "Survey of Research on Learning Styles" (Dunn, Beaudry, & Klavas, 1989) the authors stated that only three comprehensive models of learning styles existed (Hill et al., 1971; Keefe et al. 1986; Dunn et al., 1975, 1979, 1981, 1985). According to the research, other models addressed learning styles but in a limited way. I am more familiar with the Dunn & Dunn model (1993). Dunn & Dunn published 10 of their books on the subject. The Dunn & Dunn model of learning styles has been researched at more

than 70 institutions at all grade levels. This research included over 260 articles, journals, and numerous other publications. For the past several years, I developed an interest in the concepts of learning styles for both teacher and student. My fascination with learning styles grew as I considered this approach to be a viable tool in the classroom. This study offered me an opportunity to continue my interests in learning styles as I pursued a viable avenue for meaningful staff development.

My efforts in this research were to find an on-going staff development program that allowed me to investigate the perceptions of teachers. I came upon a unique approach for staff development that involved a four-part process of training, observation at a demonstration site, practice with observation, and evaluation. For the purposes of this study, I helped the project director with an in-service model on learning styles instruction. I was involved with the in-service program from the onset and had many opportunities to assist and interact with the study participants. Through my involvement in this in-service model, I investigated the teachers' perceptions about this staff development project to hypothesize the components of the format and structure of staff development activities to see how it directly impacts the consequent adoption of the practice in the classroom.

## Biases

To keep a clear perspective of this study, I needed to share my biases on learning styles instruction. The NASSP (1979) defined learning styles as "characteristic cognitive, affective, and physiological behaviors that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment." Keefe (1987) shared a brief history of learning styles. He stated that elements of learning styles began appearing in the literature as early as 1892. Early researchers tried to find the one perceptual mode that would increase learning. In 1937, Allport began using the term "cognitive style" which was studied more extensively after World War II. Notable researchers of cognitive style included the likes of Holzman and Gardner. During this period, Kagan focused his research toward analytic styles of thinking and problem solving. It is believed that Thelen began using the term learning styles in 1954. Today, learning styles research follows along two lines. One group works on applied models of learning style (e.g., Hill, 1976; Dunn & Dunn, 1978). The other group works on the cognitive style dimension (e.g., Gregorc, 1979; Letteri, 1980).

As can be seen, learning styles instruction is not a revolutionary idea that took hold as an instructional tool to meet the needs of today's educational woes. Learning

styles instruction has been around for a long time. Learning styles instruction became a means for addressing how each person developed as a learner. This project allowed me to continue working with learning styles. During the summer of 1993, I attended a one week seminar in New York City with Rita and Kenneth Dunn. I have also attended two workshops (1989, 1992) that were conducted by representatives of the Dunn & Dunn model from St. John's University. Between 1989 and 1992, I have conducted several one hour seminars to introduce the ideas of learning styles at several schools, a computer technology conference, state reading conferences, and state middle school conferences. My beliefs in learning styles instruction made this research more interesting to me. As the study progressed, I needed to be wary of my biases toward learning styles in order to be more objective in analyzing the data.

My beliefs in staff development as an integral part of any educational system became part of my biases for this study. I understood learning to be an on going process and ever changing challenge. I felt that staff development was an ideal way for teachers to seek out new and innovative methods to educate themselves and students.

### Background

Joseph R. DeLuca (1991) wrote an article "The Evolution of Staff Development for Teachers." In this article, he

shared a brief history of how the content and delivery of staff development continually changed from Colonial times to today. During the Colonial times, teachers received no formal education. The training only included the minimal amount of what was needed to teach students to read, write, and calculate. The only form of "staff development" during this era up into the nineteenth century involved training by ministers and public officials. The content reflected a concern over the moral development and conduct of the teachers. DeLuca (1991) stated, "Their often rudimentary education was in subject content only, not in pedagogy" (p. 42). These characteristics followed education well into the nineteenth century. In the early 1800s, schools began to change the form and content of instruction with the expansion of curriculum, common schools, and a systematic approach to classroom management and instruction. This new reform found teachers to be under educated. In 1839, the first organized inservice education began in Lexington, Massachusetts, called teacher institutes. These teacher institutes began, in the early stages, to be part teacher training and part evangelical meetings. This era also created the superintendent of schools. This position originally tried to supervise class instruction and provide for a uniform curriculum. Between 1890 and 1930, the teacher institutes raised the admission criteria and began



providing standards for teaching certificates. By 1910, reading circles became popular as a low cost means of staff development to allow teachers a way to have some independent study. The 1950's brought in more federal control and teachers took workshops to learn teacher-proof curricula with an emphasis on science, math, and social studies to meet the demands of the Cold War, civil rights movement, and the space age. The 1960s and 1970s brought teacher empowerment with the teacher power movement. DeLuca (1991) shared how the "National Education Association argued that staff development should be governed by teachers in order to serve their needs and that teachers should determine the form and content of inservice education" (p.45). The 1980s, brought staff development to the forefront of education. Dennis Sparks and Susan Loucks-Horsley (1989) believed state legislators and school districts finally recognized that staff development was critical for school improvement efforts.

Throughout the history of education, school reform has been a powerful force. To achieve various reforms, staff development has been a central process for improving instruction and student achievement. Rogus & Shaw (1984) stated:

Staff development is first and foremost an attitude, a commitment to help individuals grow personally and professionally in a supportive climate. Staff development involves a broad range of activities designed to promote staff self-renewal and, indirectly, more effective learning for youngsters. Staff development activities are long-range in orientation and place the individual staff member at the heart of the growth planning process. (p. 52)

Topics like mastery learning, outcome-based education, cooperative learning, and learning styles have emphasized the need to examine the instructional process and methods. The explosion of knowledge in the past 20 years created a dilemma for staff developers as they sorted through the vast array of ideas for achieving the central goal of improving student learning (Strong et al., 1990; Jackson, 1993; Joyce, Wolf, & Calhoun, 1993).

Achieving a meaningful staff development program has become a complex process with its success or failure usually resting on the perceptions of the participants. While educators have often campaigned for change, the workplace environment has often inhibited opportunities for change to prosper (Joyce et al., 1993). As the linear approach (top-down) of staff development begins to wane, an innovative multidimensional process toward collaboration may transform

staff development programs for the 90's (Elmore, 1990, 1992; Fullan, 1990; Fullan & Steigelbaure, 1991; Lieberman, 1988; Baldrige & Deal, 1983; Leithwood, 1990; Joyce et al., 1993). Tafel and Bertani (1992) introduced this idea as a "working with" approach instead of "working on." Staff development can be central to change if participants improve student learning. However, the perceptions carried by the participants can weigh heavily upon the outcome of any staff development program (Wood, McQuarrie Jr., & Thompson, 1982; Guskey, 1990; Sparks, Nowakowski, Hall, Alex, & Imrick, 1985; Guskey & Sparks, 1991; Mohlman, Kierstead, & Gundlach, 1982; Strong, Silver, Hanson, Marzano, Wolfe, Dewing, & Brock, 1990; Wade, 1985; Johnson & Johnson, 1987; Showers, Joyce, & Bennett, 1987; Sparks, 1983; Hopkins, 1990; Joyce et al., 1993). As staff development has become a necessary and vital tool for improving instruction, the question that surfaces is, "What kind of staff development program should a school plan?" **By reviewing and studying a range of critical issues, this study investigated teachers' perceptions of an in-service training model on learning styles instruction to measure any positive changes in instruction promoted by the training. This study concluded that this staff development model provided an avenue for increased use and awareness of an instructional strategy and suggested that more models like this one would increase**

**teacher acceptance to change and allow for more collegiality among peers.**

The Staff Development Program

The leadership at a selected middle school in High Point, North Carolina, in conjunction with *Teaching to Diversity* from the University of North Carolina at Greensboro (UNCG), presented a staff development program emphasizing learning styles. *Teaching to Diversity* was a staff development program developed in its infancy in 1993 by Dr. Rita O'Sullivan from the department of educational research at UNCG and a grant from a regional consortium for educators funded by the BellSouth Foundation. This program selected new approaches and methods in teaching diverse students. Each program had a proven track record in the classroom. Also, a model was in use so that school could be a demonstration site for *Teaching to Diversity*. In its first year, three strands were selected:

1. Learning styles education
2. Mindful learning
3. Invitational education

*Teaching to Diversity* provided three services: 1) serving as a clearinghouse for disseminating information about new approaches to teaching and learning that work with diverse students, 2) training school personnel in practices that are responsive to diverse student needs, and 3)

researching the relative merits of different educational approaches that report success with diverse student groups.

The purpose of the program offered by *Teaching to Diversity* was to test a staff development strategy intended to promote success in teaching students. Staff members from the consortium talked to many people in education and private industry about the need to address student diversity. Most agreed that many successful strategies go unused because teachers are unaware of them and/or unable to adapt them successfully in their classrooms or schools. A common thread that emerged from these discussions was the need for better communication among educators who developed and/or promoted successful strategies for teaching diverse student populations. Therefore, a four-part in-service training model of training, observation at a demonstration site, practice with observation, and evaluation established a staff development program to promote positive changes in instruction.

#### Purpose of the Study

The purpose of this study was to investigate the four-part in-service training model (training, observation at a demonstration site, practice with observation, and evaluation) to see how it directly impacts the consequent adoption of the practice in the classroom. A specific focus was to evaluate any positive changes in instruction

according to the perceptions of the participating teachers as they attempted to apply the learning styles instruction received from the training sessions. The researcher examined the correlation of data sources to see how these perceptions affected the degree of success with this in-service model on learning styles instruction.

As indicated in the literature review in chapter two, five themes have emerged in studies of staff development: planning, cooperative development, research based approaches, training design, and support. This study explored the themes as they related to changes in instruction at this middle school (see Table 1). By reviewing teachers' perceptions of this four-part in-service model, this study attempted to provide a holistic description of a staff development program as viewed by participants.

#### Research Questions

This case study explored the components of a staff development program in learning styles instruction and examined the perceptions of the faculty members toward this staff development model. The following research questions became the organizational framework for the study:

Table 1

Five Themes**FIVE MAJOR THEMES FOR STAFF DEVELOPMENT**

(see page 46 for citations)

1. Planning--clearly defined goals and objectives
2. Cooperative development--teachers should be involved with planning, decision-making, and goal setting
3. Research based--the program should be grounded into theory and practice
4. Training design--addresses theory, demonstration and modeling, experientially-based practice, and feedback; allows for individual instruction and/or options for participants
5. Support--follow up and assistance to include resources, administrative participation, and in-classroom coaching

1. How do participants respond to a four-part in-service training model (training, demonstration site, practice with observation, and evaluation) on learning styles instruction?
2. How do participants implement learning styles instruction following the training sessions?
3. How do participants perceive this staff development project in learning styles instruction, specifically the themes of

planning, cooperative development, research based approaches, training design, and support?

Case study methodology will guide the exploration of these questions. Stake (1978) believed that case studies would be "the preferred method of research because they may be epistemologically in harmony with the reader's experience and thus to that person a natural basis for generalization" (p. 5). The case for this investigation was the 11 participants at this school.

#### Potential Implications

The experiences received from this program may instill in the teacher a feeling of empowerment. Through the final phases of the project, the teacher may experience a variety of changes in the classroom. These could include better classroom management, higher motivation for students, less disciplinary action, higher achievement scores, students enjoying the class, and teachers enjoying the class. This research may show how a particular staff development program lends itself to empowering teachers by generating new ideas and ways for implementing instruction in the classroom. This empowerment may allow teachers to then take those ideas, reflect on those ideas, and build better ideas for helping the individual differences of student learners.



While findings may not be generalizable per se, the potential for future study can be far-reaching. Since staff development is a necessary tool for student achievement, this field becomes an important area for an in-depth investigation into the perceptions of the teachers. The multidimensional processes of staff development may be viable tools for the future. Educators are moving away from the top-down syndrome of the boss dictating the future and developing alternatives like site-based management. This study may show how an effective staff development program becomes integrated. Implications for the teachers, students, and participants of a staff development program may lead to a progressive learning mode for those involved.

## CHAPTER II

### LITERATURE REVIEW

#### Introduction

Joyce, Wolf, & Calhoun (1993) identified a major theme for educational change from the current literature: "Caring for children and caring for oneself and one's colleagues are one and the same." (p. ix) They emphasized the focus for educational reform should include students and teachers. They investigated staff development strategies that involved teachers as an integral force for reforming education. They emphasized the need for change. Therefore, in an effort to research staff development, the researcher began with identifying a need for a change in the way staff development was done. After looking at the need for change in staff development, the next task was to identify studies and elements of successful staff development. A review of studies on staff development in learning styles instruction was next since the researcher followed a staff development program in learning styles instruction. The chapter concluded with Middle School Plan: Theory Into Practice.

#### Staff Development-A Need for Change

In 1957, the National Society for the Study of Education published a yearbook entitled Inservice Education.

Staff Development/Organizational Change was the title for the 1981 yearbook from the Association for Supervision and Curriculum Development (ASCD) and the title for the 1990 ASCD yearbook was Changing School Culture Through Staff Development. These works signified an evolutionary growth on changes in staff development. The 1993 ASCD yearbook continued this direction as The Self-Renewing School reflected the importance of accepting and coping with change in education (Joyce et al., 1993).

The Self-Renewing School (Joyce et al., 1993) responded to how staff development changed over the years and how this change must be ongoing to achieve student learning. Staff development should not be a separate entity but a piece of the puzzle that formed a holistic approach to the improvement of education. Barbara Jackson (1993) emphasized the central goal of education was the improvement of student learning. She noted that educational needs had no "single right answer" or "quick fix" remedy, and that "schools . . . affect everyone's life" (Jackson, 1993, p. vi). Therefore, the implementation and success of staff development became a complex process still evolving unto its own direction.

The 60's and 70's used in-service training for implementing curriculum change through workshops. A "linear model of change was in vogue (People at the top designed curriculum, provided training, and expected

implementation.)" (Joyce et al., 1993, p. 13). The 70's created the term staff development for supporting schools and districts. The mid 70's through the early 80's showed research on procedural ways of implementing curricular and instructional methodology. These accomplishments were usually on a temporary basis. These procedures seemed to show substantial improvement in student learning (Joyce & Showers, 1988; Joyce, Murphy, Showers, and Murphy, 1989; Joyce et al., 1993). During the 80's, an explosion of content through curriculum expansion progressed in education, and a variety of teaching skills and models of teaching increased the repertoire of teachers. However, the workshops were usually short with little or no follow-up. Fullan & Pomfret (1977) believed most school systems did little in the way of change except for the replacement of old textbooks. Evaluation of some of these workshops showed the implementation of content to be weak. Educators believed they could manage change. Yet, as time went on, the problems with managing change reflected that most educators could not.

The Self-Renewing School (Joyce et al., 1993) emphasized the premise that change in education was inevitable and student learning was the central purpose of education. The authors identified three spheres that must integrate their actions, directions, and thoughts for

successful change. These three spheres included teachers, schools, and districts. Along with the integration of the spheres, self renewal also incorporated three areas (cognition, relationships, and socioprofessional) that became the processes of change in education. Joyce, Wolf, & Calhoun (1993) defined cognition as "an inquiry-oriented, action-research frame of reference pervades the operations" (p. 21). In other words, the participants do not stop with initiatives for curriculum and instruction but continued by studying the effects of the initiatives on student outcomes. By that, the process created a never ending cycle of making the necessary changes to keep student learning at the forefront.

Researchers identified isolation as a root cause for weakening school improvement. Relationships between teachers, faculties, schools, and systems became an important factor for strengthening this weak link. Some research documented how isolation of schools from central office, principals from principals, teachers from principals, and teachers from teachers created a major weak link in reforming education. The more successful schools emphasized team work and the building of relationships. By rebuking the inherent isolation in schools and districts, "the organization thus becomes a 'center of inquiry,' where the study of student learning is at the core of professional

interchange" (Joyce et al., 1993, p. 25). The authors cautioned against curriculum controlled by the central office, site based school improvement, and teachers as the primary decision makers. A collaborative effort of educators guided by the primary goal of achieving student learning allowed for the best remedy to ideas of changing education.

Joyce, Wolf, & Calhoun (1993) identified four dimensions of change:

1. The dimension of content or substance of innovations (curriculum, instruction, and technology) defines how the student's learning environment will be changed, including the models of learning that will be used.
2. The dimension of procedures for mobilizing energy and providing support creates the common understandings and the organizational moves necessary to generate collective activity and cooperative problem solving.
3. The dimension of staff development describes the system for learning new curricular, instructional, technological, and organizational procedures.
4. The dimension of cultural change defines the social relationships and understandings that

generate the self-renewing organization and allow the other dimensions to function in an appropriate social matrix.

(Joyce et al., 1993, p. 17)

The dimensions listed focused on innovative changes in the system as a holistic approach and not fragmented pieces for the quick-fix remedy that research said did not work. An innovation did not mean that an idea in curriculum, instruction, or technology had to be something new and never tried. The implementation of an innovation followed no simple formula or sequential pattern, but relied on a multidimensional plane that was constantly changing (Fullan, 1990; Fullan & Steigelbauer, 1991; Lieberman, 1988; Joyce et al., 1993). Joyce, Wolf, & Calhoun stated, "Essentially, if the content is worthwhile, it is new; and new content, if implemented, is an innovation" (p. 15). In essence, education today will face a double challenge:

First, we must build comprehensive approaches to innovations that move away from fragmented, single-initiative approaches. Second, we must elevate the content, processes, and social organization of staff development and school improvement so that all spheres [teacher, school, and district] of the organization are served in an integrated manner. (Joyce et al., 1993, p. 17)

Research recognized some flaws of earlier school improvement. Some earlier concepts of staff development and innovative ideas lacked a vision of the change process. Teachers and educators took workshops and then attempted to implement the new content. This task usually received very little help from the school or system. The authors noted, "Proposals for school improvement have often created enough internal strife that innovation is generally regarded as a hazardous business" (Joyce et al., 1993, p. 4). The "kid gloves" approach to school improvement tried to weigh the social and cognitive problems associated with schooling. This "kid gloves" approach lent itself to a gradual implementation of new innovations that usually disappeared during the implementation stages. This problem only created cynicism among teachers and the public. Also, central office demands for change added to this cynicism because of the lack of planning and support given to the teachers. Joyce, Wolf, & Calhoun noted how "teachers have been virtually shell-shocked by barrages of 'semi-changes' that sap energy while making few substantial differences" (p. 4).

Research by Mortimore, Sammons, Stoll, Lewis, and Ecob (1988); Argyris and Schon (1974); Houle (1980); and Brookover (1978) have gradually established a "clear connection between the mental health of the organization and the people in it and the growth of students" (Joyce et al.,



1993, p. 25). Staff development recognized how stress and attitude played an important role in school improvement. The multitude of staff development programs offered inefficient, poorly planned, short workshops that the original reason for the innovation was lost within the emotional state of the participant. The participant became the learner. New strategies became ominous to many participants because of the feelings of insecurity and lack of support. Many new innovations never began because of these anxieties:

Researchers have concentrated on the progression from tentative exploration of an innovation to routine, mechanical use and beyond. Researchers have described the emotional stages that personnel experience as they learn to use something new in the classroom. Their initial reaction to an innovation is "self-concern" when the practitioner becomes worried about her own skill and how the students will respond to a new procedure. Frequently the anxiety generated at this stage becomes dominant; and when it does, the teacher is likely to discard the innovation to relieve the anxiety. (Joyce et al., 1993, p. 24)

Joyce, Wolf, & Calhoun (1993) shared two ways for dealing with anxiety pressures. First, teachers needed to create social support groups like study groups and peer-coaching

for morale support. Without the social support, the authors stated how the self-concern and anxiety became so overwhelming that the innovation was never tried. Second, teachers needed to share the innovation with the classroom honestly. The authors identified the professional mission as "teaching students how to learn" (Joyce et al., 1993, p. 24). This process lent itself to demonstrating how teachers continued individual learning processes in their profession to the students.

Attitude changes needed to occur. The changes in attitude required a change in teachers, schools, districts, and communities. Educators recognized the complexities of curriculum and instruction and this recognition involved a great deal of effort to change the attitudes and behavior of all involved. All areas of education stated a need for change but had problems with any strategy that evoked "strong" change. The authors said organizations needed to acknowledge that education needed more than a little fixing but a complete overhaul. Also, the authors believed educators had the ability to make the necessary changes just by changing the attitude.

A key focus of The Self-Renewing School (Joyce et al., 1993) was to show a methodology for blending a better education for students while simultaneously creating a

better workplace for educators. The authors viewed studies and identified five points of successful school renewal:

1. Good research is available.
2. Curriculum, instruction, and technology are central in the programs that have brought about positive change.
3. Effective staff development and general support systems are essential.

Many common forms of staff development result in implementation in as few as 10 percent of the classrooms, whereas certain tested designs for workshops and follow-up in the workplace improve use to 90 percent or more.

4. Successful school improvement requires the participation of all or nearly all, of the people involved.
5. Embedded formative evaluation is essential to successful initiatives.

. . . successful school improvement efforts included the study of the use of the innovations-how much actually changed-and the effects on student learning.

(Joyce et al., 1993, p. 52-54)

Researchers and educators recognized the piece meal approach was ineffective. Therefore, the focus shifted to areas that seemed to adapt well to change. These areas included training and staff development, leadership, and school characteristics.

With the understanding of change and the need for integrating teacher, school, and district with any given initiative, a school had the ability to prepare for a staff development program. Joyce, Wolf, & Calhoun (1993) emphasized that any new program must be in the form of action research. A three-stage format incorporated a well rounded staff development program:

Stage One-Design of initiatives

Stage Two-Design of the workshop

Stage Three-Design of the workplace

Stage One included the cooperative development of a plan grounded in research. The planning stage incorporated the major facets of a well designed staff development program. The key elements included in the plan were research-based training design, demonstration, practice, cooperative development, follow-up, and evaluation (action research). Research supported three areas of caution:

1. Districts tend to generate many initiatives simultaneously but superficially (Fullan & Steigelbauer, 1991).

2. A multitude of lightly supported initiatives gives teachers and principals a feeling of being inundated by an impossible array of demands "from above," and everyone is frustrated by the lack of implementation (Fullan & Steigelbauer, 1991). Teachers end up feeling alienated and pushed around.
3. The lack of integration among the spheres or levels of the system leaves schools and teachers unsure about what they are supposed to emphasize and how much initiative they are to take. The result is confusion and cynicism.

(Joyce et al., 1993, p. 30)

Under the current conditions, workshops provided information in one to two days about the new way of improving learning. The results usually ended in frustration and lack of implementation. Joyce, Wolf, & Calhoun (1993) recommended at least 10 to 15 days of training for any major curriculum change. The authors shared a manageable framework for a school system. This framework allowed for a district to manage one to two initiatives per year, the school to manage one initiative per year, and the teachers to manage one additional initiative per year. Also, a focus for staff

development was on everyone. Each person involved needed to become knowledgeable about:

- Group decision making
- Options for staff development
- Collegial implementation of curriculum
- Action research for school improvement
- Change as a personal and organization process

(Joyce, Wolf, & Calhoun, 1993, p.22)

This helped to reinforce the notion that everyone becomes involved and benefits. The only changes made would key into the central goal of increasing student learning.

During the initial planning stages, the committee identified possible initiatives for the study group to research. The research included a look at the training design (contains appropriate amount of demonstration, study of rationale, and practice), method of implementation, ability to study the effects on students, and follow-up. The authors developed a four-part strategy to help in the early stages of developing a new change:

1. Altering how school improvement initiatives are conducted
  - coordinate the initiative with other major activities
  - training is adequate in quantity

- cadre designs staff development according to the results of the research on training
- faculties are organized into study groups to implement the new curriculum
- leadership teams are prepared to explain the curriculum and changes in workplace

2. Doing things the action-research way

. . . example, faculty members select an area or problem of collective interest; collect, organize, and interpret on-site data related to this area; and take action based on their interpretation of the data

3. Developing a generic cadre [core group]

The functions of a cadre include:

- A. Providing training on generic teaching skills and many models of teaching.
- B. Providing training on the implementation of curriculum.
- C. Building the capacity of leadership teams to organize the faculties into productive problem-solving teams, including the organization of study groups to ensure the implementation of changes in curriculum and instruction.

- D. Developing training materials and procedures, including creating training for innovations that emerge as priorities.
  - E. Applying understanding of the change process to curricular and instructional innovation and helping all personnel understand change.
  - F. Studying implementation and supporting individuals progressing through the stages of concern as they work their way from awkwardness to executive control of new content and teaching strategies.
  - G. Facilitating action research throughout the organization.
4. Organizing leadership teams and study groups
- Leadership team-works with faculty to identify areas for school improvement, collect data, make school-relevant initiatives, and study the effects of those initiatives.
  - Study groups-selecting areas for study, making initiatives, and assessing them.
  - . . .study professional literature and reflect on it, engage in staff development



together, use peer coaching to support their transfer of skills and content to the workplace. . .

(Joyce et al., 1993, p. 40-42)

The next stage involved the development and design of the workshop. The authors emphasized the development of a theoretical understanding, modeling and demonstration, and practice. Teachers needed to know exactly what they could expect from the program. Many workshops usually limited the amount of basic theory and the expected effects of a given program. This effort neglected the core purpose of student learning. The modeling and demonstration reinforced the theory as well as an understanding of what might take place in the classroom. The authors stated that half of the demonstrations should be video tapes of actual classroom situations. Teachers needed more than one practice session. A respectable estimate included 20 to 30 practice sessions would be needed before the teacher felt comfortable with a new strategy. Joyce & Showers (1988) believed that fewer than 10 percent of teachers who completed this stage of staff development had enough practice to add this skill to their bag of tricks.

The final stage incorporated the design of the workplace to the workshop. The authors emphasized immediate and sustained practice, sharing and peer coaching, and

studying implementation. Key ingredients for effective staff development included collaboration and action research. Teachers not only needed peer coaching but observations proved to be beneficial as well. "The formation of this holistic learning community promotes the interdependence that is necessary for collective growth in the midst of widely divergent individual needs" (Joyce et al., 1993, p. 10). The action research sustained the need for monitoring the direction and focus of the new concept.

This approach to staff development helped to identify the weaknesses of isolating a piece meal approach for the improvement of education within the present system and still respect the individual differences of teachers, schools, and districts. Joyce, Wolf, & Calhoun identified two key points:

1. All persons in the organization, regardless of title, seek individual growth as a professional, accept responsibility as a group member for the growth of colleagues, and design their work to achieve the collectively valued goals of the school or district.
2. All personnel study the technical aspects of change: how to learn new teaching skills, to incorporate new technologies, to implement

curriculums, and to cope with the stress that inevitably accompanies change.

#### Studies of Successful Staff Development

Arin-Krupp (1989), Dillon-Peterson (1981), Fullan (1990), and Wood et al. (1981) said that staff developers saw the school as the primary unit of change. Their findings suggested that the development of the individual took place within the school organization. One model of staff development related to the idea of "working with" instead of "working on" (Tafel & Bertani, 1992). "In a 'working with' culture, leadership transcends role boundaries, diversity is valued, knowledge and experience of teachers are respected and celebrated, and participants are viewed as able to learn and change instead of needing repair or having deficits" (Frost, 1993). Tafel & Bertani (1992) believed that staff developers have often disregarded common understandings about educational systems (i.e., understanding the context, working relationships, history, and expectations of organization). Because of this inattention to systems, educators identified staff development to be more complex than found in earlier studies (Frost, 1993). Therefore, studies by Fenstermacher & Berliner (1983), Joyce & Showers (1988), and Wood et al. (1981) advocated holistic staff development programs.

Hopkins (1990) extended a research designed by McKibbin & Joyce when he studied teacher personality and school climate in staff development. A sample of 30 teachers from six primary schools focused on the use of ideas introduced through staff development. The one year study looked at the areas of school climate, psychological state of the teacher, and the levels of use of educational ideas introduced through staff development. Data collection consisted of interviews, questionnaires, and participant observations. Analysis of the data supported the conclusion that the school's climate and the teacher's psychological state influenced the application of ideas.

Two factors from Hopkin's study concluded that "the role of the head of the school and a consensus (or not) on goals seemed to make a difference." (p. 60) The researcher concluded that successful integration of staff development and school improvement was a combination of "an open, democratic climate evolved by self-actualising people." (p. 62)

Showers, Joyce, & Bennett (1987) completed a meta-analysis of research on staff development. Using a variety of sources, they examined approximately 200 research studies to focus on the importance of program design. They classified the reports according to the questions asked and examined the issues and assumptions put forth by staff

development personnel, teachers, and administrators. Their results concluded that presentation of theory, demonstration of the new strategy, initial practice in the workshop, and feedback about participants' efforts were important elements in staff development training. Other points of significance included:

- what the teacher thinks about teaching determines what the teacher does when teaching regardless of staff development
- coaching is a needed support for teachers
- competent teachers with high self-esteem benefit most from staff development
- flexibility in thinking helps teachers learn new skills
- individual teaching styles have no significant effect on learning from staff development
- basic level of knowledge or skill in a new approach influence teachers to "buy in" to the staff development program
- training design is important (p. 79)

Wade (1985) reviewed over 300 articles, dissertations, and ERIC documents for a meta-analysis on what made a difference in in-service teacher education. From these, Wade selected 91 studies based on 1) quantitative versus

qualitative measurements, 2) the data for calculation of effect size, 3) the data related to what makes a difference in in-service, and 4) public school system subjects. A list of 28 variables within eight categories yielded 715 data sets.

Wade's study showed that mixing elementary and secondary teachers, allowing independent study, and giving participant incentives showed a significant difference in staff development. Coaching had only a moderate effect in the training process. The instructional technique of using observation, microteaching, audio and visual feedback, and practice also showed a significant difference in the staff development program. Studies on staff development relied on planning, cooperation, training design, and support. These characteristics of staff development were especially important as teachers considered specific ways to improve their instruction. One approach to improving instruction was teaching to learning styles.

#### Studies of Staff Development in Learning Styles Instruction

*Teaching to Diversity* selected learning styles as one of its strands to improve the delivery of instruction. The selection of learning styles instruction reflected an attempt to find an innovative technique to help students learn. Learning styles identified the method of learning that suited an individual's unique acquisition of knowledge.

This identification revealed to the student and teacher something personal and unique about each scholar. Learning styles bridged the gap between teacher and student by realizing that all individuals were different.

The learning style of the teacher also helped identify strengths and weaknesses in a lesson. To teach strictly analytically did a disservice to those who did not process information in a step by step process. Analytic learners wanted the information in a sequential straightforward approach. The same was not true for the global learner. Global learners needed the whole picture before dissecting the information. Compromise techniques helped create a bridge between modalities. For example, beginning with a story will attract the globals and pacify the analytics. By that, teachers kept more students on task.

Wallin's (1990) research referred to the development and implementation of in-service workshops for learning/teaching styles and multiple intelligence. In this study, she primarily focused on four teachers to increase their awareness and use of learning/teaching styles and multiple intelligence with middle school students. She identified basic knowledge about learning styles and teaching styles by conducting surveys and observations. Wallin created a list of objectives for the research. She completed the study in one semester. This investigation

included a series of workshops to identify teachers' teaching styles and students' learning styles by using the Productivity Environmental Preference Survey (PEPS) and the Myers-Briggs Inventory.

During Wallin's study, each class period used at least two different methods of teaching. Teachers chose from four methods: visual, auditory, tactual, and kinesthetic. The use of lesson plans, checklists, sharing sessions, and observations supported the teaching methods. Also, teachers taught interdisciplinary units by using five of the seven intelligences: linguistic, logical, intrapersonal, spatial, musical, bodily-kinesthetic, and interpersonal.

At the outset, teachers had limited knowledge of the research on learning styles and multiple intelligence. During her study, teachers became more knowledgeable about learning styles and teaching styles from the PEPS and Myers-Briggs. The workshops, observations, students' learning styles inventory, surveys, sharing sessions, and performances enriched their knowledge even more. A pre- and post-observation showed 50% increase in the variety of strategies employed and 51% increase on emphasized objectives: knowledge skills, socialization skills, critical thinking, and creative expression. These observations showed a decrease in behavior problems from five minutes each period to just 20 seconds that seemed to



indicate a positive outcome for the in-service workshop.

According to this study, the increased awareness by the teachers led them to believe in the effectiveness of learning styles as a competent strategy. Because of the new awareness, the teachers willingly continued the new approach. These new strategies helped them to modify their teaching styles to match the diversity within the classroom through the acceptance of each person, student and teacher, as having a unique style.

Catledge-Kirk & O'Neal's (1990) study began with a quote:

What all the great teachers appeared to have in common was love of their subject, an obvious satisfaction in arousing this love in their students, and an ability to convince them that instruction was deadly serious.  
(Epstein)

This quote revealed the study's results, especially as they related to effective teaching and learning styles. Such variables as enthusiasm, efficacy, high self-concept, flexibility, sergeancy, and high expectations were considered in the study to "compare career ladder and preservice teachers with stronger interactive qualities of people and peer traits with other educators on 15 affective variables of the Canfield Learning Styles Inventory." (p. 3)

The participants consisted of 93 teachers and 71 teacher

education subjects. All participants were grouped based on their combined scores on peer conditions and people interest from the Canfield's Learning Style Inventory. Group one scored on or below the combined mean score. This group had stronger interactive qualities than group two. The study used a total of 15 variables from three categories (conditions, content, mode). An analysis of variance showed six variables as significantly different. The findings of the study showed how an awareness of learning styles made a difference for the interactive teacher's group by allowing them to recognize a preferred style of learning.

Barrett & Kepler (1991) investigated an in-service program on teacher effectiveness with an awareness of teaching and learning styles. They identified three areas of concentration: teaching and learning styles, classroom environments, and classroom observational feedback. The issue was how these three areas, when implemented through an in-service program, could change a teacher's teaching effectiveness. This study concentrated on a 150-mile radius of vocational teachers in grades 9-12 over a three year period. Each school used a sample size of teachers ranging from three to seven. Barrett & Kepler identified treatment groups and the teachers of those treatment groups chose the criteria and instruments for basing their scores. Barrett & Kepler used the Classroom Environment Inventory developed by

Stern and observed teachers with the COKER instrument. Results came from an analysis of variance and Fisher's LSD test to compare the mean scores.

The treatment group scored significantly higher on 11 of 24 teaching effectiveness competencies, the medium treatment group scored significantly higher on three competencies, and the minimum treatment group did not score significantly higher on any competency. Overall, the results showed a significant difference for Barrett & Kepler's treatment group. By that, the study reflected a positive effect on the experimental group of teachers. Some of these competencies showing high scores for the treatment group included:

- provides learning experiences for use outside school
- demonstrates proper listening skill
- maintains an action learning environment
- encourages students to ask questions
- uses a variety of strategies

This helped to support how in-service programs having a strong theoretical base appeared to show teachers as more effective.

## Middle School Plan: Theory Into Practice

### Theoretical framework

Five themes formed the theoretical framework for this study. These themes emerged from the literature on successful staff development: planning, cooperative development, research based approaches, training design, and support.

**Planning** became the most critical part of the process as planning must have clearly defined goals and objectives (Showers, Joyce, & Bennett, 1987; Strong et al., 1990; Sparks, 1983; Joyce et al., 1987; Frost, 1993; Hopkins, 1990; Joyce, Wolf, & Calhoun, 1993). **Cooperative development** became more prominent due to the emphasis on site-based management. The literature stressed the importance of participant involvement with the planning, decision-making, and goal setting of the staff development program (Showers, Joyce, and Bennett, 1987; Strong et al., 1990; Sparks, 1983; Johnson & Johnson, 1987; Frost, 1993; Hopkins, 1990; Joyce, Wolf, & Calhoun, 1993). **Research based approaches** to staff development were essential for a program grounded in theory and practice (Showers, Joyce, & Bennett, 1987; Sparks, 1983; Mohlman et al., 1982; Joyce et al., 1987; Frost, 1993; Hopkins, 1990; Joyce, Wolf, & Calhoun, 1993). **Training design** should address theory, demonstration, and modeling. It should include

experientially-based practice and feedback. The training design should allow for individual instruction and options for the participants like cooperative learning or hands-on activities (Showers, Joyce, & Bennett, 1987; Sparks, 1983; Mohlman et al., 1982; Joyce et al., 1987; Johnson & Johnson, 1987; Frost, 1993; Hopkins, 1990). The fifth theme, **support**, was critical for the success or failure of a staff development program. Supportive assistance should involve all participants and should include access to resources, administrative participation, and in-classroom coaching (Showers, Joyce, & Bennett, 1987; Strong et al., 1990; Sparks, 1983; Joyce et al., 1987; Frost, 1993; Hopkins, 1990; Joyce, Wolf, & Calhoun, 1993).

#### Holistic approach

The study at this middle school identified a holistic approach for their in-service program. *Teaching to Diversity* established a four-part in-service training model. This model included training, observation at a demonstration site, practice with observation, and evaluation. The training had four 90 minute sessions of instruction over a three month period. After the second training session, participants observed learning styles in practice at other schools. The practice with observation helped the participant by focusing on a lesson to identify areas of assistance with learning styles instruction. At the end of

these observations, participants held a focus group to evaluate the in-service model.

The four-part in-service training model lent itself to this study in two ways. First, the model utilized an innovative technique for staff development by implementing a program unique to other programs. Instead of completing a series of workshops, the participants included a process for implementing the program with observations, support, and evaluation. The training design reflected a well-thought out plan for incorporating action research based on an approach supported by research. By the time the evaluation took place, the participants identified strengths and weaknesses of the program with help from the experts. This information, along with the support from *Teaching to Diversity*, may add weight to a holistic approach to staff development.

A second important variable to this model was the use of learning styles as an instructional technique. *Teaching to Diversity* created a learning styles strand based on the Dunn & Dunn model. "Learning style . . . is the way in which each learner begins to concentrate on, process, and retain new and difficult information" (Dunn & Dunn, 1993, p. 2). Dunn & Dunn (1993) identified 21 elements within five stimuli: environmental, emotional, sociological, physiological, and psychological. This research based

approach became a technique that the staff development committee at the school selected for helping their students.

This review of research suggested a need to investigate the perceptions of teachers. Studies of staff development have documented the complexities of improving instruction. Studies focused on staff development using learning styles have shown that student achievement increased by teaching to the student's learning style. These two areas gave a solid background for looking at teachers' perceptions of a staff development program. Few studies have explored the perceptions of teachers in staff development.

CHAPTER III  
RESEARCH DESIGN

Introduction

This study provided an ongoing investigation beginning with the first workshop in September 1993, and ending with the closing of the 1993-94 school year. Instead of looking at the program itself, the study synthesized teachers' perceptions regarding this in-service training model and provided a multifaceted profile of the degree to which this staff development program on learning styles instruction may promote positive changes in instruction. The following research questions defined the parameters of this case study:

Research Questions

1. *How do participants respond to a four-part in-service training model (training, demonstration site, practice with observation, and evaluation) on learning styles instruction?*
2. *How do participants implement learning styles instruction following the training sessions?*



3. *How do participants perceive this staff development project in learning styles instruction, specifically the themes of planning, cooperative development, research based approaches, training design, and support?*

#### Context

During the 1992-93 academic school year, the site-based leadership team at a middle school in Guilford County, North Carolina drafted their school improvement plan. All faculty members voted on this plan. A primary objective of their plan was to find new instructional approaches that would help low-achieving students at their school. A five-member staff development committee consisting of three teachers, one counselor, and the principal from this middle school began the early planning stages for staff development. This site-based management committee identified some areas for school improvement for the following year, including improvement of low-achievers, developing higher order thinking skills, and helping students through learning styles. The staff development committee decided to request training in learning styles instruction from *Teaching to Diversity*.

The Director of *Teaching to Diversity* met with the school Principal and the staff development committee and

drafted an in-service training plan for learning styles instruction. Staff from *Teaching to Diversity* held four training sessions at the middle school from September through November 1993. These training sessions lasted approximately 90 minutes after school.

In mid-October, after three of the four training sessions, teachers observed learning styles instruction at a demonstration site. During November and December, teachers attempted to integrate learning styles instruction into their classrooms. In January 1994, teachers met to reflect on their progress, identified additional training needs, and evaluated their progress to date.

A series of interviews and observations for helping teachers with the implementation of learning styles instruction occurred from February through May 1994. In May 1994, teachers met to reflect on their progress, identified additional training needs, and evaluated their progress to date.

#### Case Study Methodology

This in-service model investigated teachers' perceptions using a case study format. Stake (1985) defined a case study as "the study of a single case" within a bounded system - whether the study is simple and specific or abstract and complex (p. 277). A major strength of a case study was the ability to use many different sources of

evidence in the data collection process (Yin, 1985). By using a variety of sources, it became easier to triangulate the information toward the issues. Yin (1985) noted that "all sources of evidence are reviewed and analyzed together, so that the case study's findings are based on the convergence of information from different sources, not quantitative or qualitative data alone" (p. 90). In this investigation, triangulation will test the validity of the information by cross-checking the different sources of data and checking this information against the perceptions of the participants (House, 1981). During this study, the researcher collected data from surveys, interviews, observations, and documents. Based upon the collection of data from a variety of sources, the synthesis of this information is likely to be more convincing and accurate.

This middle school was the bounded system for this study. The school, located in High Point, North Carolina, had 59 faculty members. The study focused on the teachers' perceptions of this staff development model in learning styles instruction to see how it directly impacts the consequent adoption of the practice in the classroom. Participants volunteered to participate with this in-service model. The initial group consisted of 33 participants and 15 of this group completed the four training sessions.

An evaluation crosswalk (see Table 2), which identified each issue and specified form of data collection, provided an organizing framework for the investigation. The crosswalk identified the five types of data for analyzing

Table 2

Evaluation Crosswalk

Research Questions	Surveys	Interviews	Observations	Focus Group	Documents
1. How do participants respond to a four-part in-service training model (training, demonstration site, practice with observation, and evaluation) on learning styles instruction?		X		X	X
2. How do participants implement learning styles instruction following the training?			X		X
3. How do participants perceive this staff development project in learning styles instruction, specifically the themes of planning, cooperative development, research based approaches, training design, and support?	X	X		X	X

the issues. Each question targeted the data source best likely to address that issue. The first question, about the responses toward a four-part in-service training model on learning styles instruction, used surveys, observations and focus group as a data source. The next question gathered information from observations and documents to check the implementation of learning styles instruction. Surveys and documents reflected the perceptions about the staff development project in learning styles instruction.

Another useful tool for the researcher was the Time Line Chart (see Table 3). This chart specified a specific period for collecting the different forms of data. Specifically, the chart reflected a breakdown of data sources and then plotted that data source into the month(s) for data collection. For example, the administration of surveys took place in September and November 1993.

#### Participants

The middle school had 59 certified faculty members. The staff development committee allowed for all certified faculty members to select from a variety of programs to meet the guidelines of the Performance Based Accountability Program (PBAP). This plan emphasized collaborative planning and specialized training as its goal and purpose. The plan assumed that participation in PBAP ensured an improvement in instruction upon completion of the training programs.

Table 3

Time Line Chart for Data Collection

Chart 1 Represents time line for July through December, 1993.

	July 1993	August 1993	Sept. 1993	Oct. 1993	Nov. 1993	Dec. 1993
Surveys			X		X	
Session Observations			XX <sup>1</sup>	X	X	
Interviews Staff Development Coordinator						
Interviews Director of Teaching to Diversity	X	X	X	X	X	X
Interviews Phase I <sup>2</sup>						
Interviews Phase II <sup>3</sup>						
Classroom Observations						
Focus Group						
Documents						
	July 1993	August 1993	Sept. 1993	Oct. 1993	Nov. 1993	Dec. 1993

<sup>1</sup>Two training sessions in Sept. 1993

<sup>2</sup>Interviews Phase I - participants completing all training sessions.

<sup>3</sup>Interviews Phase II - participants completing some training sessions.

Chart 2 Represents time line for January through June, 1994.

	January 1994	February 1994	March 1994	April 1994	May 1994	June 1994
Surveys						
Session Observations						
Interview Staff Development Coordinator		X	X			
Interviews Director of Teaching to Diversity	X	X	X	X	X	X
Interviews Phase I <sup>1</sup>		X	X	X	X	
Interviews Phase II <sup>2</sup>			X	X		
Classroom Observations		X	X	X	X	
Focus Group					X	
Documents	X	X	X	X	X	X
	January 1994	February 1994	March 1994	April 1994	May 1994	June 1994

<sup>1</sup>Interviews Phase I - participants completing all training sessions.

<sup>2</sup>Interviews Phase II - participants completing some training sessions.

Faculty members needed to complete 10 hours in any program or combinations of programs offered by the staff development committee. Due to the procedures outlined by the staff development committee, 33 participants began the program and 15 participants completed the in-service training sessions. This study began with 30 female participants and three male participants from grades six through eight. The participants represented the following subject areas: English, Reading, Math, Social Studies, Science, PE, Health, Home Economics, Foreign Language, Chorus, Cities in Schools, Ld/EMH, and Autistic/TMH. Eight participants taught all three grades, while eight taught sixth grade, seven taught seventh grade, and six taught eighth grade. Of these, 10 participants taught for more than 21 years, and eight taught 10 years or less. Also, 10 participants taught at this middle school for five years or less. As for learning styles instruction, 17 participants knew something about learning styles.

From the original 33 participants, 21 assisted with the research. Eleven of these participants completed the training and formed the core group of this research. The other 10 participants did not complete the training, but they assisted the research with an interview. The 11 core participants consisted of 10 females and one male. These individuals designated a time and place for the first



structured interview. This process began in February 1994, and ended in May 1994.

### Surveys

Participants completed two surveys during the Fall, 1993. The Staff Development in Learning Styles Instruction: Part One, a survey (see Appendix A), was administered at the beginning of the first session on September 13, 1993. This survey collected information regarding general background and previous experience with learning styles. The Staff Development in Learning Styles Instruction: Part Two, a survey (see Appendix B), was administered on November 8, 1993, at the end of the session. This survey focused on the perceptions of the teachers about this learning styles program and staff development in general.

The researcher developed each survey with input from the Director of *Teaching to Diversity*. After the development of the surveys, the instrument was pilot-tested at a different middle school that had some knowledge of learning styles to check for clarity of items and reliability of answers. Participants in the pilot-test found the surveys easy to use and easy to understand. Also, these initial surveys allowed for the participants to create an identification number. Each participant used a social security number, birthdate, or some other number that was easy to remember. This would allow for a comparison of data

from the first and second survey and still preserve the anonymity of the participants.

#### Workshop Observations

The first series of observations focused on the participants of the in-service training sessions. These sessions consisted of a series of four sessions scheduled after school from 3:30-5:00 P.M. on September 13, September 20, October 11, and November 8, 1993. The October session took place in the upstairs media center to allow participants to do hands-on activities by designing some learning styles activities such as flip chutes or electroboards. The other sessions took place in the auditorium.

During these workshops the researcher recorded the following details: number of participants present; types of activities presented; general comments made by participants; and material covered in each session. This data allowed the observer to have an understanding of what the participants experienced during each session. The researcher also recorded his impressions from these sessions. This information generated questions for the initial interview and what to expect with the first series of classroom observations. For example, the participants designed a variety of classroom activities (i.e., electroboards and flip chutes). Since the observer was aware of the

preparation and availability of the materials, he focused on whether or not they were actively used during observations. This information allowed the observer to key in on those activities made available for students. Also, the observer looked to see if students actually used some of these items during class time.

#### Classroom Observations

These observations occurred from February 1994, through May 1994. From the 15 participants completing the training sessions, 12 agreed to take part in the observations. Two possible participants taught autistic children. The researcher decided to focus on the classroom teacher and thereby, excluded these two participants from the research. One participant was out on short term disability, leaving the researcher with 12 participants. However, one participant dropped out after the second observation due to early maternity leave. The remaining 11 participants formed the core group. These 11 participants were involved in all phases of the in-service program. Each participant was observed three or four times. Before the first series of observations, a 15 minute structured interview allowed the researcher to assess how much implementation of learning styles occurred in the classroom. The participants chose the date and class period for each classroom observation. The researcher observed each class for the entire class

period. The classroom observations focused on the participant's requests from the interview. This request might be about the use of an activity or element (i.e., grouping) that the participant learned from an in-service session. Each observation received immediate feedback. This feedback entailed a brief description of what the researcher saw and sought the participant's perceptions about how the class went. At this time, the participant scheduled the next interview. During the follow-up interview, the participant scheduled the next observation and provided the observer with a particular area of focus. This focus may be any of the elements from the Dunn & Dunn Model or a particular activity from a session, such as the use of designed activities.

The Learning Styles Observation Instrument (Gassaway, 1993, see Appendix C), adapted from the *Teaching to Diversity Learning Styles Survey (LSS)*, was used to gather information from the observations. The observation instrument guided the researcher to a summative analysis of the data collected from the actual observation.

The Learning Styles Observation Instrument (see Appendix C) began with a list of elements for the researcher to observe during a class period. The researcher pilot-tested the observation instrument in a different school setting. In the first trials, the researcher found the

original instrument somewhat cumbersome and lengthy. The instrument received modification by dividing the elements into the following five stimuli: environmental, emotional, sociological, physiological, and psychological. A new instrument was then pilot-tested in four classrooms. The revised instrument was much more effective and generated questions for interviews. One example would be the element on grouping. By observing how the students worked within the classroom, the observer identified the type(s) of grouping that took place within the classroom. From this information, specific questions about why a particular group of students tried to work as a group while others worked independently will guide the interview.

The Learning Styles Observation Instrument progressed through three subsequent trials. The researcher streamlined the instrument so that it became easier to use. The instrument allowed the researcher to take notes, draw diagrams, write actual responses, and anything else the researcher believed to be relevant to the study. These written responses began to show patterns. This allowed for more focused questions for the post interviews.

#### Interviews with Participants

At the completion of the fourth session in November 1993, 11 participants agreed to continue with phase two. Each participant met with me for the initial interview.

This interview laid the ground work for the remainder of the program. Participants were observed either three or four times. There was an interview between observations. The participant received feedback and specific questions about the observation. Also, the participant sometimes directed the observer toward a particular focus for the next observation. This focus may have been one element listed in the Dunn & Dunn Model or a specific item or task from one training session.

From the pool of participants not finishing the training sessions, 10 individuals engaged in a single interview lasting approximately 15 minutes. Each of these individuals completed a series of four to six questions related to reasons for not fulfilling the session requirements.

#### Interviews with Project Director

The purpose of these interviews was to allow the researcher to gather information about the in-service model. Each interview allowed me to get her views about how the program was doing and what direction she was planning to go. Her perceptions of the project also gave needed information about the progress of this staff development program. These interviews occurred as often as necessary with no less than one interview per month beginning in July 1993, and ending in June 1994.

### Interviews with Staff Development Director

The purpose of these interviews was to allow the researcher to gather information from the staff development director about this middle school's staff development program. At this time, two interviews provided information as to the development, progress, and continuation of this program. The staff development director was an active participant in this in-service training. She helped the researcher by providing essential information about their staff development program and acted as a liaison between the participants and myself.

### Documents

This portion of the study included a collection of documents to see how they may fit within the research questions. These documents included an attendance roster, Learning Styles Survey (LSS), Performance Based Accountability Program (PBAP), differentiated-pay plan, newspaper article, teaching materials developed by participants, and documents from *Teaching to Diversity*.

### Analysis of Data

The data analysis focused on each research question. Data collected identified common themes within the documents and participants' responses. If an item did not fit a particular category or theme identified, then the study created a new category or theme. This became the process

for identifying and revising the themes within the study parameters. As themes emerged, the identification of data showed deviations and conformities to these themes.

Each question used a variety of data sources. The analysis of the data included analysis of surveys, interviews, observations, and documents. The survey included a tally of responses to background information, an analysis of the mean score using either a four or five point Likert scale, and a summative analysis of short answer questions. The first and second surveys had an identification number coded on the survey by the participants so a comparative analysis could be done between the two surveys. Only the participant knew the identity code.

The Learning Styles Observation Instrument identified those learning styles strategies implemented in the classroom by giving a complete picture of how the observations proceeded. Because a series of observations occurred, the researcher kept each series separated, so that the investigation noted any possible progression from the first observations to the last. Therefore, each series initiated a summative analysis using the Learning Styles Observation Instrument. Also, a summative analysis using the combination of observation series helped the researcher in identifying and recording the various themes. In



addition, some documents added to this analysis. In particular, documents on teaching materials and lesson plans provided valuable information.

The fourth method of analysis included an integration of all of the sources of data. By doing an integrative analysis of the data, the researcher identified patterns from the collected information. This information, along with the above mentioned documents, helped the researcher in identifying the patterns as they emerged.

#### Limitations of the Study

The principal helped to initiate the project. Due to uncontrollable factors, this principal transferred to another school shortly before the program began. The new principal supported the program started by the staff development committee and his predecessor. The new principal came to the first session and apologized for not being able to attend. He did state he would support the project and assist in any way. However, it is hard to say what true impact this had on the study.

One limitation was the use of one school and one program only. The school had an incentive program for everyone to acquire a certain number of hours doing some form of staff development. Therefore, more than one program took place during the year. When a faculty member completed the minimum required number of hours, that member may have

chosen to stop any other program(s) he/she may have been involved in at that time.

Another limitation with this study was the biases brought in by the researcher. The researcher conducted research in a naturalistic setting. However, the researcher was not only an observer but a participant. The researcher assisted the *Teaching to Diversity* director with the implementation and follow through of the project.

As with any case study, results were limited to the bounded system of this study and need further testing at other educational settings to test the validity of the results. It is up to the reader to determine the degree to which this study has value for in-service programs centered on the perceptions' of teachers using holistic approaches to staff development.

CHAPTER IV  
RESULTS OF DATA ANALYSIS

Introduction

The information gathered for the research questions on investigating teachers' perceptions regarding this in-service model was assessed using four data sources: surveys, interviews, observations, and documents. The analysis began with an initial survey administered prior to the first workshop. The analysis continued in chronological form with the workshop observations and a second survey that was administered after the final workshop. Following the second survey, the implementation profiles established the framework for the classroom observations and focus group interviews. The final phase of analysis included interviews with the staff development director and participants not completing the training. These data were analyzed according to the research questions:

1. How do participants respond to a four-part in-service training model (training, demonstration site, practice with observation, and evaluation) on learning styles instruction?

2. How do participants implement learning styles instruction following the training sessions?
3. How do participants perceive this staff development project in learning styles instruction, specifically the themes of planning, cooperative development, research based approaches, training design, and support?

The findings of the study are presented in a chronological format beginning with profiles of those teachers who responded to the first survey.

#### Questionnaire Profile

Before the start of the first training session, 33 participants responded to an initial survey entitled Staff Development in Learning Styles Instruction: Part One (see Appendix A). The final training session had 14 completed surveys from 15 participants. Teachers used a coded identification process like a social security number, birthdate, or some number they could easily remember for both surveys. By matching this second set of surveys with the first surveys, 14 surveys were paired. From these surveys, two participants taught autistic students only. The researcher made the decision to exclude these surveys and work with regular classroom teachers. One participant did not complete the second survey and one teacher dropped

out. The remaining 11 teachers became the focal point for this research.

The first seven questions provided basic background information on the participants. This group of teachers consisted of three sixth, four seventh, and four eighth grade teachers. The subjects taught included English, Reading, Math, Science, Social Studies, and inclusion. Inclusion allowed identified EMH and LD students to be mainstreamed into the regular classroom. Besides the regular classroom teacher, a resource teacher came into the room to assist special needs' students with the lessons.

Participants' teaching experience ranged from three years to 29 years of experience with a mean score of 19.1 years of experience (see Table 4). Participants' teaching experience at Ferndale Middle School ranged from one year to 24 years of experience with a mean score of 11.64 years of experience (see Table 4). The types of previous experiences related to learning styles included: Myers-Briggs, 4-MAT

Table 4

Teaching Experience

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<u>Years Experience</u>	<u>Range</u>	<u>Mean</u>
At Ferndale	2-24	X = 11.64
Total	3-29	X = 19.1

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Note. n=11

workshop, cadre training in learning styles, one day workshop on Dunn & Dunn, mini-workshops, observations, cooperative learning, computer use, conference sessions, and staff meetings.

The next series of open-ended questions on the survey allowed for the participants to reply with short answers. Of the 11 participants, 6 replied yes to being familiar with learning styles. Appendix D included all comments noted on the surveys.

The first question found out what the participants wanted to accomplish after receiving the training. The six participants who reported a familiarity with learning styles hoped to gain a better understanding of learning styles, and four of the six wanted to implement more learning styles within the classroom. The others hoped to find new strategies to help at-risk students. While two participants stated a desire to learn new techniques to help meet student needs in the classroom.

Participants shared some concerns about learning styles instruction. One participant hoped administrators would be understanding of learning styles within the room, especially when it came time for evaluation. Another participant wanted to know more about learning styles preference tests. Finally, one participant wanted to know how to plan a lesson in learning styles. This participant wanted to know if one

should plan individual activities or vary learning strategies to meet student needs.

Only one participant responded to the last question about having a special interest in learning styles. The participant was familiar with learning styles. This participant wanted to know about diversity outside the realm of school. She wanted to find ways of helping students who have alcoholic parents or drug dependent parents.

#### Summary

The initial survey found teachers who were familiar with learning styles wanted to increase their knowledge on learning styles and increase the implementation of learning styles techniques in the classroom. These participants shared a concern about administrative support and learning styles testing. The participants who were not familiar with learning styles hoped to acquire new strategies to take into the classroom. Several participants emphasized the need to reach at-risk students. Lesson planning dealing with multiple individual learning styles was a concern for one participant.

#### Workshop Observations

A series of four workshops designed to explain and assist teachers on learning styles instruction took place during September, October, and November 1993. Each session covered a different topic: Your Learning Styles, Assessing

Students' Learning Styles, Using Learning Styles in the Classroom, and Developing Tactile/Kinesthetic Materials. These sessions occurred after school from 3:30 to 5:00 P.M., in the auditorium, except the final session. The last session took place in the upper media center so that participants had access to tables for the development of materials.

#### Session One

The first session, *Your Learning Styles*, began late on September 13, 1993. Approximately 34 potential participants listened to the principal in the small auditorium of the school. Participants sat fairly close together, usually in groups of three or four. However, two rows were basically full. After the introduction by the principal, the training session got under way.

The instructor introduced herself and then explained the role of *Teaching to Diversity*, how Ferndale Middle School became involved with this program, and the role of the researcher. She shared her views of what learning styles instruction could do for them and the school. The participants received a schedule for the remainder of the sessions and what each session would cover. At this point, the researcher gave each participant the initial survey and explained to them the purpose of the survey. This took



about 10 minutes. Upon the completion of the survey, the instructor began the session.

The first task involved an explanation of the Productivity Environmental Preference Survey (PEPS). Most of the participants received a PEPS at the beginning of the school year. Most participants completed the PEPS and returned the survey to the staff development coordinator who in turn sent them to the instructor. The PEPS helped to identify the learning styles preference for each participant. The instructor allowed participants to turn in PEPS for later scoring. Participants received an explanation of what the PEPS meant for them individually. Some members needed individualized help in understanding what the PEPS meant. Most participants eagerly shared their learning styles with each other.

During the explanation of the PEPS, the instructor handed out the Dunn & Dunn Learning Styles Picture Inventory. She explained each element and their roles in the classroom. She used the picture inventory and the PEPS for introducing learning styles and explaining their own individual styles.

The participants seemed receptive to the ideas expressed by the instructor. They did ask some questions. "How can this work in a classroom? How can we accommodate

everything?" The instructor answered each question quickly and efficiently. The teachers stayed focused.

### Session Two

The second session, *Assessing Students' Learning Styles*, began about 3:50 on September 20, 1993. This session only had 24 participants present. Some participants arrived as much as five minutes late. The principal attended the first few minutes of the session. The participants present appeared to be the core group eager to find out more about learning styles as an instructional tool. However, their incentives were twofold. One, those individuals completing the learning styles training would receive C.E.U. credit of 1.8 hours. Two, they would also receive differentiated pay for completing 10 hours in any staff development program or combinations of staff development programs.

The instructor immediately passed back any completed PEPS and new PEPS forms for those who still needed to complete the forms. She then proceeded to explain more in depth about learning styles and the available learning styles instruments on the market. She specifically shared a new learning styles instrument designed by *Teaching to Diversity*. The Learning Styles Survey (LSS) had 13 items for students to complete (see Appendix E). Each item contained a pictorial example. During this explanation,

three teachers graded papers, two discussed something else, and the others seemed focused on the LSS. The instructor explained some concerns of the participants found on the initial LSS. An example was temperature. One respondent felt she had no control over those matters. However, the instructor showed how temperature could be controlled by the teacher. Temperature could be overcome by simply putting on more clothes. One example occurred with a student who refused to take off his jacket. The jacket was a problem for the teacher. After investigating why the student had the coat on, the teacher came to the conclusion that he was cold.

Each item on the LSS was accompanied by an example from the classroom along with an explanation. Over the course of the lecture, many examples brought a wave of nodding heads. One participant commented, "I didn't even think that way." Sometimes the instructor had to wait as teachers began sharing personal experiences that fit with the situation being explained. This sometimes took five to 10 minutes before continuing to the next item. When the item focusing on sound was discussed, many participants had a problem or a concern about students bringing in radios. The instructor again shared an example. Basically, when students were given the option of bringing in music, almost all of them brought in their tapes. This initial approval created an

active audience. After a few days, the novelty of having sound quickly dwindled to only those who really did better by having sound present.

The instructor shared the basic rules of implementing a new strategy in the classroom. Basically, learning styles instruction does not happen over night. It is an instructional method that may take as long as five years to develop and implement a variety of strategies successfully. Therefore, teachers should start with only one or two strategies at a time, because implementing a single learning styles strategy takes time and practice before the teacher becomes comfortable with the strategy. On the other hand, students will be intrigued by the new strategy, but a simple rule will help the teacher in maintaining classroom conduct. If the student using the new strategy did not show dramatic improvement, then the student could not use that strategy because apparently the new strategy was ineffective to student learning. Many participants nodded in agreement. Each time the instructor finished an item, the nods of heads and the small discussions among the participants seemed to reinforce the new ideas. The researcher tried to identify a single person who did not experience an "aha" moment but was unable to do so.

The next part of the session described the implementation and analysis of the LSS. The instructor

explained that they could use the LSS as they see fit. *Teaching to Diversity* was in the process of completing a computer analysis program for the LSS that became available to them in the spring. She hoped that some participants would use the instrument in the coming weeks and bring the results with questions to the October session. She believed the video and explanation should precede the test.

At this point, the participants watched a rap video that explained learning styles to kids in an interesting way. The rap video explained the various elements of the Dunn & Dunn model. During the video, everyone seemed moved by the message. The first response during the middle of the video was "This would be great as an A/A activity." Participants were in consensus with this idea.

The instructor asked each participant to do the following things before the October session:

1. assess students using the LSS and video
2. bring questions and/or concerns
3. bring a lesson you have problems with

The instructor planned to share a lesson, show a demonstration video, and give instructional strategies for classroom use. Many participants reflected among themselves about how glad they were that a sample lesson would be shared at the next session.

Basically the session was over. Some participants wanted to discuss the optional demonstration site visit. The main concern was the day of the visit. This visit was planned for the October teacher workday. On this day, another workshop was scheduled at Ferndale. Since the visit would take place in a neighboring county, the participants wanted to know if the visit would count toward the PBAP plan. Especially since the workshop at Ferndale would be counted toward the differentiated pay. The matter was turned over to the staff development coordinator to check with the PBAP committee and the staff development committee. The session adjourned at 5:00.

### Session Three

Session three, Using Learning Styles in the Classroom, began about 5:40 on October 11, 1993. This session had 26 participants present--two males and 24 females. The instructor had all the lights turned off except for two or three areas within the auditorium. Participants enjoyed the novelty of no lights and began teasing one another like adolescents. The instructor explained how the participants should go to the lighted or non-lighted area depending on where they would work better. Four teachers immediately moved to the lighted area. Two teachers moved over to an area inbetween the dark and lighted areas, and the others remained where they started.

While the instructor set up stations on the stage area, she entertained any questions and shared more about learning styles. She also used this time to explain what they would see at each station. The stations included: sentence strips, magnetic boards, floor games, pick-a-hole, learning wheels, flip chutes, and electroboards. After the description of each station, the participants moved to the various stations and tried the hands-on materials. The instructor and researcher moved between the groups and answered questions.

Early on, participants wanted to know if they would receive instructions on how to make the various materials. The instructor stated the next session would be devoted to making some materials. Many participants found the electroboards to be very fascinating. About midway into this portion of the session, more questions dealt with how this item or that item could be used in the classroom. One teacher stated, "I teach French and the flip chutes would work well with vocabulary." Many participants helped to answer these questions by giving examples of how to make a particular item practical in a given subject. Question: "How could I use the electroboard in Science?" Response: "If you are studying the human anatomy, you could make a diagram of the heart and match the parts of the heart with the correct word."

The instructor asked the participants to find their seats for the next portion of the session. One teacher stated, "I only got to do three items. Can we have more time?" Unfortunately, the instructor could not spare any more time, but she did reiterate the next session would be devoted to making the materials. She used this time to explain the next session. Most important, the participants were required to bring a lesson. This lesson would be used to make the materials during the next session.

The participants viewed a video on learning styles by Dunn & Dunn. The video took about 20 minutes. During the video, two participants read a book and one participant graded papers. Two other participants talked softly. After the video, the instructor asked how the participants used learning styles in the classroom. One teacher shared a strategy of a human map. Students would stand in front of the room and other students would ask questions to see who they were in history. One participant stated, "I have a very small room. If I had a bigger room, that would make a difference." Another participant shared that she was using the circle of knowledge that was in the video. Another participant shared how she was experimenting more with lighting. The session adjourned at 5:05.



#### Session Four

The fourth session, Developing Tactile/Kinesthetic Materials, began about 3:45 on November 8, 1993. This day allowed the participants to make some materials discussed and shared in previous sessions. Only 15 people showed up for this hands-on workshop. The participants were present when the instructor showed up with her box of materials. She immediately laid out the materials for the participants to begin work. They made electroboards and flip chutes.

While making the materials, the group was highly energetic and talkative. The researcher assisted the participants in making the materials. The researcher found it hard to keep up with all of the conversations and stories shared among the participants. Most of the stories dealt with the kids they taught. The conversations represented normal teacher talk and had no direct relation to learning styles. Some participants showed excitement over the materials and asked where they could get some "stuff" for their kids to make. Many participants showed much interest in the flip chutes. One teacher was disappointed over not making the pick-a-holes.

The instructor accidentally left the models at her work. One teacher thought he had a flip chute from another workshop. He could not find his flip chute. Even without the models and with much enthusiasm, the group worked hard

on completing their projects. They showed a lot of excitement when the card went through the chute properly. The humor was great as they made fun over their mistakes. One lady put her birthdate and age on a card as an example to see if the card would work in the flip chute properly. She was delighted at the results. Many of them made simple mistakes. However, they managed to cope with the inconvenience by seeking assistance from anyone who might have the solution. They were open to any criticism and made small jokes over the little mistakes. The teachers enjoyed the creativity of the exercise. They saw how the manipulatives could quickly become a learning tool. They saw how students would learn just by making the materials. The participants could not believe how quickly time flew. Before they knew it, time was up.

The instructor tried to get them to listen to closing remarks. Participants had no concept of time as they continued their task. They intended to finish their product before departure. Even as the instructor tried to wrap up the session, the participants continued laughing and shared small talk. There were at least eight different conversations going on at once. Finally, the instructor explained that it was time to complete a short survey and clean up. They acted as if class should not end. However, they completed the survey, cleaned up, and left but only

after completing a chute or electroboard. By consensus the participants would meet January 3, 1994, from 10:30-11:30 for a swapmeet.

After everyone had left, the instructor talked with the chairperson of the staff development committee. The staff development coordinator was disappointed by the turn out. She believed the problem was due to teacher apathy. Some faculty members had no desire to attend any workshops although the staff agreed to 10 hours of staff development last spring. Some circumvented the time frame by attending a six and a half hour workshop on higher order thinking skills offered by the state department. This instructor was not flexible with the date or time of the session. This inflexibility aggravated the director and many teachers. However, many teachers begrudgingly intended to complete only 10 hours. Many learning styles participants from previous sessions attended the other workshop and completed their 10 hours that fulfilled the differentiated pay plan. Therefore, the participants did not need to complete the learning styles training. The staff development coordinator believed these 15 participants reflected a core group that seemed genuinely enthusiastic about the program goals, objectives, and philosophy. The only concern was how to get money for making the materials (i.e., testers, milk cartons, etc.). One participant offered to call a local dairy for a

donation. The instructor sold four testers at participant's personal expense.

#### Final note

In retrospect, the training observations gave the researcher an opportunity to identify two perspectives from watching and listening. The first perspective revealed the positive components of the workshops. The participants enjoyed being together and found the topic of learning styles to be interesting. They enjoyed learning about themselves and others close to them in the session. When the sessions allowed the participants to actually do something, they responded positively to the activity. The particular activities involved looking at a variety of materials available to them and when they made materials for themselves. The second perspective shared some concerns of the workshop. Some believed the use of learning styles was not practical in the classroom. The researcher speculated that these individuals were afraid to give up control or what they perceived to be a loss of control. Another concern focused on how effective or helpful the follow-up and observations would be for the participants. The timing of the workshops also concerned many because of the PBAP plan. They wanted to do learning styles but knew they could get by with another program and not spend their afternoons in training.

### Second Survey

The second survey entitled, Staff Development in Learning Styles Instruction: Part Two (see Appendix B), was administered at the end of the fourth session. This survey focused on the perceptions of the teachers about this learning styles program and staff development in general. The first five questions indicated the feelings of the participants based on the four sessions completed. They responded on a five-point Likert scale ranging from very high to very low. Each item was assigned a number value of 1-5 in order to compute a mean score for each item with one indicating a very high response and five indicating a very low response. Table 5 showed the number of responses with a mean score for the five questions related to the four training sessions.

Question one (Your interest in learning styles is . . .) and question two (The relevance to classroom instruction is . . .) received identical answers from the participants. The very high and high range received eight of the 11 responses. The other three responded at the medium range. The mean score for both questions was 2.00.

Question three (The administrative support at your school for learning styles is . . .) received a wider range of responses. Six of these responses were in the high to very high range with a mean score of 2.36. Three

participants gave administrative support an average rating. However, two participants perceived the support by administration at Ferndale to be low.

Question four (The value of previous staff development experience you have had has been . . .) shared a medium

Table 5

Frequency Distribution of Responses to Survey Questions by Item

n=11						X =
	VERY HIGH	HIGH	MEDIUM	LOW	VERY LOW	
Scale	1	2	3	4	5	
1. Your interest in learning styles is . . .	3	5	3	0	0	2.00
2. The relevance of learning styles to classroom instruction is . . .	3	5	3	0	0	2.00
3. The administrative support at your school for learning styles is . . .	3	3	3	2	0	2.36
4. The value of previous staff development experience you have had has been . . .	1	2	8	0	0	2.64
5. The quality of training you have received in the last four sessions has been . . .	0	5	6	0	0	2.55

response from eight of the participants and a mean score of 2.64. Only one participant had a previous experience that the individual regarded as high.

Question five (The quality of training you have received in the last four sessions has been . . .) received a high response to the training by five of the participants and a mean score of 2.55. The remaining six participants gave the sessions a medium score.

The next series of questions investigated the participants' perceptions on what they consider to be important for good staff development in general. The survey used a four-point Likert scale ranging from one as not important to four as extremely important (see Table 6). Table 6 reflected the number of responses and a mean score for staff development in general.

Question six, (School administration's endorsement of the staff development goals.) with a mean score of 2.82, and question seven, (Faculty endorsement of the staff development goals.) with a mean score of 3.09, showed more importance for the faculty to endorse the staff development goals. Of the 11 responses, seven believed it very or extremely important that the faculty endorsed these goals. Whereas, nine participants believed the same was true for administrators.

Table 6

Frequency Distribution of Responses to Survey Questions by Item

n=11					
	NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	EXTREMELY IMPORTANT	
	1	2	3	4	
	<u>Scale</u>				
6. School administration's endorsement of the staff development goals (philosophy)	0	4	5	2	X = 2.82
7. Faculty endorsement of the staff development goals (philosophy)	0	2	6	3	X = 3.09
8. Willingness of your peer group to make a time commitment to implement the staff development strategy	0	2	7	2	X = 3
9. Relevance of the training to classroom instruction	0	1	5	5	X = 3.36
10. Relevance of the training to your school's needs	0	1	5	5	X = 3.36
11. Offering an incentive to participate (example: CEU credit, differentiated pay)	0	1	3	7	X = 3.55
12. Use of site-based management to make staff development decisions	0	1	5	5	X = 3.36



Question eight (Willingness of your peer group to make a time commitment to implement the staff development strategy.) received seven responses identifying time commitment as being very important and had a mean score of 3.00. Another two participants believed a time commitment was extremely important.

Question nine (Relevance of the training to classroom instruction.) and question 10 (Relevance of the training to your school's needs.) received identical responses from all 11 participants and both had a mean score of 3.36. Five respondents believed that training should be relevant to classroom instruction and school's needs were extremely important. Five others believed it was very important.

Question 11 (Offering an incentive to participate.) received the highest marks and had a mean score of 3.55. Seven participants believed that an incentive was extremely important and three others thought an incentive was very important. This year, staff development added extra income to certified faculty members for participation in the programs selected by the staff development committee.

Question 12 (Use of site-base management to make staff development decisions) investigated the importance of site-based management. From the 11 responses, 10 believed that site-based management was very or extremely important in

making staff development decisions and had a mean score of 3.36.

Comparing question 12, with a mean score of 3.36, to question eight, with a mean score of 3, showed that site-based decision making was more important (see Table 6). Both questions involved decision making skills.

Questions six through 12 identified five elements thought to be important for staff development. These elements were staff development goals, commitment to staff development, relevance of training, incentives for staff development, and importance of site-based management. These items indicated that participants viewed incentives as extremely important (see Figure 1). This staff development

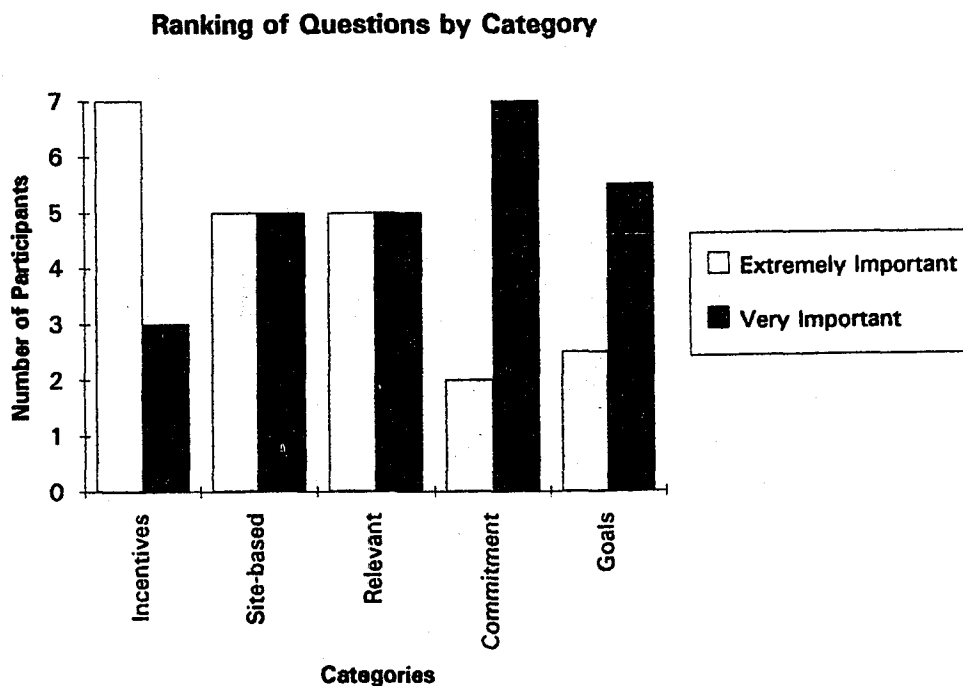


Figure 1. Important elements for staff development.

program was directly tied to the PBAP plan. The PBAP plan allowed for teachers to receive monetary incentives for participating and completing some basic requirements in staff development. An incentive of this magnitude played an important role on the staff development program at this school. Incentives, site-based management, and relevance of training ranked higher than making a commitment or endorsement of goals.

The next series of open-ended questions allowed for participants to respond to the four training sessions.

**Question one: What do you consider to be the best elements of the training provided during these past four sessions?**

Participants helped to identify five categories in their responses. The categories included an understanding of how students learn differently, hands-on, use of learning styles in the classroom, and assessment tools for learning styles. Six of the 11 respondents directed their answers to hands-on experiences or materials. Two participants expressed the acceptance of different learning styles of students.

**Question two: What suggestions do you have for improving this learning styles staff development program?**

The eight responses helped to identify five categories: time, hands-on, real-life case studies, learning styles assessment, and the number of meetings. Three participants

wanted the meetings to start on time. All four sessions started from 10 to 20 minutes late but always finished on time or a little early. One participant responded "more real-life case studies of students and how their learning styles were accommodated."

**Question Three: In addition to what is listed above [questions six through 12 on page 90], what do you think are important factors to consider in a staff development program?**

The five identifiable categories were: make staff development interesting, make staff development relevant, consider teacher's subject area, times and places for training, and activities for classroom use. Making staff development relevant received two responses and the other categories received one.

**Question four: To what extent were you involved in the planning of this staff development program?**

One participant worked on the staff development committee. Two participants submitted suggestions when asked to help with ideas for staff development programs. Nine participants had no involvement.

**Question five: In what ways do you think this training will influence your classroom instruction?**

The identifiable categories included: awareness of learning styles, hands-on instruction, lesson planning, help

with individual needs, and use of learning styles. Six of the participants believed this training made them more aware of learning styles.

**Question six: What concerns , if any, do you have about using learning styles in the classroom?**

Their responses included the following categories: time, administrative support, room design, understanding of learning styles, meet student needs, and concern for student abuse of learning styles. Time, administrative support, and concern for student abuse of learning styles each received two responses.

**Question seven: What aspect of learning styles would you like to know more about?**

One participant desired to find out more about room design in his/her particular classroom. Another response was on learning styles assessment for large numbers of students.

After completing the analysis of both surveys, the researcher matched the responses on the two surveys. Many of the items could not be correlated together to form any kind of pattern. However, three categories provided some information to support a change of thought by the participants. The three categories included a concern for the use of learning styles, an awareness for learning styles, and a concern for administrative support. Three of

the matches showed no significant information. Three participants expressed no concerns for learning styles on the initial survey. After completing the four sessions, they identified the following concerns on the second survey:

- had a concern on amount of time it takes to plan
- time
- students who might abuse type of learning styles
- Do I have a physical setup that will accommodate it?

Three participants wrote about a desire to become more aware of learning styles on the initial survey. Finally, one participant gave no response on the first survey about having a concern. On the second survey, the participant shared a concern about getting administrative approval for using learning styles in the classroom.

#### Summary

The participants believed in the importance of a staff development program that began from the bottom up and offered an incentive. Because these participants completed the training, the researcher expected a high interest with learning styles as an instructional tool. Seven participants regarded learning styles as a worthwhile strategy. Only three participants regarded previous staff development as a worthwhile experience. Whereas, five participants gave this program a high mark. Participants did reflect a concern about administrative support. They

also believed the faculty endorsement of staff development goals were more important than administrative endorsement. Time commitment by colleagues was important and the relevancy of training must fit the school needs and classroom instruction.

The best elements of this staff development program included an understanding of how students learn differently, hands-on, use of learning styles in the classroom, and assessment tools. The participants suggested the following improvements for this program: more time, hands-on, real-life case studies, learning styles assessment strategies, and the number of meetings.

Important factors for a staff development program should include a relevant program for classroom instruction that considered the teacher's subject. The program should pay particular attention to the times and places of the meeting as well as making the program interesting to the participants. Also, participants expect to learn and develop new activities for the classroom.

The participants believed this program made them more aware of learning styles as an effective classroom methodology. This awareness led the teachers to better lesson planning, more hands on instruction, and understanding individual needs more precisely.

The concerns about this program on learning styles instruction related to the time it took to understand and implement the program to meet student needs, and what administrative support was available. Two teachers wondered about students abusing the apparent freedom of learning styles within the classroom.

#### Implementation Profiles

Classroom observations focused on how the participants implemented learning styles instruction. During this phase of the program, the observer was to identify learning styles strategies being implemented into the classroom.

Participants made individual choices as to what and how many strategies should be implemented into the classroom. From the pool of 15 participants, 11 agreed to the observations for the spring semester. One participant was an inclusion teacher. Inclusion was a program designed to assist the primary teacher with LD and EMH students mainstreamed into the regular classroom.

Before the first observation, the researcher held an initial interview (see Appendix F). At the close of this interview, the teacher selected a time and date for the first observation. The researcher told each participant the purpose of the first observation was to see a normal class setting without a particular focus. This initial observation served as a starting point for further



observations. The researcher only observed the classroom to identify what implementation of learning styles took place in the classroom by using the Learning Styles Observation Instrument (see Appendix C). After the initial observation, each participant chose from the following:

- select another date for observation only
- request assistance for administering the LSS
- request assistance with a given learning styles strategy identified by the participant
- request for the researcher to conduct a lesson using learning styles
- request for a particular focus during the next observation.

Follow-up observations focused on the implementation of learning styles strategies within the classroom. The Learning Styles Observation Instrument and interviews with the participants helped the researcher in identifying learning styles implementation. Some follow-up observations had the researcher assisting with the implementation of the LSS and making some of the activities from the training sessions. Most participants wanted the researcher to observe what happened in the classroom without a focus point. Then, the participants wanted the researcher to discuss what took place in the classroom.

Initial interview

**Question one: What did you do with learning styles during the fall?**

Several participants stated they did not do much with learning styles in the fall. The elements with a significant amount of responses (eight or more) were grouping, room design, hands-on, and lighting. Sound, mobility, temperature, and comfort position received five or less responses. An interesting note about the comfort position came from two teachers. One teacher was the inclusion teacher. They stressed comfort position in the classroom. They believed the growth spurts and uncomfortable desks stifled the learning environment. Therefore, the teachers wanted to allow students to sit or lie on the floor whenever possible.

Some activities from the workshop were selected by the participants. Teachers stated they used these selected activities during the fall. Teachers selected circle of knowledge, floor games, and sentence strips from the list. These activities had four to seven responses. The following activities received single responses: math strips, math games, math bingo, stations, games, and using the four modalities in instruction (auditory, visual, tactile, and kinesthetic).

Question two: **What are your goals for this spring?**

Of the elements and activities the researcher identified, participants wanted to accomplish the following: administer and analyze the LSS, become more aware of learning styles within the classroom, continually work on room design, incorporate learning styles into the lesson planning, find ways of helping the EMH/LD students without losing the other students in a lesson, and make some of the activities from the training sessions. One participant wanted to allow her students the time to finish work. She believed all students worked at a different pace:

I know I have to meet certain deadlines . . . but sometimes when I expect all students to do everything in the same allotted amount of time, and I know that makes absolutely no rationale sense, because I know that students work at different paces and yet, knowing that as well as I do, I somehow hold on to the old stuff where, "No, it was due yesterday." or, "No, I've got to have it." That is what I want to work on. Those students who really need to take it home overnight.

Some of the participants shared goals not directly related to learning styles. These goals included: following the state guidelines, help students master the end of year test, help students to become independent thinkers, help students

to be more responsible, and as one teacher stated, "To get through it (meaning to finish the year regardless of the instructional method)."

**Question three: In what ways can we help you implement learning styles?**

Eight of the participants wanted help with the administration and analysis of the LSS. Two of these participants gave the LSS in the fall. They did not feel comfortable about giving the LSS, but they wanted to compare the results of both instruments.

Three participants wanted further help and explanation of some of the activities shown in the training sessions. These three teachers hoped to implement some of the activities in the spring.

Three participants looked forward to the practice with observation phase. They still felt unsure about the implementation of learning styles strategies. They hoped to become more aware of using learning styles in practice by talking and listening to the participant/observer. Two teachers, who worked together with the inclusion program, wanted to see learning styles in action. One teacher wanted to work with the participant/observer. This participant hoped to pick up ideas about learning styles by assisting, talking, and listening.

### Summary

During the fall, teachers incorporated the following elements and activities in the classroom: grouping, room design, hands-on, lighting, circle of knowledge, floor games, sentence strips, and other types of games (i.e., math games). Table 7 reflected the various strategies the participants shared during the initial interview. The responses reflected those strategies that participants had either used prior to the training or as a direct result of the training. The goals for the spring continued many of the strategies already in use. An emphasis was on the administration and analysis of the LSS and finding ways of helping special needs students. Through the help of the participant/observer, the teachers wanted to focus on the LSS and some of the activities shared in the training sessions. They hoped this opportunity would give them more of learning styles in action.

### Classroom observations

By using the Learning Styles Observation Instrument (see Appendix C), the researcher observed and made notes on each of the participants during four different observations. On the instrument, the researcher drew diagrams, wrote statements and responses by the teacher and/or students, and made notes that might be relevant to the study. The researcher noted auditory, visual, and tactile/kinesthetic

Table 7

Participants Use of Learning Styles Strategies

Elements	Participants Responding
Grouping	11
Lighting	10
Room Design	8
Temperature	5
Mobility	5
Sound	4
Stations	1
Other	11

Activities	Participants Responding
Sentence Strips	7
Circle Of Knowledge	6
Floor Games	4
Flip Chutes	0
Pick-A-Hole	0
Electroboards	0
Other	11

methods of instruction. All participants used a high amount of auditory instruction. The visual mode of instruction usually consisted of the overhead projector, blackboard, or a book. One participant used a filmstrip, and another participant used a video within the lesson. Two participants incorporated grouping and TK to enhance a lesson using the overhead projector. Two participants used hands-on materials for math assignments. During the observations, the researcher identified the following elements that were used significantly by seven or eight participants. These elements included: room design, grouping, structure, and motivation.

Room design. The researcher noted that seven participants modified their room design sometime during the spring. The observations were about one month apart. Most room designs changed on the third and fourth observations. The basic layout of tables, computers, and supplies stayed the same. However, as noted on the observation instrument, student desks changed with each observation (see Figures 2-8).

Participant three changed the room design often (see Figure 3). Participant three reported:

Room design . . . I change **regularly!** I am one of those kind of people I get bored with it or I say, "This isn't working." We change. I've had this room

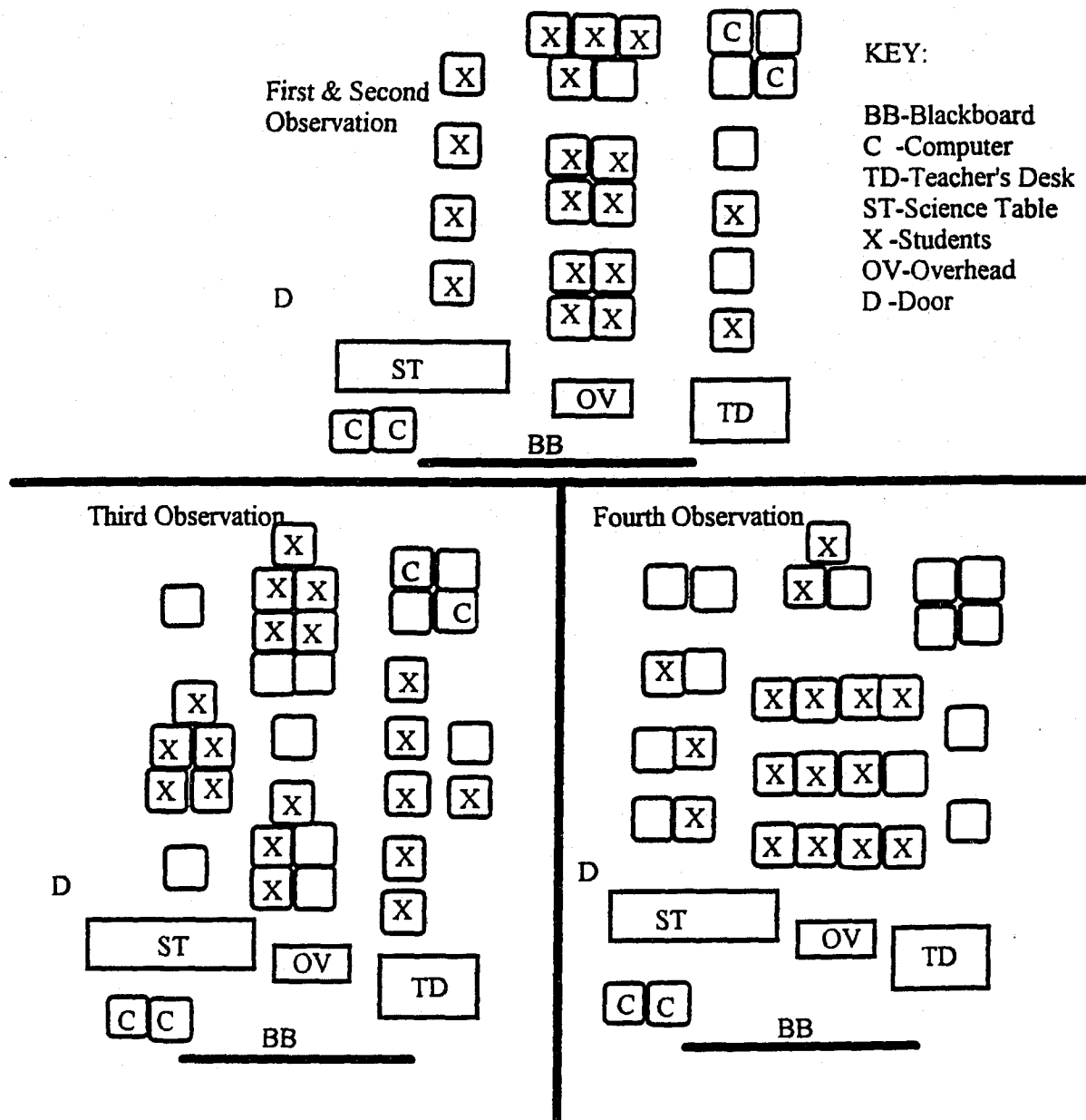


Figure 2. Room Design for Participant One



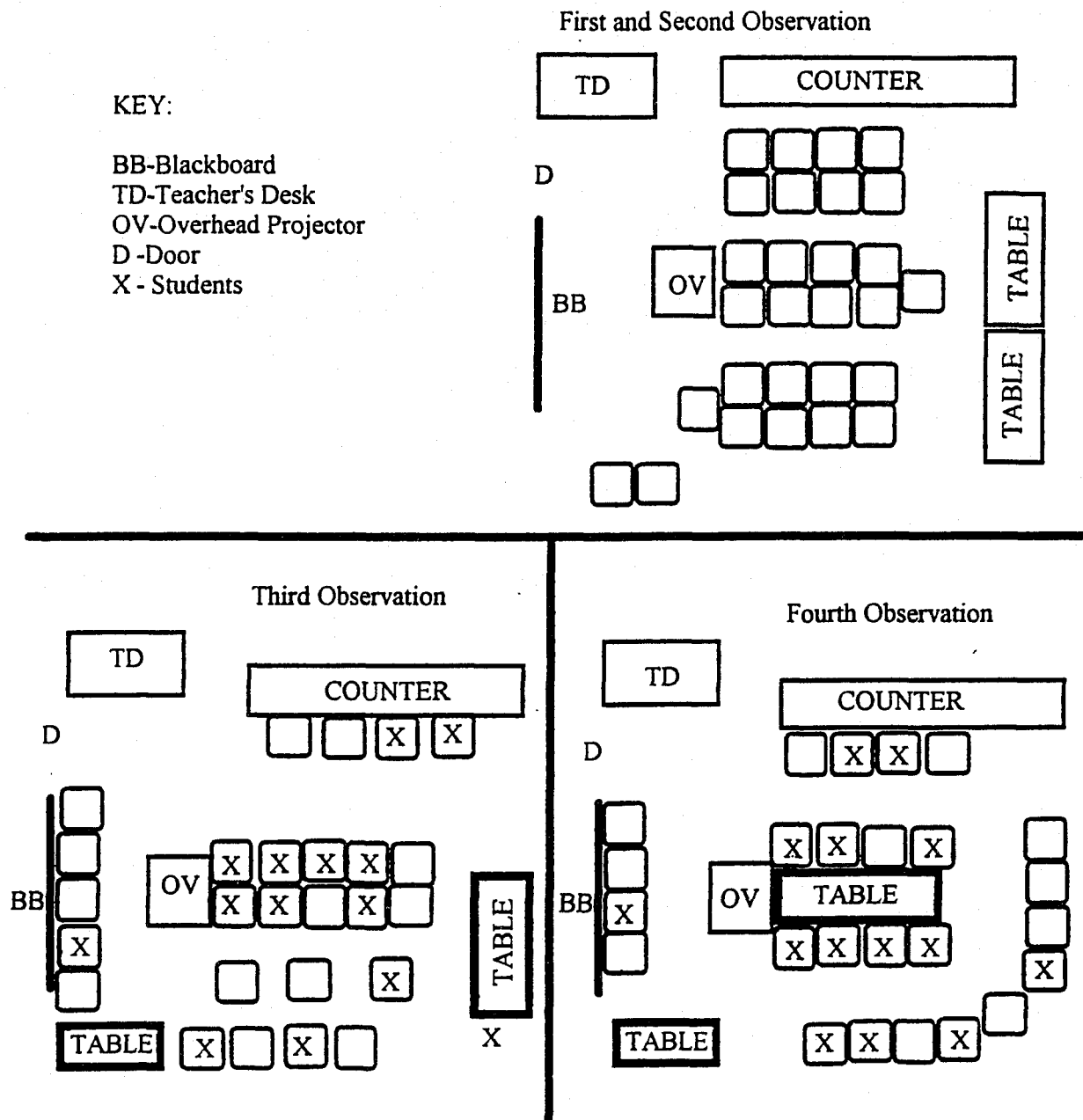


Figure 3. Room Design for Participant Three

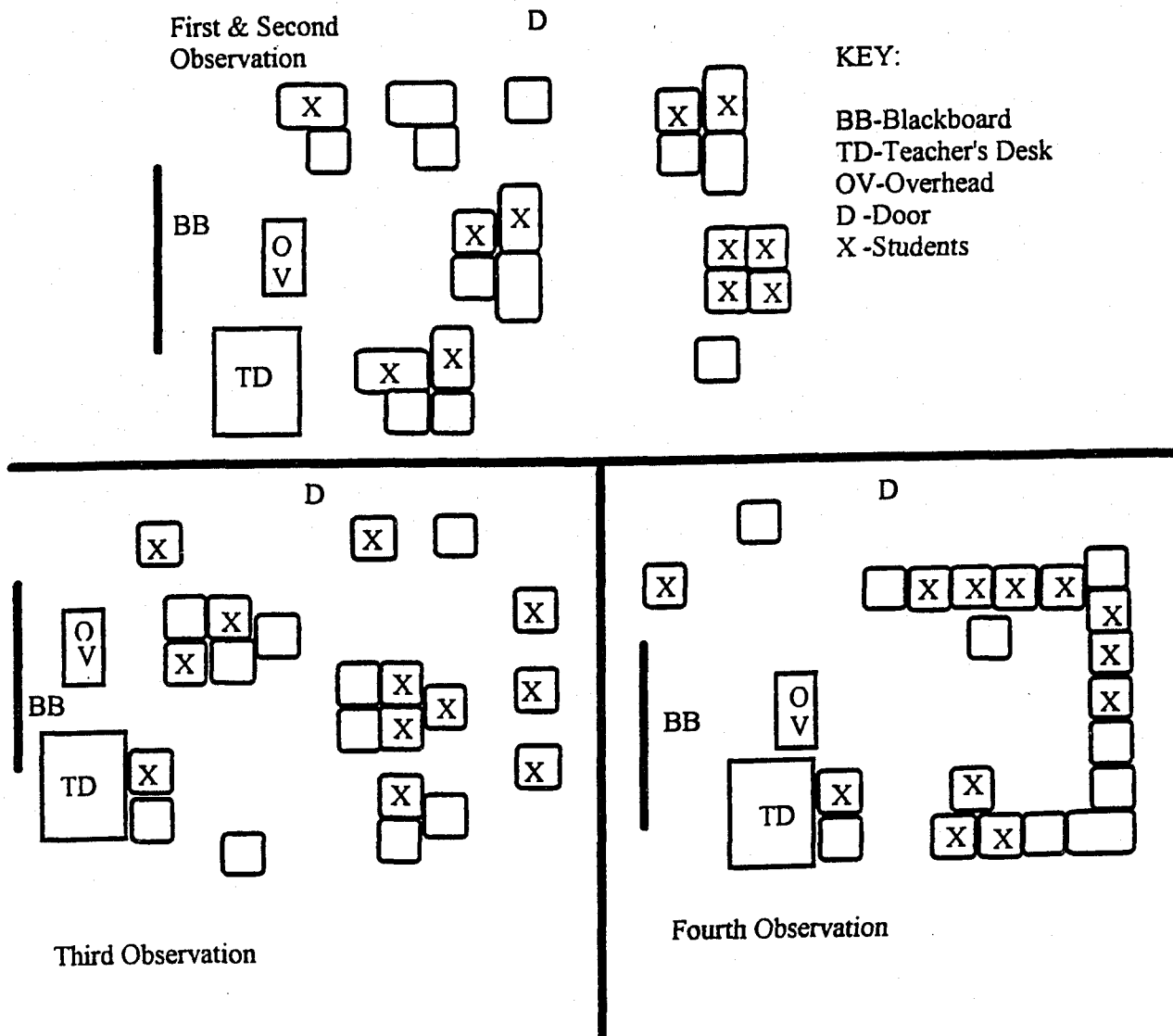


Figure 4. Room Design for Participant Four

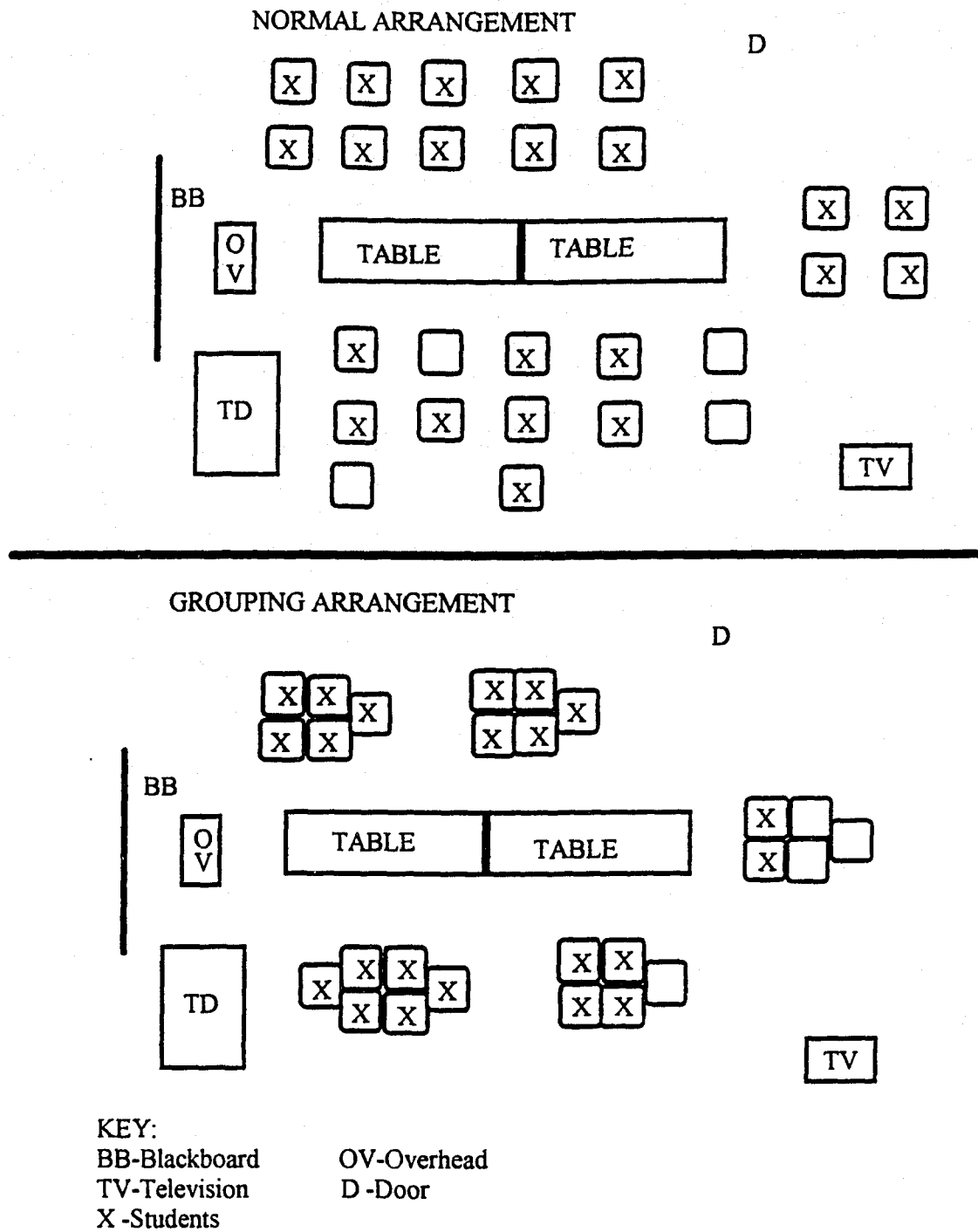


Figure 5. Room Design for Participant Five

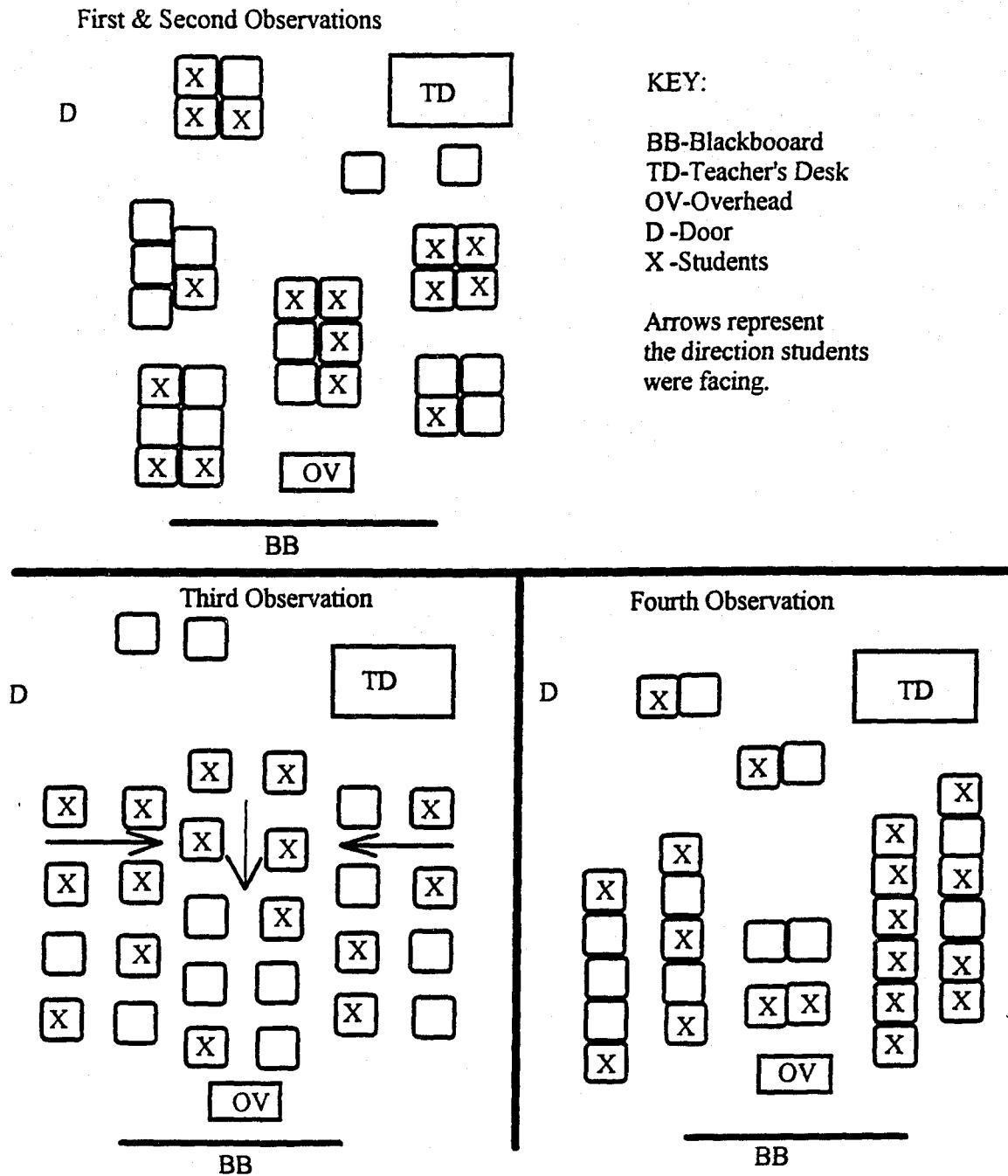
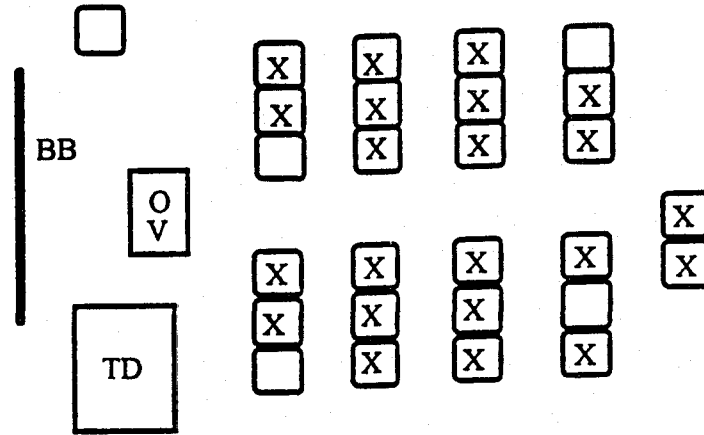


Figure 6. Room Design for Participant Six

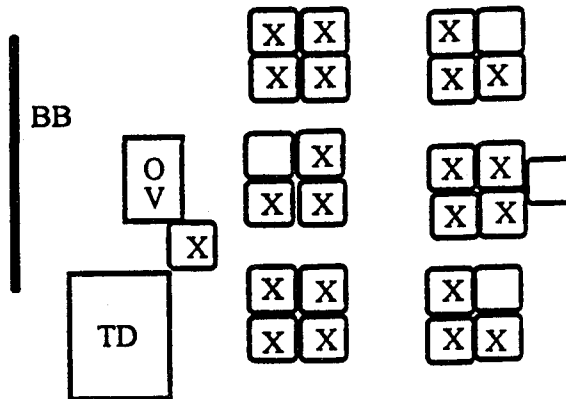
First & Second Observations

D



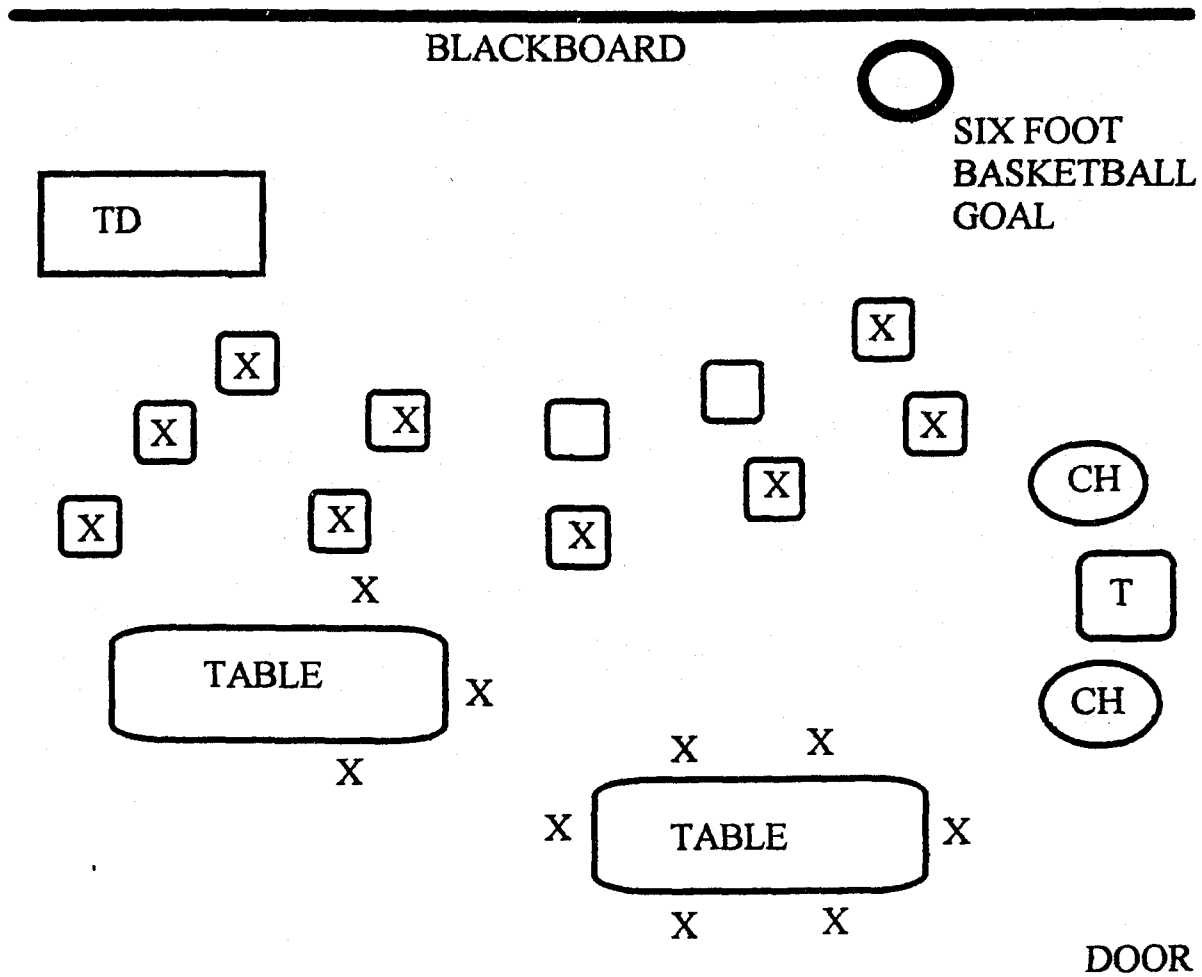
Third & Fourth Observations

D



KEY:  
 BB-Blackboard      OV-Overhead  
 TD-Teacher's Desk    D -Door  
 X -Students

Figure 7. Room Design for Participant Eight

**KEY:**

- TD-Teacher's Desk
- CH-Living Room Chair
- T -Small Table
- X -Typical Student Seating in  
All Observations

Figure 8. Room Design for Participant Nine

all different ways and this is a much smaller room than I've had in the past. And it's limited to what I can do, and I find that frustrating. This (long counter) is going out of here because the fire marshal says, but I'm just as glad because I'll be able to spread out a little more.

Along with the rearrangement of the room, students brought pillows, blankets, and bean bags to school (These items could be seen stacked in a corner.). This new freedom brought new problems. Many students handled the new found freedom poorly. Participant three stated, "Some of them just couldn't handle that kind of freedom. They went bazonkers even though they probably would work better that way . . ." The problem occurred not from the use of these items but from peers and peer pressures.

Participant five's room design remained the same except during group work. When students worked in small groups, they moved desks into small clusters. At the end of the session, the students returned the desks back to their original places (see Figure 5).

During the initial interview, participant six reported a change in the room design only once since the beginning of school. The fire marshal forced the change by requiring 44 inches between everything. However, as noted, each observation showed a slight variation with the room design

(see Figure 6). The teacher's desk and corner area remained the same.

Participant eight's room design changed only once after the first observation. The basic room layout remained the same. Only student desks changed (see Figure 7). This teacher also tried to accommodate a smaller student by acquiring an elementary school desk.

Participant nine's room design remained the same in all observation notes. What made this room so unique was how the layout was completely different from all the other rooms. This room incorporated soft chairs, radio, basketball goal, tables, and desks to give a more versatile classroom (see Figure 8).

Grouping. The researcher noted that seven participants used grouping at some point during the observations. Usually students worked independently, in pairs, or in groups of three to six simultaneously.

Participant seven had students normally working in whole group settings or in pairs. Unprepared students worked with another student by teacher direction. Looking around the room, the researcher made notations about a poster on the wall that gave rules for working in pairs:

1. Take turns speaking
2. Take turns listening



3. Speak quietly
4. Share knowledge
5. Work on activity together
6. Discuss answers
7. Group decide on answers
8. Take turns but use time wisely

"All for one and one for all"

Structure. The researcher noted eight participants required a more structured atmosphere. Some of this structure reflected the inability of students to handle a less structure atmosphere. For example participant one attempted to give basic instruction that allowed students to become more independent thinkers. An example showed students working on leaf plots in Math. Students received simple instructions from the teacher. Within the group, students compiled the data, made a transparency, and shared the information with the class. However, the session revealed how students wanted a more structured environment. The researcher first observed students complaining about not understanding the directions. Students began talking more to each other about other topics: "Do you want to meet me at the mall tonight?" Another student tried to stay on task: "I don't know what I am doing. Please tell me what to do!" Once the teacher refocused the students and gave more

direction, the students quieted down and got back on task. Behavior problems quickly disappeared. The third and fourth sessions had similar results. At one point, the teacher stated, "Stop writing and look this way. Pencils down!" The lack of structure seemed to promote inappropriate behavior since the more directions given showed students working harder to achieve the correct answer.

Another example noted showed how participant six allowed for more choices by the students. The teacher tried to give a minimum amount of direction. Students then selected the best method for completing the task. When a student required more structure, the teacher gave the needed support. For example, during one observation, the researcher noted how students received a short incomplete passage as they walked into the room. The students had to find the rest of the passage. This process determined the student group. Students received new instructions after students found their groups. By using the overhead, students had to share the main points from the passage. Students showed confusion about how and what to write on the transparencies. Finally, students began probing the teacher for guidance. One group drew a picture map. Other groups made a time line or just listed the information. As each group shared information, another group stated how they wished they had known they could have done it that way. One

other point, this teacher reported how she found out from the LSS that the students in this class preferred a lot of direction. The teacher seemed somewhat surprised by this information. Upon reflection, the teacher recalled how on many lessons, students requested more direction.

Motivation. The researcher noted how a variety of motivation techniques usually involved some type of reward system for inappropriate behavior. Eight participants used some form of motivation to correct behavior or keep students on task. One teacher selected a group of students to add five points to their work. Those points got the other students back on task. Other participants used variations of point systems, one on one discussions, humor, and incentive charts.

Other. Besides the elements already discussed, some participants used other elements in the classroom. The researcher noted the following elements: lighting, intake, and mobility. Also, the participant/observer noted some hands-on, and the assistance of a special needs student.

From the researcher's notes, participant four had two incidents with lighting. Lighting created a minor problem for one student. Students preferred the lights off. Each time, one student complained. The teacher told the student

to sit by the window. During the third observation, a student raised the shades and turned off the lights. The same student said, "Man! Turn the lights back on!" The teacher replied, "You can sit by the window if you need more light."

Participant four also used a motivational technique of offering food in the afternoon. During one observation, students received a fat free brownie. All students accepted the treat. One student stopped all work and ate the brownie. Two students chose to eat and work at the same time. The remaining students decided to save the treat for later. Participant nine freely allowed gum chewing. Usually teachers required students to throw the gum away. In this class, several students openly chewed gum in every observation. The researcher saw no interference with the instructional time due to gum chewing.

The researcher noted how participants ten and eleven had a unique way of using mobility in the class. Students had assigned seats, but certain classroom activities allowed students to find a comfort zone. Both participants shared a concern about how uncomfortable the desks were for growing students. They wanted to allow the students the ability to find a comfortable position or place. Students moved desks to allow enough space to stretch out. Other students sat or lay on the floor. The participants attempted to try and

allow several variations for students to find a comfort zone. Students requested some moves, and the teachers tried to accommodate those wishes. Participants identified one problem. Some students abused the privilege by horseplaying. The participants asked the participant/observer to observe and give feedback on the problem. Basically, the participants allowed for the flexible movement without any restrictions. The restriction applied was "You may find your comfort zone as long as your grades improve." The participants had fewer problems. They found that only those who really needed the extra space began using the comfort zone. Those who abused the restriction lost the privilege which illuminated most of the behavioral problems.

Besides the classes that made learning styles activities, the researcher noted two classes participated in hands-on activities. For example, participant eight had students to participate in hands-on activities during two observations. One session involved a bingo game to enhance student math skills. During another math session, the teacher utilized a variety of objects (two paper clips, box of paper clips, a can, and measuring tape) to increase critical thinking skills.

Participant five reported a method for working with an ESL (English as a Second Language) student. The student

spoke only Spanish. Fortunately, two students spoke Spanish fluently. On occasion, the entire class worked with the teacher to design materials and tests for the student. The test basically tried to help the student translate his language into English.

#### Summary

The observations allowed the researcher an opportunity to see what learning styles had been implemented. Participants had no expectations of doing anything out of their normal routines. The researcher attempted to identify those learning styles strategies shared during the fall training sessions. Participants were expected to implement a portion of the strategies as time and practice were critical for the acceptance of a given strategy. Room design, grouping, structure, and motivation gave the researcher the most information. While lighting, intake, mobility, and hands-on occurred on occasion. Participants favored instruction using auditory methodology. However, some visual and tactile/kinesthetic instruction took place in most of the classrooms (see Table 8).

#### Focus Group Interview

Eight of the 11 core participants came to the focus group interviews. The meeting took place in the upper media center around a reading area with sofas and soft chairs. This session lasted about 40 minutes.

Table 8

Learning Styles Strategies Implemented in the Classroom


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Learning Styles Strategies	Participants Responding
Auditory	11
Visual	9
Tactile/Kinesthetic	4*
Room Design	7
Grouping	7
Structure	8
Motivation	8
Lighting	6
Intake	4
Mobility	5
Temperature	4
Variety	3
Sound	1
Time of Day	0

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Note. \*Four teachers used actual hands on activities. All teachers used basic skills like writing.

After all eight participants arrived, the researcher related everything that happened over the year. The researcher told the participants that this interview had nine main questions for open discussion. All participants had the opportunity to respond to each question.

**Question one: Tell me what you feel were the strengths of this staff development program?**

The first response shared how the participant/observer appeared not to bother the participants or students in the classroom. One participant stated, "It didn't bother me . . . It didn't take away from time." Another participant shared, "It didn't bother the kids." Kids ignored the researcher most of the time. As an example, a teacher disciplined a student in the hall. Another student in the room who was involved with the same problem made threatening remarks to anyone who would tell. This student knew the researcher was in the room. Besides the example, students sometimes asked questions as to the purpose of the researcher in the room, but the teacher kept the students on task.

Other strengths of the program included hands-on activities during the training session and follow-up. Many participants believed that staff development should incorporate more hands-on during training. They want more activities to bring back to the classroom. The follow-up



helped most of them to focus or concentrate on learning styles for their students. One participant said, ". . . this format was better for workshops because you didn't have to say, 'Well, the workshops over! Shove the stuff on the shelf and go on your merry way.'"

**Question Two: Tell me what suggestions you have for improving this staff development program?**

The participants believed the process for this program worked well. They suggested having an instructor to actually teach one of their classes. Another suggestion was to have a video showing demonstration lessons with kids. These demonstration lessons needed to include inclusion, resource, AG, low achievers, and average achievers. Finally, another participant wanted more time for making the materials, and wanted an instructor to assist one class on how to make the materials with students. A classroom of adults making materials helped some, but several participants shared apprehension about trying to do the same lesson with students. Most participants enjoyed the instruction but felt uncomfortable or unsure of themselves when it came to implementation of learning styles.

**Question Three: Tell me how you feel about learning styles now versus at the beginning of this program?**

Four participants felt the participant/observer had made a difference. They believed they would have probably

not done very much with learning styles, but having the researcher coming into the rooms and talking with the teachers about learning styles helped them to stay focused on learning styles. They believed this focus made them even more aware of learning styles within the classroom and made them think about ways of implementing learning styles. They planned to complete the PBAP plan and enjoyed the learning styles workshops. They believed learning styles would have stopped for them if it had not been for the follow-up. Most participants believed the follow-up allowed them to gain a better understanding and appreciation for learning styles.

**Question Four: Tell me how you feel about learning styles as a valuable tool for the classroom?**

Some participants felt learning styles was a worthwhile tool to add to their repertoire of teaching methods, because a few strategies were easy to apply in the classroom like room design or lighting. Since working with learning styles instruction, many participants believed learning styles helped with the planning and implementation of certain lessons.

**Question Five: Tell me how this program has helped you change the way you view your class?**

Participants shared how they have received a better understanding of the differences in their students. One participant stated:

Everybody doesn't learn the same way and you can use a lot of different evaluation methods to accommodate those learning styles and they would be very very valid. Some kids felt they could take a pencil and paper evaluation and others do not. That doesn't mean they both didn't learn something.

**Question Six: Tell me how this program helped you with your teaching strategies?**

**Question Seven: Tell me how this program has helped you to better understand your students?**

Questions six and seven received similar responses. Participants shared how learning styles made them more flexible. They allowed students more freedom. One participant asked herself, "Why is this student asking that?" Where, before, she immediately said, "No." She stated:

I feel more comfortable now with requests for, "I want to sit under the table, because it's dark under there," or, "I want to go sit by the window where there is lots of light." . . . The different requests doesn't bother me anymore. It use to bother me. I kept thinking if somebody came by and looked and saw some kids under the table and people laying on the floor, I know that it would bother them. Now I just do it and don't worry about it.

Several participants stated how learning styles made them more aware of students' individual learning styles, ". . . you begin to look and say, 'Ah, that explains the way this person responds.' . . . When you are aware, then I adjust my expectations . . ." Another participant shared how he helped another participant who went home ill. He substituted for her, and he shared a story about a student sitting in the window. He said he did not think about it at first and then he realized, "the kid is sitting in the window. So what! . . . I mean he was sitting in the window very absorbed in what he was doing . . ." Another participant shared a story:

One other thing that learning styles had done for me that I'm noticing. I am not so quick to judge a situation. I am not so quick to say, "Stop! What are ya doing? What ya doing that for? Quit!!!! Beating on that desk!" And I am not so quick to jump down somebodies throat for asking a stupid question. I use to think, "Now that's total nonsense. Why are you even asking that?" Now I take a minute and I weigh it and I say, "Now is this really a question? Maybe she is asking it for a reason. Maybe he is doing that for a reason . . ."

**Question Eight: If you were to key in one factor that made this a meaningful staff development program, what would that be?**

Participants believed the follow-up and one on one with the researcher made this program meaningful.

**Question Nine: What do you think should be the next step?**

Participants wanted to see a continuation of follow-up and observations. They wanted to see demonstration classes and/or videos that did an entire lesson. They wanted more practice to help with the implementation process. They wanted help with making materials for lessons and the time to make these materials. They wanted the time to discuss and work with colleagues on ideas and strategies that worked or did not work in the classroom.

#### Summary

One of the first strengths shared by the participants was the unobtrusiveness of the participant/observer. They felt comfortable doing their normal classroom tasks and remarked about how the students did not seem to mind the other adult. Other strengths of the program included the hands-on activities and the follow-up procedures. The participants suggested for future programs, like the one they completed, to have more time to make and design classroom activities. They also wanted to see more of

learning styles in action in their classroom. If that was not feasible, then maybe a video lesson with kids.

Because of the design of the program, the observations and discussions allowed the participants to be more intuned to learning styles and the learning styles of their students. They believed the follow-up made this difference. They believed this program was a good addition to their teaching methods as the program made them more conscious of how they developed some of their plans. Also, the program allowed them to become more flexible in the classroom as to the structure of the room, the method of instruction, and the acceptance of differences with students' styles of learning.

The participants suggested a variety of follow-up strategies. These included:

- see a continuation of follow-up and observations
- demonstration classes and/or videos
- more time for practice, making materials, and discussion with colleagues.

#### Staff Development Director Interviews

The staff development director held this position for several years. The researcher met with the director on two occasions. The director also served as a subject in the research. The director provided background information in the spring of 1993.

Ferndale Middle School formed a planning committee to oversee the goals of the school. The planning committee met with the chairs of all committees to set goals for the year. These goals determined the direction of the staff development committee. This committee looked at the goals and found workshops that met those goals. The committee organized and planned all workshops around one central theme. Only teachers were on the committee. The staff development director kept records of dates, times, and participants for all workshops.

This past year, all workshops focused on one central theme-learning styles. The workshops offered included: learning styles instruction, communication skills, writing, LD and special needs students, and Higher Order Thinking Skills (HOTS). Teachers earned up to two C.E.U. credits. Under the PBAP plan, teachers completing 10 hours of training and guidelines specified in the plan became eligible to earn differentiated pay on a percentage basis of salary.

The director liked the emphasis placed on student achievement by identifying goals for the school. The PBAP plan helped to focus on training for the teachers. She believed the follow-up has benefited the staff development program. From talking to other teachers, she heard many positive things about the learning styles instruction,

especially the in class help. She knew many teachers did not administer the LSS to their students. She believed this was due to teachers not sure of what they were doing. They seemed to feel uncomfortable with the implementation of learning styles without adequate practice and supervision. Having another instructor to come in and demonstrate allowed for many participants to try it on their own. Several teachers even talked to the staff development director about wanting to begin participation in the learning styles instruction after hearing about the program from some participants.

During a late spring staff development committee meeting, the group decided to recommend some changes for next years staff development. Some suggestions directly related to the learning styles program. The committee liked the idea of working with smaller groups. The strategy suggested would include an introductory workshop to allow all teachers to find out what the program was about. Then, those teachers wanting to participate in the program would form a core group. This core group could be teams or departments depending on the workshop. The committee would also focus in on programs that had some follow-up to ensure the program was still up and running. Finally, at the end of the year, the group would meet to evaluate the program and decide what the next step should be.



### Interviews With Participants Who Did Not Complete Training

To gain a better understanding of the investigation, the researcher asked a series of questions (see Appendix G) to one group of 10 certified faculty members who attended some learning styles training in the fall. Background information can be found in Appendix H.

**Questions: What do you know about learning styles?**

**What experiences have you had with learning styles?**

One teacher shared a semi in-depth knowledge of learning styles by discussing such concepts as lighting, temperature, auditory, hands-on, etc. Eight teachers stated they had some experience with learning styles. Most of this experience came from workshops. The guidance counselor stated she had some knowledge of learning styles. She believed this knowledge helped her to understand what happened in the classroom and more importantly to the student. One teacher said that previous administration "pushed it (learning styles instruction) quite a bit." Another teacher believed in hands-on and allowed students to move around. But she believed learning styles was "just a dream world and not really applicable to the regular classroom. We have too many confines. We have a certain size room and we have a certain amount of time to teach X amount of material."

**Question: What are your interests in learning styles instruction?**

Two teachers gave no response. One teacher believed ". . . it would be a good thing to implement but it's one of those things that looks good but it's not as practical to implement as a lot of people think it is . . ." This teacher shared an interest in being aware of learning styles instruction whether one used it or not.

The remaining seven teachers identified three areas of learning styles interest. First, five teachers showed an interest in the learning styles of students. Two teachers had an interest in being aware and using learning styles more with the non-traditional student, and two teachers wanted to know more about learning styles of all students. The fifth teacher had a strong desire to getting students to work together cooperatively. Second, one teacher wanted to continue to practice with learning styles in the classroom. Third, working and talking about learning styles with a co-worker helped another teacher to increase her interests in learning styles. "Even with my co-worker, she likes soft music in the background and I like total silence and we discuss learning styles quite often. And I think that has helped us to recognize differences which is what I basically deal with all the time."

**Question: Would you share with me your reasons for not completing the training in this particular learning styles workshop?**

Reasons for not completing the training sessions fell into three basic categories: incentives, time, and repetition. Two teachers stated they had completed the training. At the time of the interviews, the records indicated they had not completed the training. Incentives based on the PBAP plan became a major focal point. Four teachers completed the mandated hours to receive credit under the differentiated pay plan and chose to not complete the learning styles instruction. Two of these teachers had personal commitments that helped with their decision to stop. Another teacher stated, "I had my ten hours and I chose just to quit. I really did . . . I really liked the instructor and that was my only reason." Time also received four responses. One teacher had to attend other meetings that conflicted with the time of the training sessions. One teacher had to take her daughter to dance class. The other two responses were for the same types of reasons. However, the PBAP plan made the decision a lot easier. Repetition became a concern for two other teachers. They stated how this particular learning styles had been taught in previous workshops. One teacher stated, "Mainly because it was the

same thing that I had heard two or three times before and I didn't really particularly want to hear it again."

**Question: Given what you know about staff development programs and how they are implemented, what do you believe would make for a meaningful staff development program?**

The researcher identified nine categories from the responses received by those participants who chose not to complete the learning styles instruction. These included:

1. useable
2. need
3. cooperation
4. research-based
5. training design
6. follow-up
7. planning
8. choices
9. interesting

#### Summary

Nine participants received some training or experience in the past. Learning styles added some constraints. These constraints involved the practicality of learning styles instruction and the issue of time.

Time became a big factor for several reasons. Teachers had scheduling conflicts with the training. Teachers needed ample time to learn the material. State guidelines forced

teachers to give up on new strategies because of the limited time to complete the required material.

Those teachers who did not finish the training gave three basic reasons: 1) time, 2) repetition of the material from previous workshops, and 3) PBAP incentive allowed them to decide the easiest and less time consuming method to receive the differentiated pay.

The participants identified the following areas for a meaningful staff development: 1) was the training useable, 2) was there a need at the school, 3) was the training of interest to participants, 4) were participants given choices, 5) planning, 6) training design, 7) follow-up, 8) cooperation, and 9) research based.

#### Chapter Summary

The information gathered allowed the researcher to state the following information for the research questions:

1. How do participants respond to a four-part in-service training model (training, demonstration site, practice with observation, and evaluation) on learning styles instruction?

The participants responded to the training model by sharing the following:

- A. An incentive helped to create a large turn out at the first session and dropped during consecutive sessions, probably due to meeting PBAP requirements.

- B. participants completing the training noted a high interest in learning styles
- C. liked the unobtrusiveness of participant/observer
- D. liked having choices
- E. practice with observation kept the focus
- F. focus group helped to share what happened and what should happen
- G. concerned with the late starting times and number of meetings.

2. How do participants implement learning styles instruction following the training sessions?

As the participant/observer, the researcher tried to focus on learning styles strategies shared in the fall training sessions and interview answers. The instructor stressed the importance of not trying to do too much too soon. The LSS and basic elements, such as room design and lighting, were quick and easy methods to begin the program. Learning styles instruction could begin the very next day but takes time to fully appreciate the effectiveness of the strategy. Therefore, participants tried to apply those strategies they felt they could handle at the time. The number of strategies varied with each teacher. The observations reflected a minimum amount of implementation. Unassisted implementation of learning styles strategies

included: room design, grouping, structure, motivation, lighting, intake, mobility, and hands-on. Learning styles strategies implemented with assistance included: administration and analysis of the LSS and making some of the activities in the classroom.

Participants believed time became the critical factor for the amount of learning styles strategies used. Since the observation phase began in February, teachers became concerned over writing tests and end-of-grade tests. They wanted to be sure to cover all the material before testing. The participants wanted the activities but felt they did not have the adequate amount of time to develop the materials properly. Several participants hoped to begin the next year with planning some activities. Their focus for this year was to become more aware of student's individual learning styles and to become more comfortable with some of the simpler learning styles strategies like room design.

3. How do participants perceive this staff development project in learning styles instruction, specifically the themes of planning, cooperative development, research based approaches, training design, and support?

A. Many of the participants believed the following:

- (1) planning was important-two were staff development committee members and several participants gave input into the staff development programs
- (2) faculty goals were more important than administrative goals
- (3) the program should be relevant to the school's needs and instruction
- (4) hoped to receive support from the program, colleagues, and administration
- (5) an incentive was important
- (6) an incentive strengthened the planning phase of staff development
- (7) participants wanted a better understanding of learning styles
- (8) participants believed learning styles was a worthwhile strategy
- (9) administrative support varied but most participants believed support was there
- (10) quality of training was medium to high
- (11) very important for faculty to commit together on implementing this staff development strategy



- (12) working cooperatively helped to keep the interest high
- (13) site-based management was extremely important
- (14) creating materials or activities was important
- (15) hands-on activities during training was important

B. As part of the training design, the following points reflected participants' views:

- (1) felt comfortable with instructor to share concerns and ask questions
- (2) used hands-on approach and wanted more hands-on type instruction
- (3) useable material for class use
- (4) an understanding of learning styles approach
- (5) late start time
- (6) too many meetings
- (7) a need for more learning styles in action--lack of real-life case studies
- (8) a need to consider teacher's subject area
- (9) more time to make materials and design lesson plans

C. The participants shared the following concerns:

- (1) learning styles assessment
- (2) administrative support
- (3) meeting the needs of diverse student population (i.e., at-risk, low achievers, LD, EMH)
- (4) need more time to understand, plan, create, and implement the learning styles strategies
- (5) this strategy may not be practical in the classroom
- (6) fear of giving up control in the classroom

D. Participants suggested a variety of follow-up strategies:

- (1) see a continuation of follow-up and observations
- (2) demonstration classes and/or videos
- (3) more time for practice, making materials, and discussion with colleagues

CHAPTER V  
CONCLUSIONS

Introduction

The purpose of this study was to investigate the four-part in-service training model (training, observation at a demonstration site, practice with observation, and evaluation) to see how it directly impacts the consequent adoption of the practice in the classroom. A specific focus was to evaluate any positive changes in instruction according to the perceptions of the participating teachers as they attempted to apply the learning styles instruction received from the training sessions. During this study, the researcher acted as a participant/observer. Through the observations and interviews, the researcher gathered information to respond to the three research questions.

Question One

*1. How do participants respond to a four-part in-service training model (training, demonstration site, practice with observation, and evaluation) on learning styles instruction?*

Of the 56 faculty members, 33 faculty members shared an initial interest in the learning styles program. Several

faculty members who did not attending the first session had other school duties such as coaching, committee meetings, and administrative chores. Those members who attended the first session reported two types of interest. The first was a genuine interest in learning styles. The second factor was the development of the PBAP plan that allowed for faculty members to receive extra pay for completing staff development training. This second factor, differentiated pay through PBAP, attributed to the decline in participation of this program as faculty members quickly acquired the 10 hours needed for the first portion of the staff development plan. Faculty members were not required to complete one particular program during the year.

The first part of the model involved the four training sessions carried out in the fall. Information shared was informative and useful to the participants during other parts of the model. However, many participants reported that they had received similar information from previous workshops. Some found the information to be repetitive while others found the information to be a good refresher course for the continuation of the program. A few participants not familiar with learning styles instruction found this program to be a unique approach for helping the diverse population of students at this school.

Participants reported that the strengths of the program included the question and answer periods where the instructor gave classroom examples of the adoption of part of the program. Also, participants liked the idea of building their own learning styles program at their own pace.

The participants originally wanted to know more about assessing their students to identify individual learning styles. Teachers thought the video and LSS materials benefited in understanding individual differences. However, only two participants gave the LSS in the fall. During the spring, they were still unsure about how to analyze the material. During the spring, the participant/observer assisted in the implementation and analysis of the LSS as a software program for doing so became available. Also, several participants wanted to see the LSS administered by someone else before using it. The participants found the information informative and wanted to use the program the next year.

They found the demonstration activities to be worthwhile as they could identify their own ways of adapting the activities into the classroom. They felt that the strongest part of the training sessions was the hands-on session. The participants believed this session to be the most beneficial for classroom use.

Participants identified three weaknesses during the training sessions. The first weakness was the length of each session. Two participants preferred one hour sessions, even if it meant an additional session or two. Participants also wanted the sessions to start on time. In the hands-on session, participants believed they needed more time for the actual making of activities. They wanted more time with the instructor on the development of materials for actual classroom use.

The second part of the program, practice with observation received high marks by all participants by the end of this stage. At the beginning, some participants had reservations about someone coming in to observe. They felt they had to develop special lessons or do "a dog and pony show" for the observer. They also were concerned about how the students would handle the intrusion of an observer so often. However, the practice with observation sessions encouraged participants to focus on learning styles. They were pleased that they could act naturally and make their own specific choices on what should take place in the classroom. They believed the participant/observer gave them an opportunity to discuss a variety of ideas about learning styles and the use of learning styles within the classroom. Participants reported that this part of the program gave them an opportunity to discuss learning styles strategies

with colleagues and teammates that they probably would not have done if no one came to observe. Several participants believed they would have put the program on the shelf if it had not been for this part of the program. Participants believed this type of follow-up was necessary to make any staff development program work. As one teacher put it, "It wasn't painful at all. This program kept the idea of learning styles in my head more often, and I began to see my kids differently. I began to see ways of helping a student through their way of learning."

When asked for suggestions for improvement, participants repeatedly indicated that they wanted to see learning styles either at a demonstration site, on video, or in their own classroom with their students. Another suggestion was to continue the program next year. They made four suggestions: 1) a general session to refresh everyone on learning styles and what they should be doing, 2) learning styles in action (i.e., demonstration site, video, or in their classroom), 3) actual time with an instructor for the development of activities for classroom use, and 4) a continuation of practice with observation.

In summary, the participants who stayed with this training session found the program to be of value for their professional growth and a workable tool for the classroom. They believed this type of program greatly improved the

chances of implementing a topic covered during a workshop. The support gave them more of a sense of responsibility to keep this program as they began to discuss and work together collectively on ways of helping their students.

#### Question Two

*2. How do participants implement learning styles instruction following the training sessions?*

In observing lessons and talking with participants, the most difficult task was to identify instructional strategies that came from this program rather than from participants' practices from years past. The researcher decided to focus on the specific information given by the instructor during the training sessions and interviews. This information included the 21 elements identified by Dunn & Dunn's Learning Styles Model and a variety of activities shared by the instructor.

The most obvious implementation of learning styles instruction involved the participant/observer's assistance with the implementation and analysis of the LSS and the making of electroboards, pick-a-hole, and learning circles. The participants wanted to do these tasks on their own but did not feel comfortable with their own expertise in learning styles. Even though the participant/observer helped with these tasks, he rarely observed participants using them. Follow-up interviews did not reflect a



continuation of these activities. Participants indicated that they were running out of time for the End-of-Grade test (EOG) and did not have the time they needed to complete the tasks. They did state that they would eventually find the time for the development of the materials. Participants believed they needed more time to develop their own activities before they felt comfortable enough to have students developing activities. They also believed that if the activities were already made and in place, they would have made more use of them during the year.

The most notable implementation procedure was the flexibility of the teachers to allow students more freedom with seating and classroom movement. Almost every participant continually changed their room design looking for the best arrangement to meet their students' needs. Three participants worked very hard in trying to find a comfortable place for several of their students. The participants believed that if they could find fidgety students comfortable spots, they might stay on task longer. In two of the rooms, the observer did see a difference with a few students.

Other implementation procedures included changes in lighting, sound, or temperature. Teachers reported that they had become more flexible due to learning styles. They

believed they accepted students sitting in places they choose more easily than they did before.

Basically, the researcher found limited use of a wide range of learning styles practices as a direct result of the training. Teachers seemed to implement learning styles strategies at their own pace and chose to work extensively on one or two strategies. The researcher found an increase awareness of student learning styles as teachers constantly talked about how students learned in a particular way. These discussions allowed the teachers to focus on ways of helping students meet learning goals individually instead of the whole class approach.

### Question Three

*3. How do participants perceive this staff development project in learning styles instruction, specifically the themes of planning, cooperative development, research based approaches, training design, and support?*

Most participants bought into the program immediately because of their interest in learning styles. They strongly believed that staff development programs should be developed collaboratively. Teachers assisted with planning. Colleagues and teams worked together by discussing learning styles strategies that might work for particular students. While most participants already believed in the efficacy of learning styles, those who were initially unsure came to

view learning styles as a solid approach by the end of the training sessions. Participants wanted more than theoretical research however. They wanted the instructor to show them; they wanted to see learning styles at work. In this regard, they were interested in research primarily as action-oriented. Participants were concerned with the training design and the length of the program. They were initially unsure about being observed and what kind of preparation might be involved. Since the continuation of the program was voluntary and the observer made no expectations, they believed the training design became more successful. After having used this approach for a year, they stated a desire to continue with this approach for learning styles instruction. They also wanted to see this approach used in other staff development projects. Follow-up made a big difference for participants. They appreciated the participant/observer's visits. They felt that the participant/observer helped them to keep focused on learning styles instruction. This kind of support provided an avenue to share and receive ideas to help with what they believed to be the primary goal--increase student learning.

### Conclusions

For the participants who completed this program, acceptance of this approach to staff development increased with time. This study suggested that this four-part program

(training, demonstration site, practice with observation, and evaluation) had a relatively positive effect on the participants and partial adoption of learning styles instruction.

The primary weakness of this program seemed to be ambiguity regarding the PBAP plan. Since this plan was in its first year, problems were expected. The vagueness of the plan allowed the faculty to choose any program offered with no stipulations to complete a selected program. When teachers acquired the necessary hours, they could stop taking the training sessions.

Teachers did appreciate the monetary incentive of the PBAP plan. The school placed all monies from PBAP into the staff development program which allowed participants to receive stipends.

Another strength of the program was the follow-up and support. Every participant believed the use of learning styles instruction would have been limited if it had not been for the follow-up and the one-on-one discussions with the participant/observer. When asked why, the participants shared the same feelings. Curriculum guidelines, end-of-grade testing (EOG), and time prevented them from taking the time to fully appreciate and use learning styles effectively. Most participants stated they would have used some ideas (i.e., lighting and room design in particular)

during the spring anyway. They also believed they might use other activities in the future because they saw the importance of mastering one element or activity at a time. Therefore, practice and lots of it were essential ingredients for the participants' mastery of a given element.

Follow-up and support could have been much stronger however. The researcher found little evidence of an ongoing support system for the teachers who wished to improve instruction. Although administration expressed regard for the program, classroom teachers were on their own. If, by chance, teammates participated in the training session, some mutual support was evident. However, there was a lack of support at the school level. Part of this lack of support was due to a concern for the End-of-Grade tests. All participants believed that preparing students for these tests was their primary focus. Since the learning styles strategies take time and practice to fully implement, participants made personal decisions on how, when, and what to implement. Without school support, teachers decided to concentrate on curriculum guidelines in preparation for the tests. Participants saw how learning styles could help for preparing students but the lack of support and time limited implementation.

Participants concluded that learning styles could be a valuable tool for working with students. This program helped the participants to see more of the individual learning differences of students. Most participants focused on grouping, lighting, room design, and being more flexible with student requests. Participants still believed that more complex applications were too demanding at this time due to pressures for completing the curriculum before the End-of-Grade tests. They hoped to incorporate more activities during the next year. They stated a need for extra time with an expert in making the materials for actual lessons. They also felt a need to take just a single element and experiment until they became comfortable with that element before tackling another.

The bottom line, participants believed this type of staff development program that incorporated training, demonstration site, practice with observation, and evaluation provided them an opportunity to gain the most knowledge and expertise within a given program. This program on learning styles instruction allowed the participants to implement ideas at their own individual pace with no pressures and support from colleagues, teammates, and the observer. They believed that lots of practice was needed to master most of the strategies in learning styles. A critical part of this practice was the need for support

from colleagues and also an expert in learning styles. Participants' interests in learning styles remained high and students began to benefit as participants began talking about different ways to encourage students to learn.

This study demonstrated several critical dynamics of staff development indicated in previous studies. This investigation emphasized the themes of planning, cooperative development, research based approaches, training design, and support as noted in the literature review (Showers et al., 1987; Strong et al., 1990; Sparks, 1983; Frost, 1993). Joyce, Wolf, & Calhoun (1993) emphasized a theoretical understanding, teamwork, modeling and demonstration, practice, support, and studying the implementation. *Teaching to Diversity* attempted to incorporate the themes into the program at Ferndale Middle School. The strength of the program came from the planning phase. *Teaching to Diversity* planned a program to include the important parts of staff development as noted in the research. The one factor that *Teaching to Diversity* could not overcome was the school's acceptance of this program. Joyce, Wolf, & Calhoun (1993) stated the importance of all teachers buying into the program or at least, nearly all. The PBAP plan established a foundation for developing a successful program but also opened the door for teachers to achieve hours instead of strategies. While the core participants supported one

another, they did not feel the support from the school to complete the practice and implementation phases. If it were not for the participant/observer, the core participants might have implemented fewer practices. They believed that learning styles activities could help to improve test scores but also felt time pressures to cover the content. If these teachers had time to practice and develop the strategies with more support, then this study might have shown more implementation.

The core participants did seem committed to learning more about learning styles. Their increased awareness of learning styles as the year progressed led them to believe in the effectiveness of learning styles as a helpful approach. Core participants hoped to continue studying learning styles next year. This finding directly correlates with the findings found in the Wallin study (1990).

#### Implications

This study suggested five important implications for creating a meaningful staff development program. A complete staff development program was needed for the mastery of the topic. An emphasis on collegiality and support was essential for the continuation of this program. This program needed more time for practicing a new strategy. Incentives made a difference for participation. Contextual



issues were a critical part of this staff development program.

Joyce, Wolf, & Calhoun (1993) suggested that a complete staff development program should include teachers, schools, and districts. A well rounded program included a three-stage format that looked at the design of initiatives, the design of the workshop, and the design of the workplace. This staff development program was designed by an outside source with the full cooperation of the school. "Workplace" issues became critical however. The training sessions were short and scheduled across time so that participants could digest the material. Joyce, Wolf, & Calhoun (1993) suggested 10-15 days for the training increased the likelihood of implementation.

Every participant believed a successful staff development program must include a competent program based on research and previous implementations. The training design was critical in that, participants expected to create some type of actual material to take back into the classroom. Adequate time to build these materials was not provided however. For example, participants had 90 minutes to build flip chutes and electroboards. They completed one model but did not have sufficient time to adapt the model to an actual lesson.

Participants wanted to see the program in action. The follow-up and support were critical factors for the overall success or failure of a program. Joyce, Wolf, & Calhoun (1993) noted that staff development programs which included follow-up and support could improve their use to 90 percent or more.

The type of support for any staff development program directly related to the success or failure of that program. Joyce, Wolf, & Calhoun (1993) noted that participation in a program must involve all or nearly all of the people. They stated how research documented that isolation of schools from central office, principals from principals, teachers from principals, and teachers from teachers established a weak link for creating a successful staff development program. A cooperative effort between the teachers, school, and system can become the necessary link for creating a successful staff development program.

Joyce, Wolf, and Calhoun (1993) also noted that support that continued after the workshop could increase the odds of implementing that program. In this study, collegiality had a domino effect. Teachers began asking what was going on in the next room. Their curiosity brought them to ask more questions and they desired to become involved as well.

Since the goal of all staff development programs should relate to increasing student achievement, participants

needed the time to practice new strategies. To change with the pace of technology and the future, participants need time to master new strategies. The literature review emphasized that participants needed 10-15 days of training and 20-30 times of practice (some with observation and feedback) before they became comfortable with a given strategy. This practice becomes essential for that mastery. With the mastery of the skill, teachers can add one more tool to their repertoire of teaching strategies.

Incentives have always enticed teachers to become participants. PBAP has added to the pool of resources. PBAP allows schools to make site-based decisions on ways of spending small sums of monies. This school decided to place all PBAP funds into staff development for the entire staff.

Contextual issues played a bigger part in this study than expected. Four issues factored into the outcome of the results: school merger, EOG, PBAP, and new administration. The first issue related to school merger. Three former school systems merged into one with a new superintendent. This merged system created anxiety between teachers, administration, schools, and old school systems. The concerns ranged from jobs and job placement to types of accountability.

The second issue involved the End-of-Grade tests and the accountability of teachers. The End-of-Grade tests was

the new test designed by the state to test students using more critical thinking type skills versus the old California Achievement Test. As teachers prepared students for the second year of these new tests, their concerns reflected anxiety over the accountability placed on them by a new principal and a new superintendent who mandated that scores would increase.

The third issue involved the PBAP plan. The PBAP originated from state legislation that advocated staff development as a major factor. This plan had to show student learning in order for teachers to receive funding. This school advocated a major emphasis on staff development by diverting all funds in the program to staff development. This plan added monetary incentives for the faculty that was already trying to cope with merger, new administration, and new demands on the End-of-Grade tests. The use of money as an incentive allowed for all faculty members to participate if they so choose. However, the original plan allowed for teachers to find shortcuts in order to still receive the incentives.

The fourth issue involved a new administration. The faculty of this school found out one week before school began that they would receive a new principal. The staff was already trying to get use to the merged system and a new superintendent. Now they had to work for a new principal.

This principal stated that he supported this staff development program, but that was as far as his support went. Teachers were on their own as they continued the program. Teachers found the year to be stressful as they tried to cope with accountability by the school and school system.

#### Recommendations for Practice

There is one major issue that needs to be addressed for the entire faculty. To what degree will staff development be implemented in the future? Since core participants viewed this program as successful, the following recommendations should be considered for future staff development programs:

1. Alter and clarify the PBAP plans.

Most of the staff undertook the current plan. Many chose to complete the hours as quickly as they could by compiling hours from several workshops. Therefore, most programs had very few participants completing the entire training. This plan should be rewritten to ensure the development of an entire program. If participants complete an entire program, then students will get the most for the money.

2. Create a permanent staff development position.

A neighboring school system has a permanent on-site staff development coordinator. This person could carry out

the entire program from its inception to its continual growth by doing action research and/or program evaluations. This person would be focusing in on the needs of that school and faculty.

3. Offer released time to teachers.

Granted, teachers are needed in the classroom. However, teachers need to see a program in action. Teachers need the time to create and develop materials with an expert. Planning time is not enough to meet the present needs of the students and the creation of "new" materials. If teachers could work with teachers in other schools who have tested this approach, they would be able to develop more sophisticated applications.

4. Place more emphasis on practicing a new strategy.

Teachers need time to practice. It is almost impossible for a teacher to attend a two hour workshop and then successfully implement the strategy in the classroom. Practice cannot be successful without observations and support from colleagues, administration, and when possible, an expert in the strategy.

5. Offer general sessions to provide clearer orientations.

After much discussion with several participants in the study, they recommended having an initial session to give a brief overview of the strategy and an outline of the program. This would allow participants a clearer

perspective of the strategy even if the strategy was an older strategy that they knew. By attending the session, participants might find the instructor's presentation style a refresher course for a rusty strategy.

#### Recommendations for Research

By reviewing this study, several issues could be addressed in future research. These issues include: methodology of the research, evaluation of the program through action research, teacher perceptions, contextual issues, futuristic roles of the program, and long term study of the program. This research would help to further the identification of the strengths and weaknesses of the program for possible modifications. The research in itself would enhance the goal of increasing student learning.

This research looked at data from surveys, focus group interviews, and observations. Surveys allowed for an anonymous look at the perceptions of teachers. The focus group allowed for teachers to discuss collectively what they saw or believed was effective or ineffective in the study. Observations allowed teachers to make personal decisions on what to teach, and the observation instrument allowed for a different approach in understanding the implementation process. Future research should evaluate these forms of data collection separately and collectively. Further research could help to evaluate the effectiveness of the use

of these tools to help understand and enhance staff development.

This program creates an opportunity for continual research through action research. Each staff development program should be evaluated regularly. Therefore, long term research would help to improve the weaknesses of a program and result in a program that could be duplicated in another school setting. An action research study conducted at that school would help to achieve the same goal. Once several action research studies are conducted, a synthesis of all studies could help to identify the strengths and weakness of this approach.

Not many studies examined the perceptions of teachers. More studies like this are needed to help identify what teachers think is really important. Since programs are beginning to develop from the bottom up, teachers' input becomes a vital link in implementing a successful staff development program. More research on teacher perceptions might strengthen staff development programs in the future.

One area in need of further research is to view the contextual issues within a study. This study had to consider the effects of a new principal and the effects caused by the PBAP plan. Further research on these types of issues is needed to see what impact they have on this program.



A final suggestion would be a two or three year follow-up study with the participants of this study. Since this program takes a few years to effectively implement, this research could investigate how effective this program was over a long period.

#### Final Thoughts

This program allowed me to see a different perspective of staff development. This staff development program tried to take into consideration what teachers believed to be an effective means for gaining a new strategy effectively. In the preface, I shared the typical concerns of teachers. This type of staff development helped to address many of the concerns mentioned. Core participants believed this program helped them to focus and talk about not only the program but staff development as a whole. Several teachers were talking about strategies to improve staff development during the next year based on the lessons learned in this program. However, two key concerns still exist when it comes to effective staff development. Time and school support still must be addressed more effectively. After all, the goal of staff development must be focused on increasing student learning.

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APPENDIX A

SURVEY

STAFF DEVELOPMENT IN LEARNING STYLES INSTRUCTION: PART ONE

CREATE AN ID: \_\_\_\_\_

## **STAFF DEVELOPMENT IN LEARNING STYLES INSTRUCTION**

THE PURPOSE OF THIS SURVEY IS TO FIND OUT YOUR PREVIOUS EXPERIENCE WITH LEARNING STYLES SO THAT WE CAN ADAPT OUR TRAINING TO YOUR INTERESTS.

**PLEASE CIRCLE OR WRITE YOUR RESPONSE TO EACH OF THE FOLLOWING QUESTIONS.**

### **TEACHING BACKGROUND**

1. Please circle the following grade level(s) you currently teach.

| 6 7 8

2. Please circle the following subjects you currently teach.

**English****Social Studies****Band****Reading****P.E.****Chorus****Math****Foreign Language****Explorations****Science****Art****Other** \_\_\_\_\_

3. **SEX: MALE FEMALE**

4. How many years have you been teaching? \_\_\_\_\_

5. How many years have you taught at Ferndale Middle School? \_\_\_\_\_

6. How many years have you taught grades K-5? \_\_\_\_\_

7. How many years have you taught high school? \_\_\_\_\_

### **PRIOR LEARNING STYLES EXPERIENCE:**

8. Are you familiar with learning styles instruction? **Yes**      **No**

8a. If yes, what types of previous experiences have you had with learning styles?

TYPE OF EXPERIENCE	YEAR
_____	_____
_____	_____
_____	_____

**TEACHING METHODS**

CIRCLE THE NUMBER THAT BEST DESCRIBES HOW OFTEN YOU USE EACH OF THE FOLLOWING TEACHING METHODS.

	Never	Rarely	Occasionally	Frequently	Always
9. Lecture (whole class)	5	4	3	2	1
10. Teacher demonstration	5	4	3	2	1
11. Small groups (3-8) activities	1	2	3	4	5
12. Media (films, tapes, etc.)	1	2	3	4	5
13. Whole Class discussion	5	4	3	2	1
14. Individualized Activities	1	2	3	4	5

\*This section is from the Teaching Styles Inventory by Dunn & Dunn.

**PERCEPTIONS/CONCERNS/DIRECTIONS**

15. What do you hope to accomplish from this training program?

16. Do you have any concerns about learning styles instruction that we need to know about?

17. Is there anything about learning styles that you are especially interested in?

APPENDIX B

SURVEY

STAFF DEVELOPMENT IN LEARNING STYLES INSTRUCTION: PART TWO

PREVIOUS ID: \_\_\_\_\_

## **STAFF DEVELOPMENT IN LEARNING STYLES INSTRUCTION**

THE PURPOSE OF THIS SURVEY IS TO BETTER UNDERSTAND YOUR PERCEPTIONS AND BELIEFS ABOUT STAFF DEVELOPMENT SO THAT WE CAN ADAPT OUR TRAINING TO YOUR INTERESTS.

FOR QUESTIONS 1 through 5, PLEASE INDICATE BY **CIRCLING** YOUR RESPONSE ON THE SCALE BETWEEN VERY HIGH AND VERY LOW WHICH INDICATES YOUR FEELINGS BASED ON THE FOUR SESSIONS WE HAVE COMPLETED.

VERY HIGH	HIGH	MEDIUM	LOW	VERY LOW
-----------	------	--------	-----	----------

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. Your interest in learning styles is . . .   | 1 | 2 | 3 | 4 | 5 |
| 2. The relevance of learning styles to classroom instruction is . . .                    | 1 | 2 | 3 | 4 | 5 |
| 3. The administrative support at your school for learning styles is . . .                | 1 | 2 | 3 | 4 | 5 |
| 4. The <u>value</u> of previous staff development experience you have had has been . . . | 1 | 2 | 3 | 4 | 5 |
| 5. The quality of training you have received in the last four sessions has been . . .    | 1 | 2 | 3 | 4 | 5 |

6. What do you consider to be the best elements of the training provided during these past four sessions?

7. What suggestions do you have for improving this learning styles staff development program?

**FOR QUESTIONS 8 through 14, PLEASE CIRCLE YOUR RESPONSE TO LET US KNOW WHICH OF THE FOLLOWING YOU CONSIDER TO BE IMPORTANT FOR GOOD STAFF DEVELOPMENT IN GENERAL.**

NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	EXTREMELY IMPORTANT
------------------	-----------------------	-------------------	------------------------

8. School administration's endorsement of the staff development goals (philosophy)	1	2	3	4
9. Faculty endorsement of the staff development goals (philosophy)	1	2	3	4
10. Willingness of your peer group to make a time commitment to implement the staff development strategy	1	2	3	4
11. Relevance of the training to classroom instruction	1	2	3	4
12. Relevance of the training to your school's needs	1	2	3	4
13. Offering an incentive to participate (example: CEU credit, differentiated pay)	1	2	3	4
14. Use of site-based management to make staff development decisions	1	2	3	4

15. In addition to what is listed above, what do you think are important factors to consider in a staff development program?

16. To what extent were you involved in the planning of this staff development program?

17. In what ways do you think this training will influence your classroom instruction?

18. What concerns, if any, do you have about using learning styles in the classroom?

19. What aspect of learning styles would you like to know more about?

20. Is there anything else you think might be helpful for us to know?



**APPENDIX C**  
**LEARNING STYLES OBSERVATION INSTRUMENT**

# Learning



# Styles

## **Observation Instrument**

Jesse R. Gassaway, 1994

(Developed using Learning Style Survey (O'Sullivan, Griffin, & Szpak, 1993) with permission of the authors.)

**Environmental**

**Auditory**

**Room Design**



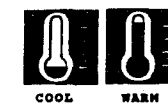
**Visual**

**Lighting**

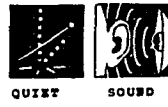


**Tactile/Kinesthetic**

**Temperature**



**Sound**



**Sociological**

**Physiological**

**Learning Mode**

**Intake**



**Variation**

**Time of Day**



**Emotional**

**Mobility**

**Structure**



**Motivation**

**APPENDIX D**  
**SURVEY RESPONSES**

## Survey Responses

Participant responses to the open-ended questions from the surveys. These responses came from participants on the open-ended questions from the survey entitled Staff Development in Learning Styles Instruction: Part One. The numbers corresponded to the researchers identification of a participant for the survey only.

**Question one: What do you hope to accomplish from this training program?**

### Participants familiar with Learning Styles

1. I hope to gain a better understanding of the complexities and diversities of the learning process.
2. To be able to implement learning styles in the classroom.
3. To be able to better accommodate the children who come to my classes.
4. How to best meet the learning styles of our students, to find out what works best for them.
5. To learn more about learning styles and how to use it effectively in my classes.
6. Feel very comfortable in organizing group from the very beginning of the year not into lecture. Keep a simple way of bookkeeping-not the way math people can develop.

### Participants not familiar with Learning Style

7. Learn new techniques to meet students needs.
8. Strategies for low achievers.
9. I hope to be able to teach more effectively in a heterogeneously grouped classroom.

10. To understand strategies to better educate at-risk students.

11. No response.

**Question two: Do you have any concerns about learning styles instruction that we need to know about?**

Participants familiar with Learning Styles

1. No response.

2. I hope that evaluative administrators will understand and appreciate the allowances that I make for learning styles in my room.

3. No response.

4. No response.

5. No response.

6. Love to have some learning style preference tests for students.

Participants not familiar with Learning Styles

7. No.

8. No.

9. No.

10. Do you plan individual activities for each assignment or just vary learning strategies from day to day?

11. No response.

**Question three: Is there anything about learning styles that you are especially interested in?**

Participants familiar with Learning Styles

1. No response.

2. No response.

3. No response.

4. No response.

5. No response.

6. Diversity that goes beyond cooperative learning. We now have students that are from parents who have alcoholic syndrome-drug dependant syndrome-no one has given me anywhere to get help.

Participants not familiar with Learning Styles

7. No response.

8. No.

9. No.

10. I don't know.

11. No response.

---

These responses came from participants on the open-ended questions from the survey entitled Staff Development in Learning Styles Instruction: Part Two. The numbers corresponded to the researchers identification of a participant for the survey only. These numbers also correspond to the same number from the previous survey.

**Question one: What do you consider to be the best elements of the training provided during these past four sessions?**

1. hands on experiences

2. First lesson-info on survey and doing the survey on ourself.

3. No response.

4. Learning different ways that students learn and being able to incorporate them into your class.

5. No response

6. Last two sessions.



7. Very practical and relevant.
8. Hands-on.
9. Informational sessions and hands on activities.
10. No response.
11. Understanding that it's OK for students to learn in different ways-even though some students may not learn the way you learn.

**Question two: What suggestions do you have for improving this learning styles staff development program?**

1. More real-life case studies of students and how their learning styles were accommodated.
2. Survey our classes as a set of students.
3. No response.
4. More hands on.
5. No response.
6. No response.
7. More time to make games since I have not done this before.
8. Be on time.
9. None.
10. No response.
11. Start on time.

**Question three: In addition to what is listed above, what do you think are important factors to consider in a staff development program?**

1. Can't think of any additional ones, but stress #'s 10 [Relevance of the training to classroom instruction] and 11 [Relevance of the training to your school's needs]!
2. Courses that the teacher teaches need to be considered.
3. No response.

4. No response.
5. No response.
6. Make it interesting, relevant.
7. No response.
8. Activities to take to class.
9. Time courses are offered and where.
10. No response.
11. No response.

**Question four: To what extent were you involved in the planning of this staff development program?**

1. On the committee
2. Very little
3. Suggest topic on survey
4. No response.
5. No response.
6. Asked for suggestions; voted for what we wanted.
7. No response.
8. No.
9. Not at all.
10. No response.
11. Not much.

**Question five: In what ways do you think this training will influence you classroom instruction?**

1. help with individual needs.
2. More aware of differences
3. No response.

4. Have tried learning styles in the classroom and it seems to be working.

5. I am more aware of how students learn.

6. I found this on-hands helpful.

7. I will consider learning styles of my students/use games made by students more.

8. More aware.

9. I'll use some of the methods.

10. No response.

11. Be more aware of learning styles.

**Question six: What concerns, if any, do you have about using learning styles in the classroom?**

1. How to satisfy everyone's style at the same time.

2. Make sure students know that as they grow their learning styles may change.

3. Do I have a physical set up that will accommodate it?

4. Some children abuse their style.

5. No response.

6. None, yet.

7. Approval of administrators--children sitting on floor, etc.

8. None.

9. None.

10. No response.

11. Time. Students who might abuse type of learning styles.

**Question seven: What aspect of learning styles would you like to know more about?**

1. No response.
2. How to use the tool (survey) with my students. I teach over 200 students and feel its' difficult for me to learn their styles of learning. If I could teach the student to understand their own style, I feel it would benefit the student. How to give the survey in masses.
3. No response.
4. No response.
5. No response.
6. No response.
7. How to design my particular classroom to address learning styles.
8. No response.
9. No response.
10. No response.
11. Not anything now.

**Question eight: Is there anything else you think might be helpful for us to know?**

1. No response.
2. I guess not.
3. No response.
4. No response.
5. No response.
6. No response.
7. No.
8. No response.
9. No response.

10. No response.

11. No.

**APPENDIX E**  
**LEARNING STYLES SURVEY**

## Learning Style Survey

Name: \_\_\_\_\_

Birthdate (mo/day/yr): \_\_\_ / \_\_\_ / \_\_\_

Highest Grade Completed: \_\_\_\_\_

ID Number: \_\_\_\_\_

**Directions:**

This survey is to help you identify how you learn best. There are no right or wrong answers. Read the statements that follow and decide where along each scale you would rank yourself if you had something new or difficult to learn. Mark an X on each line to show your ranking.

To help you get started – Suppose there was a billionaire businessman who decided that he was going to help people learn. He has chosen you as one of the first people to work with him. First he is going to give you a test in something that is difficult for you to learn.


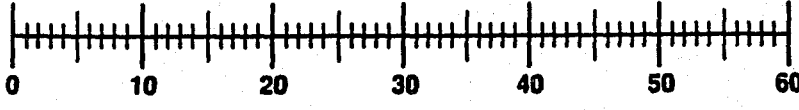

Different people find different things difficult to learn. For example, some people have a hard time with math; some people find music or art difficult. He will give you this test and then give you a week to study and retake the test. If


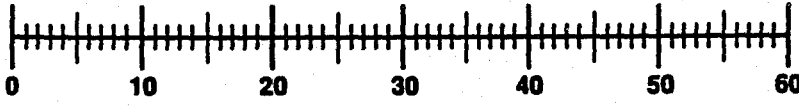

you can get 10 more questions right he'll give you \$1,000. He will allow you to study any way you think will work the best and also will provide you with a place to study that you may furnish any way you like.


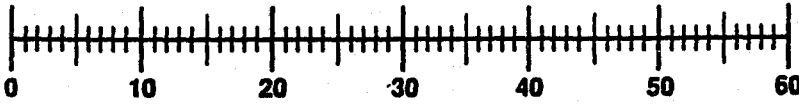

Let's do Question 1 together. How will you study the information? Will you use written materials or pictures, because you find it easy to remember what you read and see? Or do you find it hard to remember what you read and see?

It could be that you don't find it hard or easy to remember what you see; you might be in the middle or somewhere else. Mark an X where you think your learning style strengths lie for remembering what you see. Mark the remaining statements in a similar manner, thinking about the types of things that are important to help you learn.


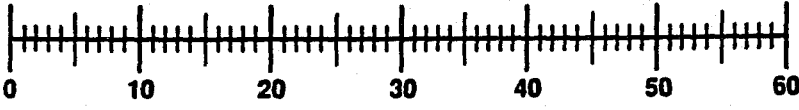

**When learning something new or difficult, you find it**


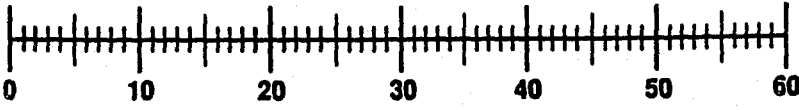

1.     
 Hard to Remember What You Read and See Easy to Remember What You Read and See

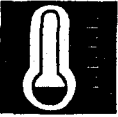
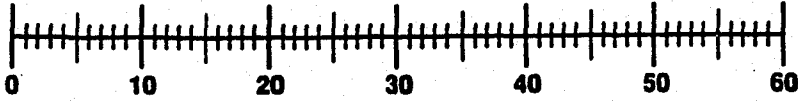

2.     
 Hard to Remember What is Said Easy to Remember What is Said


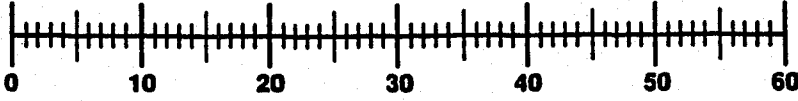

3.     
 Hard to Remember By Doing Easy to Remember By Doing

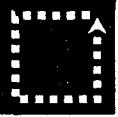
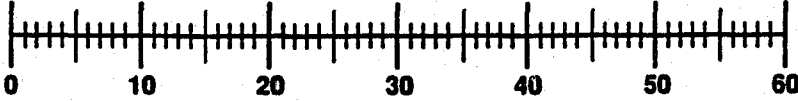

**When learning something new or difficult, you prefer**

4.     
 Couch, Bed Floor or Carpet Chair or Desk


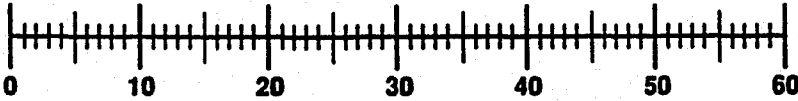

5.     
 Low Light Bright Light


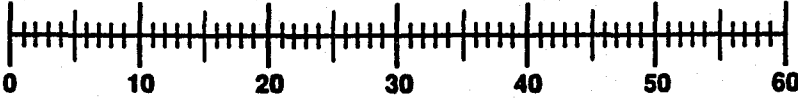

6.     
 Cool Area Warm Area


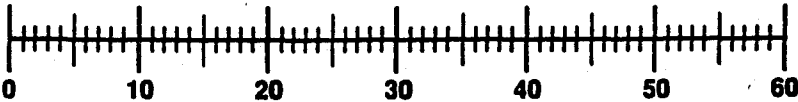

7.     
 Quiet Sound


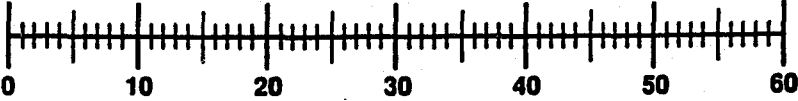

8.     
 Routine Change/Variety


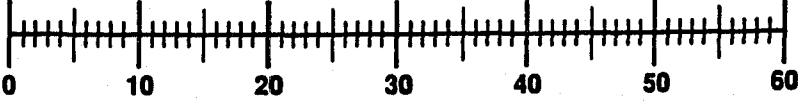

When learning something new or difficult, usually you

9.     
 Do Not Eat or Drink Eat or Drink

10.     
 Have High Energy in the Morning Have High Energy at Night

11.     
 Can Stay in One Place for Long Periods of Time Cannot Stay in One Place for Long Periods of Time

12.     
 Learn Best Alone Learn Best With Someone Else

13.     
 Like to Make Own Choices Like to Be Given Exact Directions



**APPENDIX F**  
**INITIAL INTERVIEW**

**STAFF DEVELOPMENT IN LEARNING STYLES INSTRUCTION**  
**INTERVIEW**

**PURPOSE:** The purpose of this interview is to help us help you implement learning styles. We would like to tape record the session to make sure we do not miss anything.

1. What did you do with learning styles during the fall?

Did you?:

**ACTIVITIES**

electroboards  
 poke-a-hole  
 flip chutes  
 circle of knowledge  
 floor games  
 sentence strips  
 other

**DUNN & DUNN ELEMENTS**

lighting  
 room design  
 stations  
 temperature  
 sound  
 grouping  
 other

**MATERIALS**

PEPS  
 LSI  
 Lesson Plan  
 Rap Video  
 other

What other things have you done so far?

Have you assessed your kids in the class with the LSI?

Have you made any adjustments with your room design?

**STAFF DEVELOPMENT IN LEARNING STYLES INSTRUCTION**  
**INTERVIEW**

**PURPOSE:** The purpose of this interview is to help us help you implement learning styles. We would like to tape record the session to make sure we do not miss anything.

2. What are your goals for this spring?

Remembering what training you have received, what activities would you like to try in the spring?

**ACTIVITIES**

- electroboards
- poke-a-hole
- flip chutes
- circle of knowledge
- floor games
- sentence strips
- other

What elements of the Dunn & Dunn model would you like to incorporate within your classroom?

**DUNN & DUNN ELEMENTS**

- lighting
- room design
- stations
- temperature
- sound
- grouping
- other

What materials would you like to try in your classroom?

**MATERIALS**

- PEPS
- LSI
- Lesson Plan
- Rap Video
- other

**STAFF DEVELOPMENT IN LEARNING STYLES INSTRUCTION**  
**INTERVIEW**

**PURPOSE:** The purpose of this interview is to help us help you implement learning styles. We would like to tape record the session to make sure we do not miss anything.

3. In what ways can we help you implement learning styles?

What kinds of help do you need in implementing learning styles?

Do you need help with assessing your kids with the LSI?

Would you like some help talking to your kids about learning styles?

-----  
Is there anything else that we can do for you that we have not already asked?

**APPENDIX G**  
**PARTICIPANT QUESTIONS**

### Questions For Participants Completing Some Training

The following were the questions used during the interviews with the teachers who did not complete the training.

1. What grade and subject do you teach?
2. How many years have you been teaching?
3. What do you know about learning styles?
4. What experiences have you had with learning styles?
5. What are your interests in learning styles instruction?
6. Would you share with me your reasons for not completing the training in this particular learning styles workshop?
7. Given what you know about staff development programs and how they are implemented, what do you believe would make for a meaningful staff development program?

**APPENDIX H**  
**BACKGROUND INFORMATION**

### Background Information

#### Teachers Not Completing Training

These individuals for various reasons, did not complete the learning styles training. A total of 11 certified faculty members had the opportunity to help in the research. One of these 11 teachers was not available on the three scheduled appointments. Of the remaining 10 faculty members, eight taught core subjects, one taught human sexuality, and one was the guidance counselor (see Table 8). Four sixth grade teachers taught combination classes (i.e., Language Arts/Social Studies, Math/Science, and Math/Social Studies). Two seventh grade teachers taught Language Arts/Social Studies. Two eighth grade teachers taught single content areas (see Table 1). Teaching experience ranged from 10 to 24 years (see Table 1). The guidance

TABLE 1

#### Grade, Subject Area, and Teaching Experience

<u>Grade/Subject Area</u>	<u>Teaching Experience</u>
6 Language Arts/Social Studies (Two Teachers)	2 - 10 years 1 - 13 years
6 Math/Science	1 - 16 years
6 Math/Social Studies	1 - 18 years 1 - 19 years
7 Language Arts/Social Studies (Two Teachers)	1 - 22 years 2 - 23 years 1 - 24 years
8 Language Arts	
8 Science	
6-8 Human Sexuality	



counselor had six years of classroom experience and 17 years in the counseling field. Another teacher worked as an assistant for eight years and taught for 11 years.

**APPENDIX I**  
**PERMISSION FORM**

TEACHERS' PERCEPTIONS  
OF INSTRUCTIONAL IMPROVEMENT  
THROUGH LEARNING STYLES  
Consent Form

Subject's Name \_\_\_\_\_

Date of Consent \_\_\_\_\_

I hereby consent to participate in this research project. An explanation of the procedures and/or investigations to be followed and their purpose was provided to me by Jesse Gassaway. I was also informed about any benefits, risks, or discomforts that I might expect. I was given the opportunity to ask questions regarding the research and was assured that I am free to withdraw my consent to participate in the project at any time without penalty or prejudice. I understand that I will not be identified by name as a participant in this project.

I have been assured that the explanation I have received regarding this project and this consent form have been approved by the University Institutional Review Board which ensures that research projects involving human subjects follow federal regulations. If I have any questions about this, I have been told to call the Office of Research Services at (910) 334-5878.

I understand that any new information that develops during the project will be provided to me if that information might affect my willingness to continue participation in the project.

\_\_\_\_\_  
Subject's Signature

\_\_\_\_\_  
Researcher's Signature