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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN TEACHERS' ENGAGEMENT IN REFLECTIVE PRACTICE AND MUSIC TEACHING EFFECTIVENESS

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirement for the

degree of

Doctor of Philosophy

By

MICHAEL A. RAIBER
Norman, Oklahoma
2001

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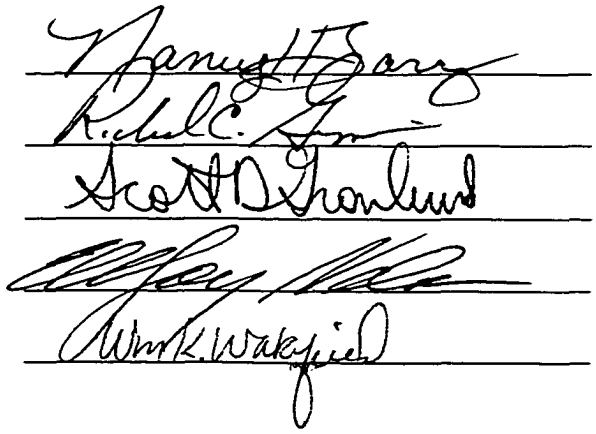
APPROVED FOR THE SCHOOL OF MUSIC

BY



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I can do everything through him who gives me strength. (Philippians 4:13)

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CHAPTER I

Introduction

Background of the Problem

The preparation of highly effective instrumental music educators is the primary goal of instrumental music teacher education. Toward this end, researchers have focused on practices that best provide preservice teachers with the knowledge and skills necessary to become effective practitioners. For the past two decades, much of this focus has been aimed at reflective practice. While definitions of reflective practice are many and varied, Sebren (1994) sums up most by stating that reflective practice is the process of reconstructing what happened and the reasons for that action to have occurred. Understanding gained from this process is manifested in adjustments made to practice.

Concerning the predominance of reflective practice, Richardson (1990) notes that "one can hardly read an article about teaching without mention of reflection ... and many teacher education programs include as a major goal the preparation of reflective teachers" (p. 3). More recently, Norlander-Case, Reagan, and Case (1999) state that "it would be unusual ... to find a teacher preparation program anywhere in the United States

that was on record as rejecting the goal of reflective practice for classroom teachers and teachers-to-be" (p.25). Additional evidence of the interest in reflective practice within teacher education can be found in the model standards of the Council of Chief State School Officers (CCSSO) drafted in 1992 and the National Council for Accreditation of Teacher Education (NCATE) in 1994. The CCSSO (1992) put forth ten principles concerning the knowledge and dispositions that a teacher should have. The ninth principle refers to the teacher as a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks opportunities to grow professionally. Likewise, the 1994 revision of the NCATE standards includes exemplars similar to those in the CCSSO materials (Krol, 1997). Indeed, some have concluded that authentic professional growth cannot take place without reflective practice (Wildman, Niles, Maglario, & McLaughlin, 1990).

Despite the amount of research in reflective practice and teacher education, study of the inclusion of reflective practice specific to music teacher education has been very limited. However, Raiber (2000) conducted a survey of the current status of reflective practice within music teacher preparation programs in the United States. Findings revealed that the inclusion of reflective activities in music education curricula is extensive. Raiber operationally defined reflective practice as a set of six activities that either provide material for reflection or require active reflection while the student is engaged in the activity. These activities were peer teaching, journal writing, early field experience, student teaching, classroom discussion about teaching, and individual discussion about teaching between the student and the professor (Raiber, 2000, p. 3). Of

the forty-two doctoral granting universities surveyed, all reported use of two or more reflective activities within their curricular design. Student teaching received the highest reported usage with 100% of the sample claiming its use. The lowest ranked activity, journal writing, was still reportedly used by 74% of the sample (Raiber, p. 5). These findings suggest that most music teacher educators view reflective practice as a worthy endeavor. However, the question remains whether music educators' engagement in reflection leads to more effective teacher behaviors in the classroom. Consequently the current study focuses on measuring the relationship between music teachers' reflective aptitude, self-reported use of reflective practice, and their teaching effectiveness.

Background of Reflective Practice

John Dewey and George Herbert Mead, two pioneers in the fields of reflective practice and teacher education, laid the foundation for current research more than sixty years ago. The earliest thought about reflection can be found in the work of John Dewey who cited the need for reflective thinking as early as 1933. He defined reflective thinking as the "active persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (Dewey, 1933, p.9). Dewey distinguished reflective thought from other mental processes in that it is an ordered sequence of ideas. Each idea relies on a previous thought and will lead to the next until a goal or conclusion is reached. Thus, reflective practice affords the learner an opportunity to gain meaning from the technical processes of learning, such that the means and methods of instruction exist in the consciousness of the one who does the work. Through this process, the actions of the learner take on meaning for him/her (Kruse, 1997).

George Herbert Mead, a social psychologist who taught with Dewey at the University of Chicago, added to Dewey's perspective of reflection. He encouraged the consideration of the community in which reflection occurs as the key to complete understanding (Kelly, 1993). Mead viewed reflection as a multi-faceted and socially interactive activity. Like Dewey, Mead considered the power of reflection to be in action, but not action in isolation. Rather, it is seen as an instance of social action that must be understood as being grounded in every-day life (Cinnamond & Zimpher, 1990). Mead proposed that the context for reflection must include the values of the community in which the action is to take place. Functioning in this manner, reflection does not have value in itself. Instead, Mead viewed the value of reflection as enabling the learner to deal effectively with the next contextual situation he/she encounters (Kelly, 1993).

The work of Donald Schön has stimulated most of the contemporary interest in reflective practice within teacher education (Krol, 1997). In his books *The Reflective Practitioner* (1983) and *Educating the Reflective Practitioner* (1987), he makes a case for his belief that a process exists at the core of professional competence that cannot be learned via scientific theory or techniques. Schön devotes considerable space in both books to arguments concerning what he believes to be an inappropriate dominance of technical rationality in professional education (Palmer, Burns & Bulman, 1994). Schön argues that much of professional education is situation specific and aimed at the application of a single technique to a single context-specific problem. Schön refers to this approach of professional education as *positivistic* and claims that it is suited only to solving simple problems in specific situations. He asserts that such an approach cannot address the complex problems that practitioners deal with in actual practice.

Schön's alternative view of professional education proposes that knowledge is embedded in the action of professionals. For Schön, these actions demonstrate a professional artistry that is exhibited in the clever things done on the job that cannot be described linguistically and are difficult to control (1983, 1987). Thus, one may view reflective practice as a professional developmental process that is primarily concerned with promoting behavioral change (Osterman, 1991). In this view, knowledge is gained and expressed through the actions of professionals.

Schön's reflective process theory has its roots in experiential learning theory. Experiential learning theorists describe learning as a process of thought in action that consists of four stages: experience, observation and reflection, abstract conceptualization, and experimentation (Kolb, 1984). This process begins with the learner attending to a perceived personal problem that cannot be resolved using standard practice. With the problem identified, the learner steps back to begin a careful observation and/or description of the problem. The learner uses this time to develop a better understanding of the action theories or *theories-in-use* and relates them to his/her espoused theories or stated beliefs. When inconsistencies are observed between action and theory, the learner becomes open to new information as a part of his/her search for better answers and more effective strategies for practice. In discovering new strategies, the learner conceptualizes his/her revised theoretical views, which in turn, become a stimulus for experimentation. New theories suggest new methods, which must be tested in action (Osterman, 1991).

Some argue that testing new action theories is only the first step in the reflective process and cite the need for critical inquiry to accompany reflection (Carr & Kemmis,

1986; Freire, 1972; Habermas, 1977; Palmer, Burns, & Bulman, 1994; Schön, 1983). Schön (1983) contends that practice must be viewed as problematic and with a certain level of skepticism for meaningful inquiry to take place. Palmer, Burns, and Bulman (1994) appear to agree with Schön when they state "the critical aspect incorporates a healthily skeptical view, (so necessary for critical thinking) of phenomena encountered in the educational process and encourages intellectual consideration of other options" (p. 70). In earlier work, Freire (1972) termed the process of intellectual consideration of actions as *conscientization* and contended that it is this process that furnishes people with the information necessary to make lasting change, rather than making superficial change that only serves, in the long term, to perpetuate the status quo. Habermas (1977) also argues that critical inquiry leads to intellectual consideration of action. He asserts, however, that such inquiry leads to three areas of interest from which knowledge arises. He terms these areas as (a) technical - interests guided by empirical knowledge, (b) practical - interests guided by knowledge that provides understanding through communication, and (c) emancipatory - interests guided through a process of *conscientization*. It is the use of emancipatory knowledge and its contributions to teaching effectiveness that is of primary concern for the present study.

Carr and Kemmis (1986) maintain that teachers develop competence through a system of critical reflection on experience. Teachers examine their work in terms of its social contribution, both individually and in general, to the profession of teaching and consider the social forces that can and do affect the outcome. This notion of informed action or *praxis* is an important concept to critical theorists, as it reveals a heightened awareness of the variety of factors that contribute to an established order. Furnished

with this awareness, teachers can understand and, in some instances, rearrange the social order in which they find themselves (Palmer, et. al., 1994).

In *Music Matters,* David Elliot (1995) advocates a critically reflective approach to music education and music teacher education. He states, "this praxial philosophy of music education holds that all music education programs ought to be conceived, organized and carried out as reflective music practicums" (p. 267). Elliot contends that in an effective praxial music education curriculum "music teachers are not merely intermediaries in an educational delivery system. They are reflective practitioners who can think-in-action and know-in-action in relation to highly complex and fluid teaching-learning situations" (p. 252). The current study seeks to determine if teachers who act in such a manner are also those who demonstrate behaviors most commonly associated with effective music instruction.

Background of Teaching Effectiveness

If the production of effective educators is the primary goal of teacher education, then one must assume that defining or, at least, describing the characteristics of an effective teacher is possible. Popham (1971) states, however, that teacher effectiveness is one of the most elusive topics in the history of educational research. Biddle (1964) suggests there are two reasons why so little is known about the effectiveness of teachers: confusion and complexity of the problem. Confusion, he argues, may exist because "some educators do not recognize the problem of effectiveness at all" (Biddle, 1964, p.3). This may be a direct result of not knowing how to define, prepare for, or measure teacher competence. If we cannot clearly articulate the desired outcome, how can we go about measuring it? The second area of confusion Biddle cites is the "disagreement over

the effects a teacher is called upon to produce" (p.3). Questions arise here concerning setting individual goals versus class goals, as well as individual measurement versus group measurement as the best indicators of effective instruction. Finally, the variety and irregular use of terms involved in teacher effectiveness are suggested as contributors to confusion. Complexity becomes an issue, according to Biddle, because "teacher effects are often nearly indistinguishable from the effects of other teachers, other agents (i.e. parents), or alternate situations" (p.4). Thus, defining and measuring teacher effectiveness would appear to be an elusive task.

Research concerning teacher effectiveness can be arranged into a series of stages (Borich, 1986; Medley, 1977; Sang, 1982; Wozniak, 1990). Sang (1982) categorizes teacher effectiveness research into four stages of development based upon the criteria chosen for investigation at each stage. He credited the terms he used for the first three of these stages to Harold Mitzel's work in the 1950's (Sang, 1982, p.4). The first stage, presage research, was based upon what a teacher brings into the classroom in terms of personality traits and prior learning. From this stage, teacher effectiveness research then moved through a period of concentration on what teachers did in the classroom and was designated as process research. Product research followed with its focus on pupil outcomes and student behaviors. The fourth and final stage of teacher effectiveness research was founded upon context criteria and considers the specific situation in which instruction takes place as meaningful information (Sang, 1982). Wozniak (1990) appears to concur with Sang when he states, "teacher effectiveness research began with studies of personality traits, proceeded to teaching methods, then to classroom climate, and more recently, the mastery of competencies" (p.14).

Braskamp, Brandenburg, and Ory (1986) argue that while research has indeed changed over time, one should not consider what has come before as less meaningful data in determining teacher effectiveness. They state, "effective teaching is defined differently depending upon the emphasis placed on input, process, or product" (p. 50). As emphasis changes between these three areas, the basis for judging effective teaching is determined by different criteria. Input criteria are determined before the teacher or the students enter the classroom. This includes elements such as class size, teacher training, student IQ and educational background. Process criteria, according to Braskamp, et al. (1986), focus on what the instructor does both in the classroom and in managing the course. Product criteria are aimed at student learning as the basis for judging teacher effectiveness. Gilliand (1991) contends that teaching is complex and multifaceted and can be best understood when all of these elements are considered simultaneously. It appears that for the present study, elements of both the process and product models hold the most promise for determining teacher effectiveness. It is this concept of teaching effectiveness that is embraced by the current study.

Research focused on music teaching effectiveness has taken its lead from the process/product models (Brand, 1986; Cassidy, 1990; Erbes, 1983; Madsen & Geringer, 1991). Several studies have focused on measuring teacher behavior as evidence of teaching effectiveness. Erbes (1983) focused on classroom climate and cited the use of approval, incorporating student ideas through student interaction in the rehearsal, and the demonstration of enthusiasm and warmth by the teacher, as indicators of effective teaching. Brand (1986) made use of three broad categories -- musicianship, classroom management, and ability to relate lesson objectives to students -- as the framework for

his study. For Brand, effective music teachers use frequent eye contact, keep lessons moving at a quick pace, demonstrate high energy and enthusiasm, and make use of nonverbal communication through gesture and facial expression. Madsen and Geringer (1991) suggest that intensity in instructional presentation has a positive correlation with desired student outcomes. Additionally, Cassidy's (1990) investigation of high intensity versus low intensity instruction in music classes found that, even though there was no significant difference in the accuracy of instruction presented between the two teaching styles, subjects identified the more intense teacher as the more effective teacher. Cassidy explains this by stating

> The more intense teacher may have controlled the instructional interaction noticeably better by asking fewer "filler" questions; spending more time engaged in active music-making; relying on nonverbal and short, efficient verbal cues to give directions that gave a quicker more even pace to the lessons; and starting almost immediately [with activities] rather than a long, repetitious explanation of the lesson. (p.171)

Based on the findings from this research, the current study views music teacher behavior in the context of teaching as evidence of music teaching effectiveness.

Current research in music teacher education has produced lists of effective teacher behaviors that reflect the findings of the process-product research paradigm (Bergee, 1992; Hamann & Baker, 1995; White, Wyne, Stuck, & Coop 1987). In his review of the literature, Bergee (1992) states that a "repertory of generalized skills that enhance teaching effectiveness seems to emerge: good organizational and managerial skills; a brisk, enthusiastic teaching style; a focus on students, specifically on student

involvement and achievement; good interpersonal skills; and good presentation skills" (p.6).

Hamman, Lineburgh and Paul (1998) appear to agree with Bergee when they state "from the research, there seems to be a positive relationship between certain classroom communication skills and teacher effectiveness" (p.90). They go on to say "an effective music teacher would be one who is able to send, receive, and interpret nonverbal messages and one who is able to present him/herself well in the classroom while guiding and directing the content of the communication within the setting" (p.98). White, et al. (1987) conclude that "although no single teaching behavior is strongly related to student achievement, clusters of teaching behaviors occurring together can reliably distinguish [more] effective from less effective teaching in most settings" (p.90). Thus, the literature supports efforts to define, operationalize, and measure these behaviors as a reliable procedure for assessing teacher effectiveness (Bergee, 1992; Hamann & Baker, 1995). Hamann and Baker (1995) operationalized music teaching effectiveness through the development of the Student Teaching Effectiveness (STE) scale that will be used to measure music teaching effectiveness in the current study.

The importance of professional experience and its influence on effective teaching and reflective practice also has relevance to the current study. It is commonly believed that teachers with more experience are most likely to be more effective educators. This belief gives rise to two questions: (a) Do more experienced teachers demonstrate behaviors in the classroom that are viewed as more effective? (b) If this is true, what does experience provide to aid these teachers to be more effective? It appears that Berliner (1986) considers experience as essential to expert teachers when he states

> We need to find and study expert and experienced teachers and compare those teachers with ordinary or novice teachers in order to search for more information about the tasks and teacher behaviors that our research community has revealed as important. (p. 5)

Berliner placed expert knowledge in two large domains -- subject matter knowledge, and knowledge of organization and management of classrooms. He argues that it is the latter of these domains that separates the novice from the expert when he states

> [This is] a separate kind of knowledge. It is a knowledge that influences the running of the classroom: the pace, the level of intellectuality, affects, work orientation, and so forth. It is knowledge that influences classroom organization and management and is the basis for transforming subject matter. Such knowledge is complex, often tacit, derived from experience, and worthy of being called expert knowledge in most other fields of endeavor. (p. 10)

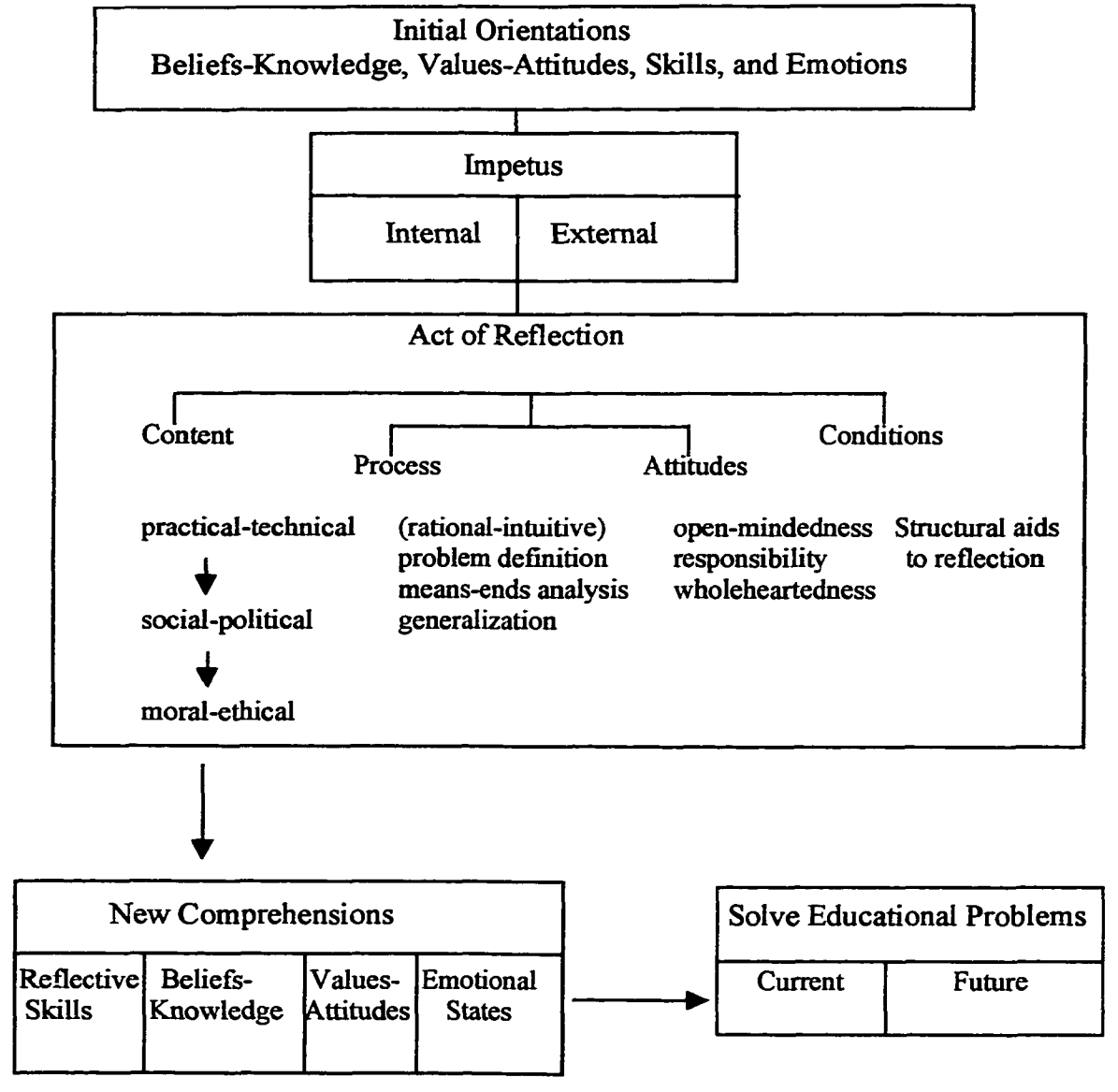
The possession of professional or expert knowledge has been an area of investigation in the literature concerning reflection as well (Garman, 1986; Grimmett & Erickson, 1988). It is from this knowledge base that experienced teachers consider their actions. The literature supports two types of informed teacher actions. Expert teachers are first recognized as having extraordinarily fast and accurate pattern recognition capabilities (Berliner, 1986). These patterns form schemata from which the professional expert acts. This skill allows the expert to reduce the cognitive processing load for certain acts, thus, releasing more cognitive room for the expert to consider unfamiliar information. The second type of expert teacher action takes into account the expert's

ability to examine a problem, build a representation of the problem, and think through strategies for solving the problem before acting (Berliner, 1986). Recognition and examination of the role that experience plays both in teaching effectiveness and reflective practice are important to the present study.

Theoretical Framework

The terms reflection and reflective practice have not been used consistently either by practitioners or researchers within the educational community. Grimmett, Makinnon, Erickson, and Riecken (1990) contend "close examination of this rapidly accumulating body of literature on the nature of reflective teaching reveals a diversity of meanings that are attached to this and similar terms" (p. 20). The vagueness of these definitions provides the greatest obstacle for the study of reflection. LaBoskey's (1994) research provides a framework that clearly defines the various elements involved in the development and use of reflection in teaching and may aid in gaining a clearer understanding of the concept of reflection and its relationship to teaching. The present study is based upon this model as presented in Figure 1.

Figure 1. LaBoskey's conceptual framework



Initial Orientations

The beliefs-knowledge, values-attitudes, skills, and emotions of each teacher entering this process determine the difficulty he/she will encounter in progressing toward the goals of reflective practice. LaBoskey (1994) contends "novices vary in their initial orientations toward inquiry and in their abilities for engaging in it, with the

majority being less favorably inclined or prepared" (p.10). Thus, to measure reflective ability, these differences must be taken into account at the beginning of the process. The current study will, therefore, stratify data according to professional experience levels.

The role emotion plays in reflective thinking is also an important concern for LaBoskey. Recognizing the dual roles of cognition and emotion, LaBoskey states

> The balance between the two systems helps to determine the effective functioning of the person, but optimal balance is not a fixed commodity - it varies with and is determined by the particular social context. Thus, it is not only the initial emotional states that are important; their changes must also be acknowledged and monitored. (p. 11)

Impetus

LaBoskey (1994) asserts that since many teachers may not possess the internal motivation initially to engage in reflective thinking, it may be necessary to make use of external impetus to motivate teachers in the initial encounters with reflective practice. She recommends caution, however, when she states

> Since the hope is that these teachers will continue to engage in reflective thinking throughout their careers, immediate participation in acts of reflection should not be the only focus. The enhancement of long-term internal inclinations ought to be a consideration as well. (p.11)

Act of Reflection

LaBoskey (1994) defined the act of teacher reflection as beginning either when the teacher encounters a problem that cannot be resolved or when a teacher simply

wishes to rethink a situation or previous conclusion. For the content of the reflective act to be complete, it must contain all three of Van Manen's (1977) domains: practical-technical, social-political and moral-ethical. LaBoskey states, " I believe every issue has its technical (how to), practical (what to) and critical (why) dimensions" (p.12). These are not to be considered as sequential stages, but the latter domain may require more effort on behalf of the teacher, particularly the novice teacher, to consider in the reflective process.

In her belief that "the procedures of reflection need to include some systematic analysis of the problem, event, idea or interpretation under reconsideration" (p. 12), LaBoskey (1994) cites Dewey's (1933) three steps in the process of reflection. Those steps are (a) problem definition, (b) means-ends analysis, and (c) generalization. Caution is once again recommended in considering this process as a strict step-by-step system that all teachers use for reflection

> I think the stages can be useful in helping us focus attention on potential aspects of the general process. They are not, however, all necessary to each act of reflection. Any of the "stages" may be carried out reflectively or unreflectively. The reflective teacher will have sensitive and creative insights but will also possess the inclination and the skills to subject those insights to careful and conscientious inspection. (LaBoskey, p.13)

Critical to LaBoskey's conception of the reflective process are Dewey's attitudes of open-mindedness, responsibility, and wholeheartedness. According to Dewey (1933) open-mindedness is

> An active desire to listen to more sides than one; to give heed to the facts from whatever source they come; to give full attention to alternative possibilities; and to recognize the possibility of error even in the beliefs that are dearest to us. (p.29)

LaBoskey (1994) contends that the second attitude refers to the teacher's responsibility to consider the immediate issues in terms of the long-range goals. She states that

> [Teachers] must be willing to acknowledge that their decisions and actions have an effect on the future, but that any future is not acceptable. The reflective teacher must feel responsible for helping to fashion a more equitable and humane tomorrow. (p.13)

In support of the third attitude, wholeheartedness, LaBoskey cites Goodman (1984), who states

> This attitude gives individuals the strength to move beyond abstract notions and put their ideals into practice. ... one cannot be truly reflective unless she or he is willing to take risks and act. Wholeheartedness enables ... teachers to work through their fears and insecurities, and thus provide a basis for action. (p.59)

The context for reflection is also an important consideration in LaBoskey's framework. She states "the conditions under which reflection is supposed to occur make a difference; structural features matter" (LaBoskey, p.14). Interaction with a group or another individual, journal writing, and practitioner research are suggested as the most common conditions in which reflection occurs. The goal of group or individual interaction is to allow participants the opportunity to "increase their pedagogical

knowledge and/or improve their ability to reflect on their own" (LaBoskey, p.15). This is accomplished either by bringing more minds and multiple perspectives to bear on educational issues or by engaging in a coaching relationship with a supportive partner. The use of journals is recommended because they "help in the reenactment and reconstruction of experience, which is at the heart of reflective thinking" (LaBoskey, p.15).

New Comprehensions

LaBoskey contends that through the active engagement of reflective practice, teachers develop new reflective skills and modify their beliefs-knowledge, values-attitudes, and emotional states. This, in turn, leads to the resolution of current and future educational problems. The development of these new comprehensions is the goal of reflective practice in that these comprehensions will serve to improve practice. This relationship between reflection and improved teacher practice is the focus of this study.

Need for the Study

Many music teacher education programs have committed themselves to the development of reflective practitioners (Raiber, 2000). These programs encourage the use of active practicum-based instruction coupled with reflection to aid preservice teachers in solving complex challenges with the belief that such skills lead to effective teaching. Considering music teacher educators' commitment to reflective practice, it is disturbing to find no studies providing empirical evidence connecting reflective ability with increases in teaching effectiveness.

Reliable and valid instruments exist to measure reflective ability and music teaching effectiveness, yet results from these instruments have not been compared. It is the intention of this study to determine the relationship between measures of reflective ability and measures of music teaching effectiveness. A significant association between the two constructs would support methodology focused on the development of reflective ability in preservice music teachers.

Statement of the Problem

There are a number of studies investigating the skills necessary to encourage reflection within preservice and in-service teachers: (Beck, 1997; Beyer; 1986; Boud, Keogh, &Walker, 1985; Bourget, 1999; Brookfield, 1987; Caillouet, 1998; Clarke; 1992; Colton & Sparks-Langer, 1993; Copeland, Birmingham, Cruz & Lewin, 1993; Cruickshank & Applegate, 1981; Deutsch, 1996; Digiaimo, 1993; Draper, 1998; Freiberg & Waxman, 1990; Garman, 1986; Garrison, 1991; Gilliland, 1991; Grimmett, 1988, 1989, 1990; Harris, 1989; Hatton & Smith, 1995; Hinman-Powell, 1998; Holly, 1983; Huebner, 1997; Imel, 1992; Kirby, 1987, 1989: Kruse, 1997; LaBoskey, 1994; McIntyre, 1993; Nolan, 1989; Norlander-Case, Reagan & Case, 1999; Osterman, 1990; Palmer, Burns & Bulman, 1994; Pearce, 1995; Richardson, 1990; Rogers, 1996; Sang, 1985; Schön, 1983, 1987; Sykes, 1986; Van Manen, 1977; Waks, 1999; Yang, 1997; Yost, Sentener & Florenza-Bailey, 2000). Additionally, researchers claim that the ability to engage in meaningful reflection while in practice directly relates to one's teaching effectiveness (Berliner, 1986; Hedin, 1989; Kirby, 1987; Merrabeau, 1992; Nolan & Huber, 1989; Schön, 1983, 1987). Yet, only limited research can be found that examines this relationship within the confines of music teacher education. Therefore,

the purpose of this study is to examine the relationships between instrumental music teachers' aptitude for and engagement in reflective practice and their influence, if any, on instructional effectiveness. The primary question concerns the ability to conceive and express one's thoughts in reflective patterns and their bearing on instrumental music teacher effectiveness. More specifically, answers to the following questions should aid in determining the scope of this problem. Those questions are:

1. Is there a relationship between a teacher's aptitude for reflection effect and his or her self-reported use of reflective teaching?

2. Can a music teacher's aptitude for reflection, as assessed by the LaBoskey Survey of Unassisted Reflectivity, be used to predict music teacher effectiveness?

3. Can the extent to which an instrumental music teacher reports engaging in reflective practice be used to predict music teaching effectiveness?

4. Which, if any, of the three identified dimensions of reflective practice (diagnosis, testing, and personal causation) are significant contributors to effective teaching behaviors of music teachers?

5. Does professional teaching experience have an effect on the relationship between music teachers' aptitude for reflection and their teaching effectiveness?

6. Does professional teaching experience have an effect on the correlation between music teachers' self-reported use of reflective teaching and their teaching effectiveness?

7. Does professional teaching experience have an effect on any of the three identified dimensions of reflective practice (diagnosis, testing, and personal causation) and their correlation with music teaching effectiveness?

Null Hypotheses

Primary HO1 Hypothesis

There will be no significant correlation ($p \leq .05$) between music teachers' reflective aptitude and self-reports of engagement in reflective teaching.

Primary HO2 Hypothesis

Aptitude for reflection, as measured by the LSUR, is not a significant contributor to the overall variance ($p \leq .05$) in predicting effective teaching behaviors of music teachers.

Primary HO3 Hypothesis

Self-reported use of reflective teaching, as measured by the RTI, is not a significant contributor to the overall variance ($p \leq .05$) in predicting effective teaching behaviors of music teachers.

Secondary Hypotheses of HO3

$HO_{3.1}$ The diagnostic sub-scale of the RTI is not a significant contributor to the overall variance ($p \leq .05$) in predicting effective teaching behaviors of music teachers.

$HO_{3.2}$ The testing sub-scale of the RTI is not a significant contributor to the overall variance ($p \leq .05$) in predicting effective teaching behaviors of music teachers.

$HO_{3.3}$ The personal causation sub-scale of the RTI is not a significant contributor to the overall variance ($p \leq .05$) in predicting effective teaching behaviors of music teachers.

Primary HO4 Hypothesis

Professional teaching experience is not a significant contributor to the overall variance ($p \leq .05$) in the interaction between music teaching effectiveness and reflective practice.

Secondary Hypotheses of HO4

$HO_{4.1}$ Professional teaching experience is not a significant contributor to the overall variance ($p \leq .05$) in the interaction between music teaching effectiveness and teachers' reflective aptitude.

$HO_{4.2}$ Professional teaching experience is not a significant contributor to the overall variance ($p \leq .05$) in the interaction between music teaching effectiveness and teachers' self-reported engagement in reflective practice.

$HO_{4.3}$ Professional teaching experience is not a significant contributor to the overall variance ($p \leq .05$) in the interaction between music teaching effectiveness and the diagnostic sub-scale of the RTI.

$HO_{4.4}$ Professional teaching experience is not a significant contributor to the overall variance ($p \leq .05$) in the interaction between music teaching effectiveness and testing sub-scale of the RTI.

$HO_{4.5}$ Professional teaching experience is not a significant contributor to the overall variance ($p \leq .05$) in the interaction between music teaching effectiveness and personal causation sub-scale of the RTI.

Definition of Terms

Constructivist Teaching

This is the practice of providing the learner with an environment for constructing knowledge based upon all elements present within the situation. The goal of such teaching is the construction of new knowledge.

Career Teacher

A certified instrumental music teacher who has fifteen or more years' experience. Smith and Tiberius state that teachers at this level must be "highly experienced" (1994, p2). They are quick to caution, however, that not all teachers at this experience level can be viewed as experts. Berliner (1988) states that one must consider the fluidity of a teacher's performance in determining expertise. In the current study, the only criteria for this category were years of experience. It is for this reason, the researcher classified subjects in this group as career teachers and not always as expert teachers.

Experienced Teacher

A certified instrumental music teacher who exhibits the ability to act on professional intuition. Berliner (1988) claims that around the fourth or fifth year some teachers begin to exhibit signs of proficiency as exemplified through their holistic way of viewing the situations they encounter. Smith and Tiberius (1994) claim the nature of teaching expertise is best represented in a hierarchical model calling on teacher's knowledge, intuition and progressive problem solving. They state that "after a great deal of experience, the way [teachers] solve problems appears to change" (1999, p. 2). It

may take ten years for teachers to fully develop these behaviors. Hence, the experienced level contains teachers with four to fourteen years' experience.

Music Teacher Effectiveness

The extent to which a teacher exhibits skills and competencies identified to be conducive to student learning as measured by the Student Teaching Effectiveness Scale (Hamann & Baker, 1995).

Novice Teacher

A teacher who has one-half to three years' experience. Novice teachers can be either preservice or in-service teachers. In support of this three-year limit, Katz (1992) found that three to five years' experience was required for a novice teacher to evolve into an established teacher. The three-year limit was imposed in the present study to ensure that this portion of the sample was operating at a novice teaching level.

Positivistic Teaching

This is the practice of providing one context-specific technical solution to a specific problem. The goal of such teaching is the replication of existing knowledge.

Process-product

The paradigm of research that defines teaching effectiveness in terms of both teacher and student behaviors.

Reflective Practice

A theory of professional practice that considers previous experience as the basis for professional beliefs that informs future action. Modification of future action is

contingent upon the professional's ability to diagnose a problem, test possible solutions and apply the selected solution causing a change in behavior or learning.

Student Teacher

This is a preservice practitioner who is not yet certified to teach and is working in conjunction with an in-service mentor.

CHAPTER II

Review of Related Literature

The current concentration of music teacher education on reflective practice models is related in Chapter 1. There is considerable belief that application of these models will aid in developing more effective music educators. To better understand these models and their utilization within music teacher education, this chapter reviews literature related to reflective practice, music teaching effectiveness, and the possible relationship between reflective ability and teaching effectiveness. In the survey of studies related to reflective practice, four areas will be explored: definitions of reflective practice, the benefits of reflection, strategies for developing reflective practice, and how professional experience affects reflective ability. The evolution of paradigms related to effective instruction specific to the music classroom will be explored in the survey of studies related to teaching effectiveness. Finally, studies that have previously researched the relationship between effective instruction and teachers' reflective ability will be reviewed. At the end of each section, a brief summary will codify the ideas directing the rationale for this study.

Reflective Practice

Since the early 1980's considerable focus has been placed on reflective practice and its contributions to professional development (Beck, 1997; Beyer, 1986; Boud, Keogh, &Walker, 1985; Bourget, 1999; Brookfield, 1987; Caillouet, 1998; Clarke, 1992; Colton & Sparks-Langer, 1993; Copeland, Birmingham, Cruz & Lewin, 1993; Cruickshank & Applegate, 1981; Deutsch, 1996; Digiaimo, 1993; Draper, 1998; Freiberg & Waxman, 1990; Garman, 1986; Garrison, 1991; Gilliland, 1991; Grimmett, 1988, 1989, 1990; Harris, 1989; Hatton & Smith, 1995; Hinman-Powell, 1998; Holly, 1983; Huebner, 1997; Imel, 1992; Kirby, 1987, 1989: Kruse, 1997; LaBoskey, 1994; McIntyre, 1993; Nolan, 1989; Norlander-Case, Reagan & Case, 1999; Osterman, 1990; Palmer, Burns & Bulman, 1994; Pearce, 1995; Richardson, 1990; Rogers, 1996; Sang, 1985; Schön, 1983, 1987; Sykes, 1986; Van Manen, 1977; Waks, 1999; Yang, 1997; Yost, Sentener & Florenza-Bailey, 2000). Yet, Kelly (1993) explains "there is not consensus in the research on an empirical definition of reflective practice and what it entails" (p. 153). A review of the literature revealed a wide spectrum of definitions of reflective practice. This lack of clarity confounds most recent attempts to measure reflective practice within the professional community. Thus, a review of the most common definitions of reflective practice is necessary to clarify its meaning for this study.

Definitions of Reflection

According to Grimmett (1989), study concerning reflection can be categorized by how research-derived knowledge is viewed as contributing to the education of

teachers. In this view, research is divided into three basic perspectives and is presented in the form of three questions one must ask of the research. Grimmett asks

> Is this knowledge seen as an external source for mediating action in the sense that it directs teachers in their practice; or is such knowledge regarded as informing practice as teachers deliberate among competing alternatives for action; or does such knowledge constitute one source of information that teachers use metaphorically to apprehend practice as they reconstruct their classroom experience. (1989, p. 20)

Grimmett's (1989) first perspective includes research aimed at improving practice and is technological in nature. Knowledge is gained through an external authority and is applied to practice with the purpose of directing teachers' actions. His second perspective focuses on research that attempts to inform teacher practice. External authority continues to serve as the knowledge source, but understanding is "mediated through teaching colleagues and the context of the actual teaching situation" (p. 22). Knowledge, in this perspective, provides the foundation from which teachers deliberate between two competing alternatives for action. Reconstruction of experience is the context for research within Grimmett's third perspective. The reorganization of past experience can lead to three possible outcomes: (a) a new understanding of action, (b) a new understanding of the teacher role, and/or (c) a new understanding of traditional assumptions about teaching. The source of knowledge within this perspective is derived from the action itself and must include the practical application of personal knowledge. This knowledge is then used to transform practice.

Reflection as instrumental mediation of action.

Kelly (1993) provides an example of research defining reflection in terms related to Grimmett's first perspective. His definition of reflection includes "teachers' interactive thoughts during instruction, the implicit beliefs teachers have about students, teaching and the curriculum, and the internalized routines that teachers develop to guide their decisions during routine teaching activities" (p. 153). He provided his subjects with an on-going process of structured reflective practice that included twelve weeks of instruction. The first two weeks included interviews aimed at assessing the perceptions of the participants prior to training. The remaining ten weeks included daily structured reflection about teaching from each subject. In addition, at least seven times during this ten-week period, a content-area expert observed each subject and immediately provided feedback to him or her at the conclusion of the lesson. Teaching decisions were evaluated during this post-session conference and alternative strategies were discussed. The aim of this session was to direct the practice of the next teaching session. The content-area expert was viewed as the external authority.

Van Manen (1977) conceptualizes a three-layer model of reflection that defines it in terms of technical rationality. His levels consist of (a) practical action, (b) assessment, and (c) critical reflection. Digiaimo (1993) describes the application of this model by stating

> Through reflection the practitioner uses pedagogical knowledge to direct practical action, then assesses the educational consequences of those actions on competing educational goals. The final level, critical

> reflection, is the level at which the professional can incorporate the moral and ethical criteria into discourse about practical actions. (p.18)

On the surface, this model appears to stretch beyond Grimmett's (1989) first perspective, by including one's consideration of opposing viewpoints and moral/ethical issues. Closer examination reveals, however, that Van Manen is more prescriptive than reflective in his application of the model (Tom, 1985). He is most interested in the details concerning a specific pre-designed course of action taken by the teacher based upon an established authoritative theory. The model ignores the changing dynamics of the classroom, as well as the social/political context in which decisions are made (Digiaimo, 1993). The theoretical basis for this model appears to be a static knowledge base that is reliant on external authority to direct practice. As such, it is clear that this model should be classified with those in the first perspective of reflection.

Reflection as deliberation among competing views of teaching.

Zeichner and Liston (1987) place routine action and reflective action in opposition to each other when concerned with teacher education. They argue that good teaching is viewed either in terms of following the tried-and-true traditional model or in terms of teachers' engagement in consistent assessment of the origins, purposes and consequences of their work. As the designers of the curricular plan for the student-teaching program at the University of Wisconsin, Madison, Zeichner and Liston state that they

> ... utilize Dewey's concept of reflective action as the organizing principle of its curriculum, the program literature expresses a desire to develop in student teachers those orientations (toward open-mindedness,

responsibility and wholeheartedness) and skills (of keen observation and reasoned analysis) which lead to reflective action. (p. 24)

Additionally, they cite the work of Van Manen (1977) and make particular use of his stages of reflection. They are quick to add, however, "both the teaching (ends and means) and the surrounding context are viewed as problematic -- that is, as value-governed selection from a larger universe of possibilities" (Zeichner & Liston, 1987, p. 25). The inclusion of context is an important addition to Van Manen's work and moves its application beyond a level-one perspective.

Several aspects of Zeichner and Liston's (1987) design identify it with Grimmett's second perspective of reflection. It appears that student teachers in this design are assessed according to an external knowledge base generated by an outside authority. In addition, they are consistently required to assess their decisions according to a model that classifies them as either traditional or reflective. Figure 2 summarizes Zeichner and Liston's classifications of decisions available for teachers in relation to Schwab's (1978) four commonplaces (teacher, student, curriculum, and milieu) of teaching. They contend that "for teaching to occur, someone (a teacher) must be teaching someone (a student) about something (a curriculum) at some place and some time (a milieu)" (p. 26). The desired aims are considered more reflective in nature while the oppositional choice is more traditional.

Figure 2. Aims of the elementary student teaching program in relation to the four commonplaces of teaching.

Commonplace		Desired Aims	As Opposed to
Student	View knowledge and situations as	Problematic	Certain
	View the teacher role as	Moral craftsperson	Technical craftsperson
Curriculum	Form	Reflexive	Received
	Epistemology	Practical knowledge	Theoretical knowledge
	Scope	Broad	Narrow
Milieu	Authority	Inquiry-oriented	Hierarchical
	Relationships	Self-renewing	Static
Teachers		Moral craftsperson	Technical craftsperson
		Self-renewing	Static

Student teachers within this program are asked to consider educational events in context of the four commonplaces. Their instructional decisions are derived from competing versions of good teaching and evaluated according to an external authority. The knowledge base is eclectic and aimed at informing practice rather than directing it.

Sykes (1986) proposes three identifying aspects of reflection that also appear to be aimed at informing practice. These three identifiers are

1. The distinctive employment of social science knowledge, utilizing arts of the eclectic and the practical, whereby multiple theories may be brought to bear unsystematically upon concrete, practical problems of practice.

2. The use of knowledge sources internal to practice to explore and modify one's actions with the student and students' learning being the primary source.
3. The engagement in a process of critical inquiry directed at the interplay of means and ends, at problem frames as well as solutions, at the tacit assumption and standard operation procedures of practice. (p. 233)

His inclusion of an eclectic knowledge base and desire to inform future action through critical inquiry place this view of reflection within Grimmett's (1989) second perspective.

Reflection as reconstructing experience.

Grimmett's third perspective in teacher reflection leads to new understandings in three areas. The first of these areas considers the reconstruction of action situations and is primarily concerned with the act of setting problems. Copeland, Birmingham, Cruz, and Lewin (1993) select problem-setting as the organizing feature for twelve critical attributes of reflective practice. They group these attributes into four clusters -- problem, solution, testing solution and learning. In this model, the initiation of reflection begins with the identification of a problem that is meaningful for the context in which the teacher is working. The problem is set according to the context and possible solutions are generated. These solutions are grounded in theories, assumptions and research findings deemed relevant to the setting of the problem. The teacher then selects and implements the solution and evaluates its outcome. In this process, the problem is not only solved, but the teacher enhances his/her understanding of the action taken. This knowledge aids the teacher in setting future problems.

Sebren's (1994) model for physical education teacher education also utilizes the reconstruction of action as its perspective of reflection. She states, "the model was designed with the assumption that reflection is most effective when related to actual practice" (p. 35). She defines reflection as the process of reconstructing what happened and the reasons for that action to have occurred. As a result of reconstruction, the teacher generates alternatives for change within teaching events. Sebren's goal for this model of reflection is that the "information gathered through the reflection process is then incorporated into the teacher's repertoire to be used in the next teaching episode" (p. 35).

Perhaps, one of the best-known models for professional education founded on reflective principles is Donald Schön's (1983, 1987). His work focuses on epistemological arguments concerning the dialectic between a positivistic approach to professional education versus a constructivist view of the same. He argues that there is a dominance of technical rationality in professional education that he describes as

> ... an epistemology of practice derived from positivist philosophy built into the very foundations of the modern research university. Technical rationality holds that practitioners are instrumental problem solvers who select technical means best suited to particular purposes. Rigorous professional practitioners solve well-informed instrumental problems by applying theory and technique derived from systematic preferable scientific knowledge. (Schön, 1987, pp. 3-4)

Schön argues for a model of problem-setting (what he terms *framing*) in place of the technical rational model. He suggests that knowledge is embedded in the artistry of

everyday practice and is context specific (1983, 1987). Figure 3 illustrates a model for Schön's conceptualization of reflection (Clarke, 1995, p. 246).

Figure 3. Model of Schön's concept of reflection

A practitioner is reflective when he or she:

Is curious or intrigued about some aspect of the practice setting.	Frames that aspect in terms of the particulars of the setting.	Reframes that aspect in the light of past knowledge or previous experience.	Develops a plan for future action.

Trigger ⟶ Frame ⟶ Reframe ⟶ Plan

Schön's view of the topic includes three distinct types of reflection, which are all dependent on action. *Reflection in action* (Schön, 1983, 1987), is defined as "a process with nonlogical [sic] features, that is prompted by experience and over which we have limited control ... the essence of which is 'hearing' differently or 'seeing' differently" (Schön, 1987, p. 164). Reflection in action requires one to set a problem while being engaged in the process of solving it. Schön's second type of reflection is termed *reflection on action* (Hinman-Powell, 1998, p. 47) and requires problem-setting be done in retrospect (Schön, 1983, 1987; Kolb, 1984). According to Schön (1987) this process is the "ordered, deliberate and systematic application of logic to a problem in order to resolve it" (p. 165). Finally, *reflection on reflection in action* is Schön's third type of reflection. He defines this as an exercise controlled by the practitioner to think systematically about the reframed data (Schön, 1987). The point at which problem-setting takes place during the process sets each type of reflection apart from the others. Features within each setting are attended to either during or after the action. As a result, significance is assigned to previously ignored actions or new significance is assigned to

those features previously identified. As patterns of significance emerge, they translate to teacher knowledge that transforms future teacher action. Many teacher education programs cite this model of reflection and reflective practice as the conceptual framework for their design.

Grounded in Schön's (1983) three domains of reflection -- diagnosis, testing, and belief in personal causation -- Kirby and Teddlie (1989) conceptualize reflective practice through the perspective of self as teacher. They believe that to acquire and apply professional knowledge, one must move beyond the "imitation of experts" (Kirby & Teddlie, p. 45). All three of their reflective requirements are stated in terms of the teacher-self. They view diagnosis as the ability to frame a problem in terms of "professional knowledge, past experience, the uniqueness of the situation and people involved, social and professional norms of behavior and expectations held by others" (Kirby & Teddlie, 1989, p. 46). The reflective practitioner then explores possible solutions based on their desirability and congruence with the practitioner's professional values. Once the practitioner has made sense of an ambiguous situation through diagnosis of a problem and testing possible solutions, they must accept responsibility for actions taken. This belief in self-efficacy reshapes the practitioner's view of self as teacher and changes the perspective for future reflections.

LaBoskey (1994) differs from Schön in that she considers reconstruction of experience not only in terms of problem-setting, but also in terms of an individual's view of himself or herself and the context in which the experience takes place. Her research provides interpretive accounts of the way teachers structure their knowledge and practice (Grimmett & Erickson, 1988). She contends, "How difficult the goals of

reflective teacher education are to achieve depends upon the entering beliefs-knowledge, values-attitudes, skills, and emotions of each prospective teacher" (LaBoskey, 1994, p. 9).

In her case study of preservice teachers, subjects were pretested for reflective aptitude and placed in one of two classifications based upon the results. She termed the more reflective group *Alert Novices* and the less reflective group *Commonsense Thinkers*. When considering the plight of the Commonsense Thinkers who did not increase in reflective ability over the course of the study, she stated, "It is not enough to design generic strategies for encouraging reflective activity and growth, especially with those who most need assistance. Particular intellectual, attitudinal, and emotional states, traits, and abilities must be considered and addressed" (LaBoskey, 1994, pp.88-89). Analysis of the data from the Alert Novices revealed they each possessed a passionate creed about their teaching and asked more "why" questions when discussing their instruction (LaBoskey, 1994). The Alert Novice was more proactive in his/her approach to teaching and produced more positive results in the classroom. As a result, they viewed themselves more as teachers. Evidence of this is seen in the responses to the post-study questionnaire. One Alert Novice stated, "I want to teach because I love to see people learn" (LaBoskey, p. 121). Because of their individual view of themselves as teachers, members of the Alert Novice group were capable of appreciating and transforming their understanding of the culture in which they attempted to practice (Grimmett & Erickson, 1988).

Digiaimo (1993) analyzed the writings of student teachers over a six-year period in an attempt to study reflective pedagogical thinking. Her findings support an

operational model of reflection that bears witness to the notion of reflection as the reconstruction of the self as teacher. This model contains the following elements: "critiquing one's own practice; making a discovery about teaching or self; reflecting on personal values, cultural issues; connecting or integrating one's own practice with theory; identifying the implication of one's practice on future practice" (Digiaimo, 1993, p. 98). Digiaimo's focus on restructuring one's personal knowledge about teaching places her model within this perspective of reconstruction.

In their view of reflection as reconstruction of the self as teacher, Colton and Sparks-Langer (1993) highlighted three critical elements of reflection – the cognitive, the critical, and teacher narratives. The cognitive element leads teachers to reflect on professional knowledge and create schemata. Schemata are created in the real world of teaching and enable teachers to comprehend teaching situations and make appropriate pedagogical decisions (Yang, 1997). The critical element compels teachers to view their practice as problematic. It can also aid one in emphasizing the moral and ethical aspects of teaching. Resolution of problems created from either of these investigations is the primary goal of a critical view. Teachers who employ this element, view themselves as more professional and as social reconstructionists (Colton & Sparks-Langer, 1993). The narrative element speaks to teachers' abilities to make reflective learning personal. As teachers engage in narrative construction rather than propositional statements, their narratives provide one with "unique access to their own professional reasoning" (Yang, p. 64). Through such a process, teachers gain deeper understandings of their experiences and apply those understandings to their view of themselves as teachers. Colton and Sparks-Langer (1993) claimed that this information could be classified into

seven different categories of teacher knowledge that enhance one's view of self as teacher. Those are: (a) content knowledge, (b) knowledge about students, (c) pedagogical knowledge, (d) knowledge of the context in which teaching takes place, (e) knowledge of prior experience, (f) personal and social values, and (g) schemata formed from one's view of their teacher self.

- The final area of reconstruction is aimed at taken-for-granted assumptions about teaching (Grimmett, 1988). Within the field of teacher education, Brookfield (1987) promotes the use of *critical reflection* in transforming one's understanding of the political, institutional, social, and modal constraints that interfere with the practice of teaching. He states:

> Critical thinking can be recognized in the context of our personal relationships, work activities and political involvements. This activity entails much more than the skills of logical analysis taught in so many college courses on critical thinking. It involves calling into question the assumptions underlying our customary, habitual ways of thinking and acting, and then being ready to think and act differently on the basis of the critical questioning. (Brookfield, 1987, p.1)

He describes this as an individual's process of (a) reframing or questioning the accepted and dominant logic of an individual or collective, (b) taking a perspective contrary to this dominant logic or majority point of view, and (c) studying the way in which the ideas are represented and accepted by individuals and collectives (Hinman-Powell, 1998).

Brookfield's (1987) investigation of teaching views the practice through four lenses: (a) teacher and learner autobiographies, (b) student's eyes, (c) experiences of colleagues, and (d) theoretical literature. He claims that "viewing what we do through these different lenses alerts us to distorted or incomplete aspects of our assumptions that need further investigation" (Brookfield, 1987, p. 29). Once the assumptions are brought into question and the teacher views these different perspectives in the context of teaching, knowledge is gained. This knowledge provides the metaphors that transform one's understanding of practice and gives impetus for change.

Review of the research related to defining reflective practice reveals that Grimmett's three perspectives are not mutually exclusive, as some studies could be correctly categorized from two or three perspectives simultaneously. Therefore, this researcher prefers to view these perspectives in a hierarchical relationship. One may contend that within teacher education, an external expert mediating the practice of the learner may originally define reflection. Various definitions are then processed by the learner and understood through categorizing teacher actions in terms of opposing views of practice. Evaluations are made as the learner begins to think critically and reconstruct practice based upon these beliefs. This includes redefining the goals and objects of practice and the learner's changing view of himself/herself in terms of a teacher. Hence, the definition of reflection is fluid and dependent upon the context in which reflection takes place.

Reflection as a developmental process.

Other theorists (Goodman, 1984;Van Manen, 1977; Zimper & Howey, 1987) define reflection as a hierarchical process of development. According to Van Manen

(1977), reflection may take place on three different levels -- the practical/technical level, the social/political level, and moral/ethical level. When reflection is concerned mainly with the acquisition of the technical means to achieve an educational end it is operating at the practical/technical level. At the social/political level, one is concerned with an interpretive understanding of the meanings of educational experience. He/she considers choices of actions based upon a contextual understanding of the educational events in question. At the highest, moral/ethical level, the desirability and worth of educational ends are brought into question. Through critical analysis, one considers each event in terms of the democratic ideals of justice, equality and freedom (Yang, 1997).

Goodman (1984) distinguishes among three hierarchical levels of reflection as well. The first level limits reflection to that required in reaching given objectives. Technical issues of efficiency, effectiveness and accountability are considered at this level. To move to the second level, the practitioner must reflect on the relationship between principles and practice. Consideration of actions and consequences of actions, as well as the underlying rationale for practice, are indicators of reflection at this level. At the third level, the practitioner considers all the previous areas of concern and incorporates ethical and political concerns. Professional goals at this level are considered in terms of justice and the broader social structure and forces at work.

Zimpher and Howey (1987) identify four domains of teacher competence linked to reflection and designate them as technical, clinical, personal and critical. The technical level requires the lowest level of reflectivity, and involves learning and using specific instructional skills within a specific setting. The clinical level increases the reflective responsibility to include the practitioner's ability to monitor actions within the

classroom and make the needed adjustments to improve instruction. Practitioners operating in this domain may take part in action research and practical deliberation with colleagues to devise possible solutions. Within the personal domain competence requires "a movement from self-awareness and survival concerns on the part of teacher to using knowledge of adult moral and cognitive development to inform teacher practice...fostering an understanding of self in the context of teaching" (Zimpher & Howey, 1987, p. 113). Moral/ethical concerns in teaching may be resolved in this domain through one's sense of personal competence fostered by the collegial community of other practitioners. Practitioners may reflect in community with others. To achieve the fourth domain, critical competence, practitioners examine the hidden dimensions of schooling. They question assumptions and generate plans to benefit the school and community. Reflectivity at this level operates through critical inquiry aimed at reconstructing and transforming schools and society.

Defining reflection as a developmental process, therefore, requires one to consider not only how the environment contributes to individual reflection, but also how the individual contributes to the reflective environment. As one's ability and foundation for critical analysis increase, the scope of consideration moves from the individual, through the classroom, to the practice as a whole, and finally, to the contribution of the practice for the benefit of humanity.

Benefits of Reflection

Researchers list six primary benefits of reflection for teaching that can be organized into three larger categories: teacher benefits, student benefits, and practice benefits. Reflection's primary benefits to teachers include (a) the ability to extract

meaning from experience (Imel, 1992; Kelly, 1993; Kolb, 1971; LaBoskey, 1994; Nolan & Huber, 1989; Perry & Moss, 1989; Schön, 1983, 1987), (b) improvement of teacher skills (Beck, 1997; Cruischank & Applegate, 1981; Deutsch, 1996; Garman & Gaynor, 1986; Holly, 1983; Kelly, 1993; Wildman, Niles, Maglario & McLaughlin, 1990; Yang, 1997), and (c) improvement of teacher's attitude toward teaching (Beck, 1997; Deutsch, 1996; Kelly, 1993; Robinson, 1984). Students may also benefit from teacher reflection as a model for their own employment of reflective practice (Beck, 1997; LaBoskey, 1994; Nolan & Huber, 1989; Wildman, et. al, 1990). Teacher engagement in reflection benefits the teaching profession by improving practice (Beck, 1997; Cruickshank & Applegate, 1981; Deutsch, 1996; Digiaimo, 1993; Holly, 1983; Kelly, 1993; Wildman, et. al, 1990; Yang, 1997) and by critically considering the moral issues within the practice (Colton & Sparks-Langer, 1993; Digiaimo, 1993; LaBoskey, 1994; Van Manen, 1977; Yang, 1997).

Teacher benefits.

Experience may serve as the stimulus for learning, but reflection makes it possible to learn (Osterman, 1990). Imel (1992) claims that "reflection is the essential part of learning [that] extracts meaning from experience" (pp.167-68). Discussing teachers who were involved in a reflective training program, Kelly (1993) states, "They always felt they were pretty good at what they were doing, but, for the first time, they were reaching a clear understanding of why" (p. 163). The first benefit of teacher reflection is its ability to inform current practice.

Nolan and Huber (1989) claim that as a result of engagement in reflection, teachers become better observers of classroom behavior, which stimulates an awareness

of their teacherly decisions and the reasons those decisions were made. This makes their practice increasingly explicit as they begin to understand the motivation for their more intuitive decisions. Kelly (1993) asserts that reflection aids teachers in future planning because of greater teacher awareness of what occurs in the classroom on a daily basis. This awareness affords the teacher the "ability to make intuitive decisions more explicit" (p. 150). Perry and Moss (1989) refer to a reflective teacher's ability to put intuitive decisions into words as "clarity in articulating the craft" (Palmer, Burns, & Bulman, 1994, p. 74). This clarity limits snap judgments that can inhibit teacher growth and leads to the replacement of unsubstantiated opinion with grounded belief (LaBoskey, 1994).

Through informing current practice and reducing cognitive dissonance, reflection leads to more skillful and efficient practitioners (Deutsch, 1996). To be effective, Yang (1997) claims that teaching must be continuously reconstructed. Teachers must recognize the need for practice to evolve. Garman and Gaynor (1986) found that reflective thinkers are less inclined to rely on traditional practice if that practice does not produce the necessary educational results. Thus, reflection may have the power to change practice, but only if teachers recognize how these benefits may be put to use in their individual environment.

Teachers' perception of benefits from reflection is the focus of Beck's (1997) research study of a specific teacher work-group she called the *Network*. She claims that her study "sought to document what is potentially an aberration to the trend of teachers acting as deskilled and cognitively disassociated [practitioners] as it has focused on a group of teachers who elected to practice reflection" (p. 119). Volunteer teachers

formed the *Network* of subjects for this qualitative study ($N = 9$). Data sources included teacher interviews, transcriptions of Network meetings, commentary contained in the Network teacher's portfolios and reflective journals, and artifacts collected at Network meetings. Review of the interview data indicated three main teacher-perceived benefits of reflection -- "reflection as a means of seeing a need for change in practice, reflection as a means of assisting in implementation of a change in practice, and reflection as a means to combat stagnation" (Beck, 1997, p. 87).

From the interviews, four teachers volunteered that reflection was the mechanism that assisted them in recognizing the need for change in their practice. This admission was made on an individual level and in collaboration with other colleagues. Beck notes, "Teachers within the study group utilized Network interactions to garner new ideas from collaborative colleagues..." (p. 88). A review of the teachers' portfolios and journals revealed that "all nine teachers...were able to identify some change implemented during the period of Network participation that they attributed specifically to those experiences" (Beck, 1997, p.89). Interview data also revealed that six teachers voluntarily identified reflection as a mechanism to assist in implementing change in practice (Beck, 1997). All six viewed this change as positive. Written data show that all nine teachers were able to identify changes implemented as a result of the reflection.

Six teachers also responded in the interview that they utilized reflection as a means to combat stagnation. Beck notes that for these teachers reflection emerged as a "valuable experience to both the teacher and the student because ... a teacher should be learning along with the students at all times" (p. 90). Thus, teachers viewed this not only as a teacher benefit, but also as a benefit to their students noting that "teachers who

continue to develop professionally are able to offer their students an improved educational program" (p. 91). Written data revealed that all nine subjects at some point felt that "Network participation and reflection assisted them in their professional growth" (p. 91).

Beck summarizes that teacher-perceived benefits from reflection include flexibility, growth, improved cognitive focus, an ability to recognize the need for change, an ability to reform implementation through the affective realm of teaching, and an ability and desire to remain current in the field. As a result, reflection may have a positive effect on moving teachers' perceptions of themselves from unskilled actors to active professionals in the field of education.

Improvement of teachers' attitude toward the profession of education has also been noted as a benefit for teachers engaged in reflective practice. Nolan and Huber (1989) asserted that, "Increased reflection by teachers positively affects their beliefs about teaching as well as their self-esteem" (p. 141). Beck (1997) appeared to agree as she cited comments about reflection inhibiting teacher burnout by aiding teachers to become life-long learners.

Considering teacher-perceived benefits of reflection and improved teacher attitude as a result of reflection, Kelly (1993) investigated the impact of structured reflective practice on the teaching decisions of in-service teachers. Utilizing a qualitative method, he collected data as he guided five early childhood teachers through a five-step process. Beginning with a focused interview, Kelly used a videotape of each subject's most recent teaching episode to stimulate recall and asked the subject to "relate those decisions and other events of the lesson to some fundamental beliefs they held

about teaching" (Kelly, 1993, p. 69). These data were used to calculate the teacher's capacity to utilize reflective practice in an effective manner. Each teacher was then provided with a suggested format to use in reviewing his or her teaching. While the format was open-ended, it did state that teachers were to think about what they did and speculate as to the reasons why. Teachers were also to generate alternative choices they could have made during the event. Early childhood experts served as a resource and facilitator for each subject teacher in the third component of the study. Kelly states, "The role of 'expert' was not to inform the practice of the participant teachers, but rather to assist them in the process of discovering what they already knew and were practicing" (p. 70). A fourth component of the study included a second in-depth interview between the researcher and the teachers. The focus of this interview was to investigate teacher perception of the impact that reflective practice had on their teaching. Finally, a group meeting including the teachers, researcher, and the early childhood expert was held. Subjects were asked to give written responses to direct questions about reflective practice and its potential to improve the practice of teaching. Kelly (1993) stated:

> The findings of this research on the effects of training in reflective practice indicate that, given the conditions of the training, teachers will engage in critical thinking about their professional practice, that they will focus on all aspects of their practice in an analytical way, that they will engage in the process of generating alternative teaching decisions for given situations, and that as a result of this process, they will begin to change their concept of the teaching context, and their concept of their ability to change that context in a positive manner. (p. 152)

Specifically, Kelly found the most positive influence of reflection was evidenced in teachers' planning for future instruction. Teachers' statements can be summarized in three general views. First, teachers noted a greater awareness of what occurred in the classroom on a daily basis. Second, due to this awareness, teachers' general outlook on planning changed; a change they attributed to reflective practice. Third, as a result of their increased professional perspective and approach to planning, instruction improved. Thus, these teachers received more positive feedback from others about their teaching, which had positive effects on their self-efficacy. Teachers stated that this experience had changed their professional practice and would most likely continue to do so permanently.

Teacher benefits from reflection begin with its capacity to inform practice, leading the teacher toward actions grounded in informed belief rather than unsubstantiated opinion. Teachers perceive three main benefits from engagement in reflective activity: (a) The ability to see the need for change, (b) reflection's assistance in the implementation of change, and (c) its ability to combat professional stagnation leading to enhanced practice. Improvement of teachers' attitude toward teaching through increased awareness of the teaching environment, improved teacher planning, and positive peer feedback are also seen as benefits of reflection leading to improvement of teachers' self-efficacy. Teachers' ability to embrace change and maintain high levels of self-efficacy have both been linked to teacher effectiveness. The contribution of reflective practice to both of these elements is of particular importance to the current study.

Student benefits.

Students' ability to be critically reflective has been at the center of recent calls for education reform (Yost, Sentner, & Forlenza-Bailey, 2000). Additionally, Rose and Nicoll (1997) stated that employers seek those who can take initiative, use good judgment, are creative problem solvers, and are rational decision makers. Thus, student success, both in and out of the educational environment, may be largely dependent upon critical thinking skills of which reflective ability is a key component.

Beck (1997) found that as teachers became more aware of reflective practice they began to model the behavior for their students. As a result, student reflection increased. Nolan and Huber (1989) also noted that teachers who engage in reflective practice are more likely to encourage the same in their students. Wildman, et al. (1990) noted that knowledge can either be passively gained or reflectively absorbed. They claim that in classes where teachers lead students toward systematic reflection, a more thorough knowledge is developed. Thus, student reflection appears to be an important by-product of teacher reflection.

Practice benefits.

The improvement of teaching in general is another noted benefit of reflective practice. Norlander-Case, Reagan, and Case (1999) contend that reflective practitioners not only are consumers of knowledge, but also primary producers of new knowledge as well. This production of knowledge leads to advances in teacher intellectualism, practitioner self-management, a constructivist paradigm of life-long learners, and an increase in practitioners' ability to remain current in their field (Beck, 1997; Kelly, 1993; Nolan & Huber, 1989). Kelly (1993) claimed that improvement of this kind is

due to a change in concentration among practitioners. He stated "there is a change in focus from how to 'fix' what did not work to a consideration of the elements that constitute a successful teaching event" (p. 134). Thus, teacher insights of the entire context of teaching can be improved via reflection. As a result of improved insight, Nolan and Huber (1989) noted there is greater interest among teachers for self-improvement. Similarly, Holly (1983) claimed that teachers, in an effort to improve, began to ask for her data to provide themselves with different perspectives of their teaching. Kelly and Holly provide growing evidence that reflective practice may provide the teaching profession with a cycle for improvement. Through activating greater teaching insights, teachers improve practice. As a result, these teachers have more positive teaching experiences, which enhances their desire for future insights.

Deutsch (1996) sought to discover how reflective practice is enhanced or impeded within the school context. Her study included six sixth-grade teachers from three medium-sized suburban Connecticut schools. Subjects' teaching experience ranged from three to fifteen years. Subjects were first trained to identify instances of reflective practice that occur within a teaching context. They were then assessed using findings from the Learning Styles Inventory (Kolb, 1991), the Reflective Teaching Instrument (Kirby & Teddlie, 1989), the Billingsley Questionnaire (Billingsley & Cross, 1992) and reflective journal entries. Findings from the study suggest that subjects were able to identify reflective experiences effectively. As a result, they were capable of perceiving a difference between their espoused theories and their theories in use within the teaching environment and reflect upon them. This led to a belief in some subjects that their ability to reflect on conflicting theories contributed to improved practice.

Deutsch supports this finding when she states "those teachers who had been trained to identify reflective practice used it as a valuable tool to refine their ability to analyze positive and negative factors which influenced their performance in the school context" (1996, p. 171).

Increasing teacher desire to investigate and understand the precipitants of effective teacher behavior beyond immediate solutions to specific problems appears to lead to improved practice. Research indicates that reflective practice may contribute to such an increase in meaningful ways. Teachers perceive benefits from reflection and may pass these on to their students through reflective practice. As a result, students may become more reflective in their practice. Student achievement may increase leading to improved teacher efficacy through teacher self-appraisal and external feedback from other teaching colleagues. Higher levels of teacher efficacy have been found to lead to more effective teacher behavior. Investigating the relationship between reflective practice and teaching effectiveness is the aim of the current study.

Development of Reflective Practice

"One might question if it is possible to teach critical reflection to all novice teachers. Research neither proves nor disproves this possibility" (Yost, et. al., 2000, p. 45). It appears, from this statement, that research in teaching and/or training in reflective practice is inconclusive. An examination of the literature reveals some compelling findings, however, on both sides of this issue. This section will present research from those who do not believe that reflection can be taught and therefore, may not be a desirable outcome of teacher education (Beck, 1997; Harris, 1989; Richardson, 1990). Research will also be presented from those who believe that reflection can be

taught and should be a primary focus of teacher education (Boud, Keogh & Walker, 1985; Deutsch, 1996; Kelly, 1993; Wildman, et. al., 1990; Yost, 2000). Findings concerned with the effects of teaching/training in reflective practice will be presented in terms of its capacity to help or hinder reflective ability (Clarke, 1995; Deutsch, 1996). Finally, the literature concerning possible models for teaching/training in reflective practice (Beyer, 1986; Garman, 1986; Palmer, Burns, & Bulman, 1994; Schön, 1983, 1987; Yost, 2000) will be presented. Due to the number of teacher education programs that claim to employ Schön's (1983, 1987) theories as the framework for their program design, particular attention will be focused on his contribution. Additional concentration will also focus on those who challenge his theories (Grimmett, 1989; Harris, 1989; LaBoskey, 1989; Nolan, 1989; Richardson, 1990).

Justification of reflection within teacher education.

Even though the "literature abounds with calls for reflective practice to be fostered at the preservice level and encouraged as a career-long pursuit" (Clarke, 1995), within teacher education, there does not appear to be consensus concerning its desirability. From his review of the literature and personal experience with educators, Kelly (1993) claimed that teachers are not naturally reflective within their profession. These same teachers appeared, however, to enjoy success in their careers and generally foster student learning in their classrooms. Beck (1997) found that reflection might be more a product of teacher personality than a learned behavior. She states:

> If the ability to reflect successfully is, in fact, related to personal characteristics, the ability to 'teach' reflective practice as advocated in the literature through in-service or network models may be limited.

> Instructional models may prove successful for that portion of the population possessing some or all the necessary characteristics required to engage cognitively in practice; however, those members of the teaching pool void of the majority of those characteristics may find limited success in reflective programs. (p. 128)

Thus, one may question the magnitude of focus on reflective practice within current teacher education literature. If one is predisposed to either be reflective or not, is it ethical for teacher educators to commit large amounts of time and resources to this endeavor?

Wildman, et al. (1990) addressed this question by proposing that purposeful reflective practice in teaching is a learned activity. While they agree that reflection is a more natural process for some teachers than others, they argue that it can be nurtured in all practitioners. Kelly (1993) found in his study of early childhood educators that while reflection may not be instinctive for some, "given the conditions of training, teachers will engage in critical thinking about their professional practice" (p. 152). Deutsch (1996) not only found that reflection can be taught and nurtured through professional supervision, but she additionally asserts, "It is essential that teacher preparation institutions focus on encouraging identification and use of reflective practice prior to accrediting new teachers in the profession" (p. 172). In a recent study of teacher education programs' ability to encourage reflective learning, Wideman, Mayer-Smith, and Moon (1998) found that those programs with a unified mission are able to transmit that shared vision to students.

The impact of structured training in reflective practice and its effects on teachers' decision-making process was at the center of Kelly's (1993) study of early childhood educators. Through a formalized format of initial interviews, journal keeping, expert supervision, follow-up interviews and group meetings, Kelly attempted to influence each teacher's decision-making process through reflection. After review of the data, Kelly found that "none of the participants had engaged in reflective practice activities as part of their regular routine of professional practice" (p. 150). He found, however, that during training "all of the participants developed an understanding of reflective practice consistent with the operational definition of [the] study. They sought to engage in structured reflective practice on a daily basis, and found it to be a positive experience." (p.150). As a result of their engagement in reflective practice, the subjects perceived an "increase in their own control over their professional practice, and the impact they felt they had on the learning of their students" (Kelly, 1993, p. 151). Kelly summarizes his findings by stating "as a result of applying the strategies for reflective practice through this training, the participants clearly became more aware of the intuitive decisions they made in the classroom environment" (p. 162).

The current study embraces the findings that indicate engagement in reflective practice can be learned. As with any skill, however, there are those who possess greater aptitude or predisposition within the skill area. Thus, the current study will address both reflective aptitude and reflective achievement.

Schön's model of professional education.

In 1983, Donald Schön's book *The Reflective Practitioner* was published and immediately influenced teacher education. Richardson (1990) claims "Just three years

later, the 1986 American Education Research Association conference program could have been called 'The Reflective Teacher Program'; and one can hardly read an article about teaching without mention of reflection" (p. 3). Schön (1983) provides a strong case against the prevailing theory of Competency Based Teacher Education (CBTE). He suggests that a technical-rational approach to the acquisition and application of knowledge is not useful in practice. His proposed alternative is an "epistemology of practice implicit in the artistic, intuitive processes which some practitioners do bring to situations of uncertainty, instability, uniqueness, and value conflict" (1983, p. 49).

The central concept in Schön's (1983, 1987) work is *knowledge-in-action*. Unlike the step-by-step process of conscious decision-making advocated by CBTE, Schön proposes that knowledge is inherent in the unconscious actions of teachers and is more global in nature. This knowledge has a foundation in the teacher's past experiences, but is tacit in form and cannot be consciously articulated at the time of behavior. Using this model, teachers' thoughts cannot be described or explained within the realm of technical rationality since they are neither linear nor conscious. Schön sought to discover the intelligence within each act rather than attempt to make each act seem intelligent (Richardson, 1990).

To determine the level of one's professional knowledge, Schön (1983) examined another cognitive process. Termed *reflection-in-action*, this process involves the conscious interaction of the practitioner with a situation viewed as problematic. During this interaction the practitioner reframes the problem in terms of past experience and practical knowledge. One then experiments with different possible solutions and projects outcomes. Schön observed professionals engaged in reflection-in-action and

proposed a three-step process to aid in its development. The first step is to provide students with the necessary technical training to engage in the task at hand. In the second step, supervisors or mentors must aid the students in thinking like professionals. Finally, as the third step, students must be enabled to develop new forms of understanding and action (Schön, 1987).

Other researchers have challenged Schön's work (LaBoskey, 1989; Tom, 1985; Waks, 1999). One should note that Schön did not write particularly with teachers in mind. His books were aimed at engineers, town planners, architects, managers, and clinical psychologists, but the relevance of his work to teaching is clear (Richardson, 1990). There are those, however, that claim the uniqueness of each practice limits the application of Schön's theory to teacher education.

LaBoskey (1989) contended that Schön's model is "limited in its application to teacher education" (p. 29). She based this assertion on the fact that Schön's primary prototype involves a concrete product that contains a stopping point. In the design studio, the practitioner can stop when she has created something she likes. She can then set it aside and observe it from a distance, testing her experimental designs in such a manner. LaBoskey states:

> The teacher, however, cannot realize the outcomes until he has enacted the lesson. Even then, many problems with being able to 'see' the product at all may remain -- ranging from biased and selective perception to the difficulties of determining what actually ended up in the minds of the learners. (1989, p. 30)

The relationship between supervisor and student teacher is also a point of contention for LaBoskey. Most equate this to the coach-student relationship in Schön's model. Due, however, to its close association to a traditional apprenticeship model, it tends more to motivate young teachers to replicate practice either modeled or espoused by the supervisor rather than bring current practice into question (Tom, 1985). Thus, young teachers tend to base their actions on those of their mentor without considering the grounded beliefs that lead to these actions.

LaBoskey brought into question the applications of two other aspects of Schön's model to teacher education. First is Schön's acknowledgement that some problems of professional practice are due to a conflict of role frames and value systems. Schön's solution is to negotiate contracts in which both parties agree to follow his "Model II set of values" (LaBoskey, 1989, p. 31). LaBoskey acknowledges that this practice has merit, but "the process of negotiating contracts between one teacher and up to 180 young people who are often not present by choice is exceedingly complex, especially in the environment of the public school system" (p. 31). Second is the time required for reflection to take place in practice within Schön's model. His process for reflection requires a time for the practitioner to reframe situations and experiment with possible solutions. In the practical world of teaching, this time may not exist. LaBoskey clearly understood this dilemma when she states

> It is hard to find encouragement for teachers to pay the price of reflective practice, especially because reflection may temporarily inhibit action. The schools have little patience for this inhibition, and the novice teacher must have strong internal motivation to do so. (1989, p. 31)

In most cases, there is little encouragement for teachers of any experience level to engage in reflective practice as schools rarely provide either a safe environment for teacher reflection to take place or the time necessary for such engagement.

In a recent study, Waks (1999) offers a critical examination of the conceptual fit between Schön's framework and teacher education. Waks views design as the distinguishing feature of Schön's work. Schön imagined all professions as being similar in some relevant design-like qualities. Thus, Schön's scheme for professional education is organized on the "template for educating design professionals" (Waks, 1999, p. 306). This requires that experimentation take place within what Schön terms "reflective practice" (1987, p. 40). Waks notes that Schön never directly applies this design to teacher education. "He has left that job to teacher educators. They, in turn, have picked up his framework (and now may be putting it down) without subjecting it to careful critical assessment" (Waks, 1999, p. 306).

Waks (1999) challenges the appropriateness of Schön's framework for teacher education with two principal concerns. First, he asserts that the conventional school is not conducive to a design approach in Schön's sense. There is no place or time for experimentation to take place. Waks concedes that some teachers may attempt to have lesson-planning serve in this capacity, but without having actual students in a meaningful setting, critical feedback does not exist. There is no way of knowing-in-action. Second, Waks contends that teacher education cannot adequately be conducted in a virtual world. The fluidity of any teaching episode hinders any attempt of replacing the actual experience with some kind of reflective practice. Yet, conducting design experiments within an actual classroom with real students could constitute some form of

educational malpractice. Thus, Schön's model of professional education may not provide the answers for teacher education that some claim. An examination of other models for reflective teacher education is, therefore, fitting.

Models for Reflective Teacher Education

Beyer (1986) cites four principles that must guide a curriculum aimed at teacher reflection.

1. A recognition of the socially constructed nature of what counts as 'knowledge' in general and 'school knowledge' in particular, and educational institutions responsible for its distribution;
2. The ability to question commonsensical ideas and perceptions, thereby turning them into problematic phenomena;
3. The development of alternative approaches for educational theory and practice, and
4. The continual reminder that educational action is a part of large institutional frameworks and patterns of meaning. (Beyer, 1986, p. 224)

Beyer also notes that for a curriculum founded on these principles to operate effectively, students must not entertain the notion of education as vocational training. That is, they must enter the program with an interest in intellectual inquiry. It is in seeking, not necessarily finding, answers that learning takes place.

Viewing reflection as a worthwhile pursuit for teacher education, Garman (1986) advocates two different processes for eliciting meaningful reflection in novice teachers. Both are founded on the concept of "stable data" (p.15). Stable data are necessary so the

teacher can return to them on a recurring basis to discover new meanings in the same event. Examples of such data would be video and/or audio recordings of teaching events. A second concept that is present in both processes is the need to form a "construal" (p. 15). Garman defines this concept by stating that

> Events and meaning are put in an abbreviated, manageable (often conceptual) form for future use; an insight, concept, principle, significant incident, portrait, or conceptual frameworks are examples of a construal. The essence of reality is 'construed' from one form to another. (p. 15)

Garman's first process is meant to aid the novice teacher with reflection on action. It begins with selecting a specific event and collecting stable data. Upon repeated examination of the data, meaning is discovered, verified, explained, interpreted, and evaluated for patterns and insights. These findings are recorded in written form. From this written record, one or more construals are formed. The construals are then confirmed by determining if they have meaning for others.

The second process is focused on reflection through recollection. This procedure begins with the recall of a past event. Accuracy of recall is not essential in this endeavor. It is recognized, rather, that only significant events and those with emotional attachments, will constitute the details that are recalled. This recollection is then made stable by capturing it in journal writing. It is then subjected to further consideration and attempts at discovering construals. The construals are once again confirmed by determining if they have meaning for others. Through this process, novice teachers are able to develop a broader understanding of practice through the examination of specific events. Should the current study determine a significant relationship exists between

reflective practice and teaching effectiveness, models like this will prove to be very helpful in teacher education.

Addressing the need for nursing students to become reflective practitioners, Palmer, Burns and Bulman (1994) list five essential elements to aid students in beginning reflection. They note that once a practitioner is fully engaged in reflective practice they rarely abandon the process, but getting started appears to be the greatest obstacle. They advocate the use of a framework for reflection citing that too often there is little early guidance and students are left with no clear goal for their reflections. Having a colleague/mentor/supervisor with whom to reflect is also seen as an essential need to begin meaningful reflection. Not only does such a relationship provide guidance, but it can also supply students an additional reflective model. Palmer, et al. (1994) also cite the need for stable data, as keeping a journal or diary is at the core of their model. Additionally, they stress the need for students to read the literature and to remain current in their field. Finally, and perhaps most importantly, Palmer, et al. stress the need for the student to have the courage to change or challenge the status quo. While this may be the product of the environment in which the student is working, they also view this as a personal trait that must be nurtured in any student who is to become reflective.

The author contends that this trait is nurtured through one's belief in personal causation. Should one believe that his/her actions as a teacher have an effect on students and this effect is manifested in student behavior, then simple acceptance of ungrounded actions is not a satisfactory motivation for practice. Thus, an attempt to measure the

relationship between one's belief in personal causation and teaching effectiveness is a goal of the current study.

Attempting to better understand the elements that exist at the core of teacher reflection, Clark (1995) studied reflection among students within a science teaching practicum. He used a "regular teaching cycle" (p. 246) as the structure for his study. This is defined as " a single lesson taught by a student and the pre- and post-lesson discussion between the student and the school advisor that accompany that lesson" (p. 246). Additionally, there were six video recall sessions with the student and his or her supervisor. The subject set the agenda for each of these sessions with the supervisor acting as a guide. Case studies of four science student teachers were constructed around three questions.

1. What do student teachers reflect upon?
2. What precipitates that reflection?
3. What factors enhance or constrain that reflective practice? (Clarke, 1995, p.246).

Data revealed that student teachers reflect most often on three topics. First is ownership of the classroom and the decisions made within the context of teaching. Second is the ways in which pupils learn, and finally, their reflections are focused at attempting to see the practice of teaching through the eyes of an experienced teacher. Internal dissonance, frustration, dismay, surprise, conflict, curiosity, dissatisfaction and concern appear to be the most common precipitants to student reflection within this study. "The examination of the data revealed forty-six factors that either enhanced or constrained reflection" (Clarke, 1995, p. 256). These are grouped into 13 categories

under three headings. Figure 4 lists those categories under the headings of those related to the student teachers, those related to the school advisor, and those related to the university.

Figure 4. Factors that enhanced or constrained student reflection.

Student teacher related:
1. The use of video to review one's practice.
2. Being able to set the agenda for discussion about one's practice.
3. Interaction with peers (within and beyond the classroom).
4. Interaction with pupils (within and beyond the classroom).
5. Interaction with sponsor teacher (within and beyond the classroom).
6. A shift from technical problem solving to problem setting.
7. Intense observation followed by thoughtful and sustained dialogue.
8. The time available for reflection.
9. Making explicit past learning experiences.
10. Familiarity with content.
School advisor related:
11. The school advisor shift from reporting on to inquiring into practice.
12. The school advisor trust, support, and confidence in the student's abilities.
University related:
13. University method courses that explicitly link theory to practice.

Clarke's (1995) conclusions state that it is " important to provide opportunities, both structured and unstructured, for students to reflect on their practice" (p. 258). He includes four ways in which teacher educators can provide these opportunities. First,

students must have access to a multiplicity of perspectives from which to examine their practice. Second, students should be provided with intense examination of their practice. Clarke (1995) states, "results suggest that the student teacher and school advisor should designate time during the practicum when together they can examine in-depth, the student's teaching practice over two or three consecutive days" (p. 258). A third important aspect is the opportunity to theorize about practice. These theories must be practical theories about teaching that are derived from daily practice. The fourth way to provide opportunities is to encourage the entertainment of uncertainty. Without uncertainty students may not inquire about their practice.

Yost, Sentner and Forlenza-Bailey's (2000) recent holistic examination of critical reflection attempts to provide a reconceptualization of "teacher education for the 21st century" (p. 39). From their examination, they conclude that two elements are necessary for critical reflection to take place.

> First, preservice teachers must have supervised practical experiences that will serve as a foundation for their reflections. Second, they must acquire a personally meaningful knowledge base in pedagogy, theories of learning, as well as a social, political and historical foundation to which they can connect experiences. (Yost et al., 2000)

They propose four methods that can promote critical reflection among teachers. Organization of the curriculum around a constructivist paradigm is the first method. Such a curriculum focuses not on the acquisition of known fact but on the construction of knowledge from past experience and knowledge. Yost, et al. state, "the goal is to promote tension and uncertainty so that preservice teachers will focus on the multiple

dimensions of a dilemma and subsequently choose from a wider assortment of options" (2000, pp. 42-43). An awareness of what they share in common and the uniqueness of their individual state are the motivation for the second method -- dialogue. In sharing with other practitioners student teachers are provided a forum for reflective thinking. The role of the teacher educator is most important in this caucus. Yost, et al. claim, "teacher educators need to move beyond mere support and raise substantive issues that relate directly or indirectly to classroom-based or school-wide problems" (2000. p. 43).

Teachers' engagement in action research is the third method advocated. Within this field-based research, the focus is on inquiry about one's own experience and is viewed by some as "the only way to improve one's practice" (Yost, et al., 2000, p. 43). The primary benefit from this method is helping preservice teachers connect theory to practice. The fourth, and final, method involves writing experiences. These include personal histories, journals and case writing that are directed or non-directed writing experiences and may include portfolios. Yost, et al. note the stability of written data and claim the ability for one to assess different levels of reflection over a period of time as its greatest benefit.

From this research, it appears that it may be possible to improve achievement in reflective ability among both novice and experienced teachers. As noted earlier, however, several questions concerning each individual's reflective aptitude still linger. Does such an aptitude exist? If so, what effect does it have on reflective ability? Finally, of greatest importance to the current study, one must ask if this aptitude's effect on reflective ability has any relationship to teaching effectiveness?

LaBoskey's (1994) investigation of reflective development within student teachers addressed these questions. At the time of the investigation she was the Associate Director of a five-year, four-quarter teacher education program at a major research university that was advertised as "preparing reflective teachers" (LaBoskey, 1994, p. 21). Upon completion, students in this program receive their teaching credentials and a Master's Degree. During the academic year, students taught two high school or middle school classes at local public schools, and attended classes on the university campus in the afternoon. Practicum seminars were held on a biweekly basis. During the summer, students served as tutors, teachers and observers in the morning for the Upward Bound program housed on the university campus, and took courses in the afternoon. Practicum seminars were held on Friday mornings during the summer.

Subjects were selected and placed into comparison groups for the study. LaBoskey (1994) developed a survey to measure each subject's level of "spontaneous reflection" (p. 27). She defined this as reflection that "occurs when an individual displays reflective thinking in response to an indirect question or circumstance" (p. 27). Based on the results of the survey, selected students were placed into one of two groups. The more reflective group was labeled "Alert Novices" (p. 27) and the less reflective group was labeled "Commonsense Thinkers" (p. 27). The assessment was given to fifty volunteers enrolled in the teacher education program. After examining the assessment scores, six subjects were labeled Alert Novices and six were labeled as Commonsense Thinkers. These twelve preservice teachers formed the subject pool. LaBoskey (1994) noted that students in this teacher education program were highly motivated students and may be atypical of the general population. She asserted, however, that since she

was seeking to generalize to a theory and not to a population, the pool of subjects could serve the study well. She claimed, "If we can examine the results of some of the best efforts with some of our best students, we may derive a clearer vision of what, if anything, reflective teacher education can hope to accomplish" (LaBoskey, 1994, p. 22.).

Data were collected via parallel case studies of the twelve subjects while they were engaged in teaching within the normal teacher education program. LaBoskey (1994) listed the several data sources as "reflectivity scores for the case investigation; the case investigation write-ups; accompanying free write reactions; pre-study and post-study questionnaires; supervisor summaries; and selected interviews with supervisors and student teachers" (p. 31).

LaBoskey (1994) employed a three-stage process for analysis of the data. The first stage involved the development of coding criteria for the cases. Defining reflective thinking as including three processes -- problem setting, means-ends analysis, and conclusion or generalization -- each write-up was considered in total. A decision was made for the whole case and it was labeled as "R for reflective, U for unreflective, or I for indeterminate" (p. 34). The next stage involved breaking each case investigation into episodes. LaBoskey defined an episode as "a piece of the case related to problem setting, means-ends analysis, or generalization" (p. 36). These episodes were rather extensive since they included all the information on each of the processes. Each episode was labeled in the same manner as in stage one. Stage three of the analysis involved the production of case summaries for each of the student teachers. Information from the first two stages of data analysis, as well as information from the other data sources, was

compiled to form these case summaries. Using the process of cross-case analysis, these case summaries were examined for patterns of thought or themes within each group and across both groups.

The results of the data analysis were mixed. LaBoskey found that the overall case investigation scores of the Alert Novices did improve with time and instruction. The commonsense group did not exhibit any pattern of improvement. They did not reflect well in any situation as revealed by the fact that only 22% of all the case investigations were rated as reflective. LaBoskey concludes:

> For Alert Novices who enter teacher education programs with reflective propensities and abilities, these ... exercises may be quite appropriate and productive. For the Commonsense Thinkers a case investigation designed to model reflective thinking did not, in most instances, foster such reflective thinking. (p. 53)

In addition to the case studies, LaBoskey readministered the pre-study survey in an attempt to measure improvement of unassisted reflectivity among all twelve subjects. The correlation of pre-study and post-study scores did not produce significant results as there was little-to-no difference between the two scores. LaBoskey appears to be confused by this finding and offers little explanation for its possible cause. Yet, she notes that she intuitively believed, through reading the cases, that all twelve subjects did improve in reflective ability. It should be noted that with such a small sample size (N = 12) statistical power would be quite low and may account for the lack of significance.

Another possible explanation requires one to equate spontaneous reflection to aptitude for reflection. As the survey was designed to measure aptitude, scores from

multiple administrations should remain fairly consistent. Such a phenomenon is desirable and supports the reliability of the survey in measuring reflective aptitude. Aptitude is defined as the combination of one's genetic endowment and environmental influences other than formal training. (Radocy & Boyle, 1988). When instruction is applied, aptitude cannot change; ability, however, can. "Ability is what a person is 'able' to do ... as a result of capacity, environmental influences and formal instruction" (Radocy & Boyle, 1988. p. 296). A measure of pre-study aptitude and post-study ability may produce very different results. In the current study, LaBoskey's survey is employed to measure each subject's aptitude for reflection.

The Effects of Experience on Reflection

The literature reveals few doubts that professional experience plays a role in one's ability to engage in meaningful reflective practice. An insightful inquiry on this topic should focus on issues of what kind of effect experience has (positive or negative) on reflection and what may be the cause of these effects. Some appear to agree with Kelly's (1993) statement "Properly incorporated into a comprehensive preservice or in-service professional development program, reflective practice may significantly accelerate the progress of novice teachers toward high levels of competency" (p. 171). This section will present literature from those who find that reflective ability is a developmental process and as such, moves in tandem with the development of professional expertise (Berliner, 1988; Kelly, 1993). Other researchers focus their attention on three elements -- past experience, formation of schema/schemata, and *Automaticity* -- that distinguish novice teachers from expert teachers (Berliner, 1986; Carter, Cushing, Sabers, Stein & Berliner, 1988; Colton & Sparks-Langer, 1993;

Garrison, 1991; McIntyre, 1993; Rabinowitz, 1993; Ross, 1989; Wildman, et al., 1990; Winitzky & Aremends1991; Yang, 1997). These elements appear to have a direct bearing on engagement in reflective practice and are products of professional experience. Research attempting to dispute the positive effect of experience on reflective ability will be presented (Beck, 1997). Finally, Allen and Casbergave (1997) present compelling information concerning the effect of teaching experience on teacher recall. As this study is closely related to the current topic, it will be reviewed in detail.

Development of reflection and professional expertise.

Kelly (1993) asserts as a primary finding of his study of early childhood educators that "the ability to engage in structured reflective practice ... is developmentally acquired" (p. 168). He cites four reasons for his view: First, he notes that the reflective process requires one to understand the context in which the reflection is to take place. Contextual understanding requires time, as one must experience context for it to be understood. Second, Kelly claims that before instructional strategies can be intuitive the professional must first discover them. Young professionals must have the time to uncover personally meaningful instructional strategies within the context of actual teaching. The need to build a subconscious awareness of knowledge is the third reason Kelly cites in support of his position. The need for subconscious awareness is supported by McIntyer's (1993) findings that "for novices ... almost every halting step that they take needs conscious deliberations and planning; their competence, such as it is, is achieved through conscious control" (p. 43). Kelly maintains that for young professionals, the move from conscious deliberation of action to subconscious control of action requires experience in the teaching setting. Finally, to be fully reflective, Kelly

notes that the professional must view teaching as a complex activity. Answers to and about questions of practice must be layered with concerns. Each arises from a multitude of facets within a single teaching act. Developing this level of understanding requires time and experience in the profession. Thus, the relationship of teaching experience with reflective practice and their effects on music teaching effectiveness will be investigated in the current study.

Berliner (1988) contends that professional development from novice to expert correlates with levels of reflectivity. He places teachers on one of four levels based upon experience and lists the general characteristics of professionals at each level. The novice level is reserved for those with no actual experience in the classroom. In practice these teachers are inflexible and conforming. They are constantly seeking the one correct technique that will aid them in their teaching. With experience these teachers learn to set priorities and act responsibly and move to the stage of advanced beginner. Over a period of three to four years, Berliner (1988) claims that teachers achieve the level of competent performer. The use of more than one teaching method and modification of instruction based on student learning characterize practice at this level. By the fifth year of teaching, practitioners become more deliberate and analytical in their practice. Berliner labels teachers at this stage as proficient practitioners and notes that the single distinguishing characteristic of this level is reflection.

If reflection is dependent upon one's ability to set problems (Schön, 1983, 1987; Van Manen, 1977), then past experience is likely to have an effect on reflection. Garrison (1991) contends that learning through reflection is most suited to those who have a wealth of past experience, intellectual maturity, differing perspectives and the

ability to sift ideas. For Berliner (1988) the novice level precludes reflective practice because of the teacher's limited pedagogical knowledge and limited experience on which to reflect. Lack of experience limits the perspectives available to the practitioner who is attempting to reframe or set a problem. Ross (1989) notes this is one possible explanation for why novices offer a single interpretation of an event while experts can find multiple interpretations. Thus, for the expert, the experience is richer and carries more meaning. This wealth of experience may explain why experts set problems differently than novices. Experts seek beyond the surface to the underlying meanings of action (Rabinowitz, 1993).

Some view the formation of schema as an ability that sets experts apart from others in the practice of teaching and appears to have a direct bearing on reflection. Berliner (1986) states "experts have extraordinary fast and accurate pattern recognition capabilities. These recognition skills appear to act like schema instantiation. The recognition of patterns reduces the cognitive processing load for a person" (p. 11). Having surplus cognitive attention available in a given setting allows the practitioner to focus reflective elements. Yang (1997) contends that such behavior enables teachers to "comprehend teaching situations and make appropriate pedagogical decisions where they are called for" (p. 63). These decisions are a product of reflective inquiry performed in action.

Colton and Sparks-Langer (1993) maintain "studies of novice and expert teachers demonstrate that novices are less able to quickly think [sic] through a situation than are experts" (p. 46). They list two reasons for the expert's speed in decision-making. First, experts form more intricate schema. "Studies comparing novice and

expert teachers' interpretations of classroom experiences indicate that experts have richly connected schema to draw upon when making decisions, while those of novices are 'leaner' and less elaborate" (Colton & Sparks-Langer, p. 46). Colton and Sparks-Langer cite the automatic routines of experts, termed *Automaticity*, as a second reason experts act with greater speed than novices. These routines are acquired through time in practice and serve a role similar to schema, providing the practitioner with cognitive surplus while in action.

Draper (1998) appears to concur with such an assessment when defining an expert in terms of schema formation and automaticity. Additionally, she makes a case for these skills as the precursors of one's ability to reflect in action. She states:

> An expert is one who has been completely immersed in the phenomenon, has domain specific knowledge, has sufficient mental representation to define and identify several solutions of a problem and has automaticity in sifting through solutions for viable options to find a final best solution. (1998, p. 33)

Thus, she contends that the time teachers spend in the educational environment can lead to more effective practice by increasing the ability of the teacher to act through automatic schema.

Conversely, Beck's (1997) findings from her study of teacher collaborative work groups do not support the relationship between experience and reflective ability. She was forced to concede that "some of the more successful reflections within the subject pool emerged as less experienced teachers, in some cases, teachers with less than five years of experience" (p. 128). From this discovery, Beck speculated that reflective

ability may be more a result of individual characteristics than teaching experience. She also noted, however, that the disparities in perception could result from lack of classroom awareness which could have great influence on the self-reported data concerning modification of practice Beck used in her study. Beck explained, "It is possible that less experienced teachers do modify practice, but are unaware of modifications made due to the active nature of the classroom" (p. 89). Hence, they do not view themselves as modifying instruction based on reflective input and will not self-report such behavior. Data will be stratified according to teaching experience in the current study in an effort to investigate this phenomenon among instrumental music educators.

Allen and Casbergave (1997) investigated the relationship between experience and accuracy of recall of classroom events. They contend, "Accurate, thorough recall of classroom behaviors is important in order for teachers to know what to abandon, what to maintain, and what to modify concerning their methodology ... such recall has been described as a first step in reflection" (p. 744). Allen and Casbergave's study focuses on teachers' recall of their own behavior, student behavior, and other specific behaviors within the classroom. Fourteen volunteer subjects, all elementary public school teachers, were divided into three groups based on their experience levels. The four at the Novice level were student teachers with no teaching experience. There were five teachers with between one to six-and-a-half years experience who were considered Intermediate level teachers. The remaining four teachers had ten or more years experience and were recommended by their principals as expert teachers. Acting as outside observers, Allen and Casbergave collected data via observations and

ethnographic interviews with each subject. Field notes were kept both on students and teachers as the observers made use of time sampling techniques with a researcher-designed checklist to aid in accuracy of collection.

In addition, each class session was audio-taped and counter references were added to the checklist. A structured interview took place following each observation to determine teacher recall. This interview was audio-taped and transcribed. During the interview no reinforcement, other than smiling and nodding, was provided at the time of teacher recall. The classroom tapes and checklists were reviewed and behaviors were listed. They were then compared with the transcriptions of the teacher interviews. The interview data were checked for thoroughness and accuracy. Differences between actual occurrences and teacher recall were labeled as minimal if they ranged from 0 to 5%, notable if they ranged from 6% to 10%, substantial from 11% to 20% and as extreme if they were 21% and above.

Allen and Casbergave (1997) found that all novice and most intermediate level teachers had minimal inaccuracies while the one intermediate teacher with 6.5 years experience and all the expert teachers were extremely accurate in their recall. Among the different experience levels, they noted that the topic of the recall moved from self-concerns (novice and some intermediate) to the student concerns (intermediate and expert) and finally to educational outcomes (one intermediate and all expert). It was also noted that the demeanor of teachers during recall progressed from novices who were hesitant during the interviews to experts whose interviews could be characterized as confident.

Discussing the results of this study, Allen and Casbergave (1997) state, "It would seem clear from these findings that in general, teachers develop in their ability to accurately and thoroughly recall their own and their students' behaviors as they gain experience in teaching" (p. 750). They cite as a possible explanation for this phenomenon the development of schema in more experienced teachers that allow them the cognitive surplus to focus attention on actions outside of themselves. They assert, "It is reasonable to theorize that a certain level of experience is necessary before sufficient pedagogical schema develop and subsequently become well connected, rendering teaching behaviors rather automatic and allowing teachers to focus primarily on their students" (p. 751).

Allen and Casbergave also discuss the relevance of accuracy of recall to reflection and conclude, "Teachers may be reflecting on inaccurate/incomplete recall and therefore, their conclusion would not produce enlightenment of true problem areas or awareness of strengths" (p. 753). Thus, one may gather that while the connection between experience and engagement in reflective practice may be somewhat in question, there appears to be clear evidence to suggest that a relationship between experience and the foundational elements on which reflection takes place does exist. The present study will investigate how reflective ability and teaching effectiveness may vary according to experience.

Summary of Research in Reflective Practice

Attempts to define reflection in concrete terms have not proven to be entirely convincing. As the practice of reflection is fluid, it appears to require a definition that is also flexible. Based upon the literature, one is forced to concede that the definition of

reflection is dependent upon the context in which reflection takes place. Additionally, changes in reflective context occur not only within the teaching environment, but also as a result of the developmental stage of the practitioner. The current study recognizes the complexity of defining reflective practice and has compensated for such in its use of multiple measures of reflective ability.

The benefits of reflection appear to work together in a cyclic fashion through the three primary elements within the educational environment -- the teacher, the student and the practice of teaching. As teachers begin to perceive the benefits of reflection, they modify their practice in the classroom. Research shows that students who have teachers who model reflective practice tend to be more reflective in their own practice. As a result, student learning increases and student achievement improves. Teacher self-efficacy improves as a result of their perception of personal causation through improved practice on student achievement. Teachers perceive this as a benefit of reflective practice and seek to continue the cycle.

There appears to be some controversy within the literature concerning development of reflective ability among teachers and students. The current study, however, embraces findings that indicate engagement in reflective practice can be learned. The author also recognizes that there are those who possess greater aptitude or predisposition for reflection. For these reasons, the current study will address both reflective aptitude and reflective achievement through the use of multiple measures of reflective practice.

Literature in reflective practice also addresses the impact of professional experience on one's ability to engage in the activity. Critical analysis of teaching

decisions is cited as the ultimate goal of reflective practice within teacher education. The literature largely supports the idea that professional experience is a necessary prerequisite for critical analysis. The current study will investigate this phenomenon by stratifying data according to experience.

Music Teaching Effectiveness

Definitive conclusions concerning music teaching expertise are difficult to attain. The number of variables studied in recent years in attempts to isolate that which best exemplifies expert teachers may only serve to confound the issue. In an attempt to organize the literature, this section will present research concerning music teaching effectiveness according to three classifications identified by Braskamp, Brandenburg and Ory (1986). Their first category, termed *presage variables*, focuses on teacher, student, and/or environmental traits that have been determined prior to arrival in the room. Examples of these could be class size, educational backgrounds, previous experience, personality traits, and training. When the emphasis moves to student attitude and achievement as the primary determinant of effective teaching, Braskamp, et al. categorize the research as *product oriented.* The final category focuses on the instructor and what he/she does in the classroom. Data concerning instructor relationships to and with students in and out of the classroom are considered in this category. Braskamp, et al. label this category *process oriented.*

Presage Variables in Music Teaching Effectiveness

Researchers have investigated the possible effects of personality traits on teacher effectiveness (Gilliland, 1991; Medley, 1982; Teachout, 1997; Wozniak, 1990).

Gilliland (1991) sought to identify from a population of music teachers, effective teachers who possess personal traits or success criteria that were different from those of non-effective or unsuccessful music teachers. Based on results from the Adult Personality Inventory (Krug, 1984), Gilliland found that effective music teachers are more independent, creative, enterprising, submissive, uncaring, sociable, extroverted, aesthetic, scientific and competitive than the general population. Additionally, they are less tough-minded, withdrawn, practical, adjusted and adapting than the general population. By stratifying data according to teaching level, Gilliland discovered a significant difference in a comparison of elementary and secondary music teachers' levels of tough-mindedness, with the elementary teachers being more tough-minded than their secondary colleagues. No other traits showed a significant difference. There was no significant difference between teaching areas (i.e. choral, strings, band, general music, etc.).

While Gilliland's list of traits may be informative, one key element is missing from his study. No attempt is made to discover if these teachers are successful because they possess such traits or if these traits are part of their personality because they are successful. Understanding this ends/means relationship may prove beneficial for music teacher education. The current study will view these traits as part of effective teacher behavior, and will seek to investigate the possible relationship of reflection to their development.

Medley's (1982) structure of teacher effectiveness lists nine variables -- pre-existing teacher characteristics, teacher training, teacher competencies, external context (support facilities), teacher performance, internal context (class characteristics), pupil

learning experiences, individual pupil characteristics, and pupil learning outcomes. Wozniak (1990) states that these nine variables were the foundation for the following three questions she used in her investigation of predictors of outstanding teachers of the arts:

1. What teacher characteristics, training, and competencies facilitate successful pupil learning experiences?
2. What teacher beliefs and strategies promote successful pupil learning experiences?
3. How are variables of school support, class composition and individual pupil characteristics considered in advancing pupil learning? (p.5)

The sample for this study was comprised of two music educators, one teacher/artist and two artists-in-residence. An average of 7.5 hours was spent in interviews with each member of the sample. In addition, students enrolled in each of the sample member's classes were asked to complete an attitudinal survey. Data revealed the following words occurred most often as descriptive of effective teachers' personal attributes:

> Caring, challenging, communicated well, confident, cooperative, creative, encouraging, energetic, enjoyable, enthusiastic, focused, friendly, happy, hard-working, helpful, high expectations, inspiring, intelligent, leaders, non-threatening, open, organized/business like, outgoing, positive, principled, professional, positive, sensitive, sincere, talented, thoughtful, secure, and understanding. (p. 163)

Wozniak (1990) found that teachers in this sample combined both the cognitive and affective domains during instruction. She also found that students were involved in appropriate learning experiences 95% of the time, with 5% being used for logistical procedures. To assess pupil-learning outcomes, Wozniak used data from student performances. She found that the performance contained "aesthetic interpretation, evaluation, history and cultural heritage" (p. 170). Discussing the findings of her study, Wozniak states:

> In an attempt to distinguish the truly outstanding teachers from those who are merely effective, the presence and degree of specific characteristics appears to distinguish the good from the outstanding. These include a notable degree of dedication, hard work, service-orientation, high standards of quality, talent, depth of character and artistic sensitivity, leadership, creativity and the problem solving abilities described in the findings. The findings of this study suggest that the discernment of consistent positive personal characteristics, which are operational within the other variables of teaching effectiveness, is the key in the selection of outstanding arts teachers. (p. 321)

Of greatest importance to the present study is her discussion of the need for teachers to possess critical problem solving skills. She claims that while subject matter knowledge is essential to effective teaching, "skills of critical analysis, the simplification of complex concepts, and problem solving contribute to the ability to high qualified teachers to enrich the youngest student's arts experiences, as well as challenge those of

advanced students" (p. 323). The current study will investigate how critical thinking skills may be manifested through effective teaching behaviors within the music classroom.

Teachout (1997) investigated the correlation of teacher personality with instructional effectiveness. Subjects ($N = 84$) were undergraduate music education majors taking part in their student teaching practicum. Utilizing Holland's (1992) vocational theory, which organized people into six vocational personality types; he assessed student teacher personality traits through the use of the Vocational Preference Inventory (VPI), My Vocational Situation (MVS) and The Self Directed Search (SDS) (Holland, 1979, 1985, 1992). Teaching effectiveness was assessed through the employment of the Survey of Teaching Effectiveness (STE) (Hamann & Baker, 1995). Data revealed that the personality profile of music-student teachers was found to be artistic-social-investigative (ASI). Teachout stated, "it can be concluded that the music teaching profession tends to draw those with a specific personality code" (p. 107). There was, however, no significant correlation between any of the six personality types (Realistic, Investigative, Artistic, Social, Enterprising and Conventional) and scores on the STE. Results from this study may be important in applying a consistent, empirically derived personality label to the music teacher population. Beyond this, data did not support any correlation between teacher personality and instructional effectiveness.

Product Determinants of Music Teaching Effectiveness

Product-based research is aimed at determining instructional effectiveness by measuring the amount of student learning that either has taken or is taking place. The limited number of studies in this research area may be due to two concerns that bring the

validity and reliability of data from these studies into question. Braskamp, et al. (1986) noted that for findings to be reliable, one must first question if the test accurately assesses what has been learned before any conclusions can be drawn. Second, student ability, motivation, and prior knowledge must also be taken into account as possible influences on student learning.

Polachic (1986) investigated the characteristics of general music teachers in an attempt to develop some descriptors of an effective elementary music teacher. Seven procedures were used to develop the profile of an effective elementary music teacher:

1. The Coldwell Music Achievement Test (MAT) was administered to 557 fifth-grade students.
2. An attitudinal questionnaire was administered to 535 fifth-grade students.
3. The researchers observed 42 periods of music instruction to record student attentiveness.
4. Forty-two periods of music instruction across 21 teachers were videotaped, viewed, and analyzed.
5. Twenty-one teacher responses to four predetermined personal and academic queries were tape-recorded.
6. All data were presented in the form of composites on each of the 21 teachers.
7. A profile of the characteristics of an effective elementary music teacher was drawn from the composites.

Results from the study revealed that scores on the MAT varied moderately across the sample. Students' attitudes toward teachers did not significantly correlate with achievement in music. Additionally, positive attitudes did not correlate significantly

with on-task behavior, but no inverse relationship was found to exist either. Within this sample, Polachic (1986) reports that one-third of instructional time was spent in preparation, one-fifth in discussion and one-eighth in instruction. Additionally he notes that positive teacher reinforcement did not correlate with positive student attitudes toward the teacher.

From these findings, Polachic claimed that the MAT results indicated that music is a discipline in which achievement can occur despite teacher ineffectiveness. Closer examination of the data reveals, however, that 20 of the 21 groups tested scored below the 50th percentile on this nationally normed exam. One must question if these scores can be seen as indicators of musical achievement when they actually appear to indicate a lack of musical achievement across the entire sample. Polachic also stated, "The most disappointing factor to arise for the attitudinal results was the mediocre percentages (51.8) of favorable response toward music and music teachers" (pp. 72-73). One possible explanation for low percentages of positive student attitudes within this study may be due to the student's low levels of musical achievement. Additionally, it is possible that low student achievement also confounded the conclusions in this study aimed at positive reinforcement and student attitudes, positive reinforcement and on-task behavior, variation of activity and positive student attitude, and variation of activity and on-task behavior.

Polachic (1986) did note that the teacher with the highest composite score also had students with the highest MAT scores. The teacher's composite score was determined by the amount of on-task time demonstrated by each student within a teaching session, the number and variety of activities used within the classroom, the

percentage of approval given to students, frequency of name usage, and the percentage of positive attitudes toward the teacher. From these data, Polachic (1986) listed the following as ten descriptors of an effective elementary music teacher:

1. Significant evidence of student achievement.
2. Positive student attitudes of not less than 85%.
3. Student attentiveness of no less than 90%.
4. Music time involvement of no less than 50%.
5. Variety of music activities of no less than three [per] music period.
6. Positive reinforcement of no less than 85%.
7. Teacher training of no less than four years and no less than a major in music training.
8. Positive personal attitudes demonstrated through confidence, warmth and sensitivity, and happiness on the job.
9. Specific goals.
10. A philosophical belief that music is necessary to the overall education of a child. (p. 80)

Findings from this study are limited at best and fraught with so many confounding factors that they may not provide useful data. This study may best illustrate the difficulty encountered when attempting to measure teacher effectiveness solely in terms of student achievement and attitude.

Process Determinants of Music Teacher Effectiveness

Yarbrough (1975) conducted an often cited, early study focusing on instructor behavior as a determinant of music teaching effectiveness. She operationally defined

high and low magnitude versions of the following teacher behaviors: eye contact, proximity, facial expressions, speech speed, volume and modulation of voice, gesture (body movement and conducting) and rehearsal pace. The sample (N = 207) consisted of four mixed choruses rehearsed under three different conditions. The normal conductor rehearsed them first under regular conditions, then the experimental conductors rehearsed them under high magnitude conditions and low magnitude conditions. Sessions were video and audio taped for analysis. While no significant relationships between magnitude, rehearsal attentiveness, and attitude were found, three of the four groups received their lowest performance rating under the low magnitude conditions. Yarbrough also states "regardless of conditions, students were most off-task during section rehearsals or during non-performance or instructional parts of rehearsal" (p. 334). She also notes that students preferred the high magnitude conductor to the other two conditions. Differences between the high and regular conditions were not significant, but there was a significant difference in the student attitudes between the high and low magnitude conductors. It is important to note, however, that student attitudes were high regardless of the conditions. The importance of this study lies not only in its findings, but also in the fact that since the completion of this study, music researchers have examined a number of teaching behaviors under varying conditions in an effort to determine effective music teaching behaviors. Due to the number of studies investigating these behaviors, accounts of each have been grouped together in the following sections.

Teacher intensity.

Teacher intensity is defined as a "sustained control of the student/teacher interaction evidenced by efficient, accurate presentation and correction of the subject matter with enthusiastic affect and effective pacing" (Madsen & Geringer, 1991). Cassidy (1990) studied the relationship between teacher intensity and instructional effectiveness. Female preservice elementary education majors in their junior year were chosen as subjects for the study. Each completed five teaching episodes that included teaching children's songs and music concepts to peers. Experimental subjects (n = 26) took part in four training sessions focused on teacher intensity. Control subjects (n = 26) received no instruction in teacher intensity. During the first three sessions, subjects taught children's songs by rote to peers. Sessions were two to three minutes in length. The fourth session required subjects to teach a music concept to the class and was required to be four minutes in length. The final session took place at a local day-care center. Subjects were assigned four to six students and required to teach a twenty-minute music lesson.

Results show that the training session for the experimental group apparently had little effect on subjects' ability to teach with high intensity. Both groups significantly increased the percentage of time they incorporated high intensity teaching into their lessons. Cassidy (1990) states that this "indicate[s] (not surprisingly) that practice of an activity may lead to improvement" (p. 171). She also notes, however, that the improvement was not in accuracy of instructional content, but in improved delivery skills.

Cassidy contends that even though research supports the relationship between high-intensity instruction and teaching effectiveness it does not infer that effective teachers must teach at high-intensity levels during their entire instructional period. Rather, it appears that effective teachers possess the skills for high-intensity teaching and can use them at the appropriate times for appropriate durations. She claims, "Expert teachers sense the limit and almost instinctively change their intensity level in order to regain waning student attention." (p. 176). Of importance to the present study is the question of how the expert teacher comes to know when and how to use these skills. One could argue that Cassidy's 'instinctive knowledge' is acquired through reflective means and that appropriate high-intensity instruction could be the manifestation of effective reflection. Investigating this relationship is the focus of the current study.

Madsen, Standley, and Cassidy (1989) investigated whether these changes in teaching intensity could be taught to, and then demonstrated by, prospective music education students ($N = 94$) and whether other music education majors, untrained in the concept of intensity could recognize these contrasts. After training, subjects asked to define teacher intensity. Responses included 14 behaviors that accounted for 260 of the 342 responses. These 14 behaviors were: (a) enthusiastic, excited expression; (b) eye contact, (c) proximity, movement toward group; (d) concentration, attention to students or teaching, involvement; (e) strict, precise body movement or conducting gestures; (f) voice volume, pitch, inflection, change in voice; (g) energy, effervescence, vigor, pizzazz; (h) no hesitation in voice, no filler words; (i) planning, knowledge, competence; (j) pacing; (k) short, simple instructions; (l) good posture, change in posture; (m) confidence; and (n) little talk, lots of singing; vary techniques to increase attention; as

much time in learning activities as possible. Results from this study indicate that high-intensity teaching behaviors are easily taught to prospective teachers, skillfully demonstrated and easily recognized with an extremely high degree of reliability. Thus, teacher intensity is a desired skill that leads to improved instructional effectiveness that can be taught to prospective teachers. It stands to reason that measures of teacher intensity may be valid indicators of teaching effectiveness and that attempts to discover how this skill was developed in effective teachers may reveal meaningful information for music teacher educators.

Instructional effectiveness cycle.

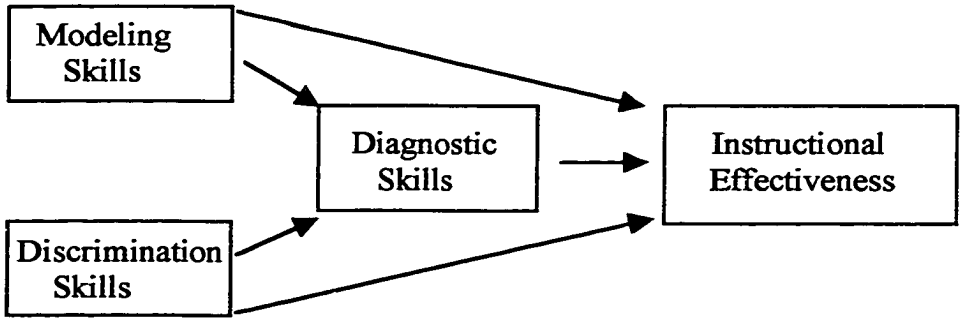
Sang (1982) stated that the effective instrumental music teacher can:

1. Communicate instructional information through modeling both aurally and visually.
2. Evaluate the outcomes of modeling through aural and visual discrimination.
3. Analyze causes of pupil performance discrepancies or discrepancies in the model.
4. Prescribe solutions to discriminated and analyzed problems, that is, present a corrective or corrected model. (p. 16)

His study included the three elements of the Instructional Effectiveness Cycle -- modeling skills, discrimination skills, and diagnostic skills -- as independent variables and he measured their effect on the dependent variable of instructional effectiveness both separately and in tandem. Sang chose to use path analysis as his analytical procedure. A derivative of regression analysis, path analysis was developed for the interpretation of causal models. It does not render statistical proof of their existence, but

can show cause and effect relationships. Figure 5 shows the causal model of the sequence of variables that are directly or substantially indirectly related to instructional effectiveness in the classroom.

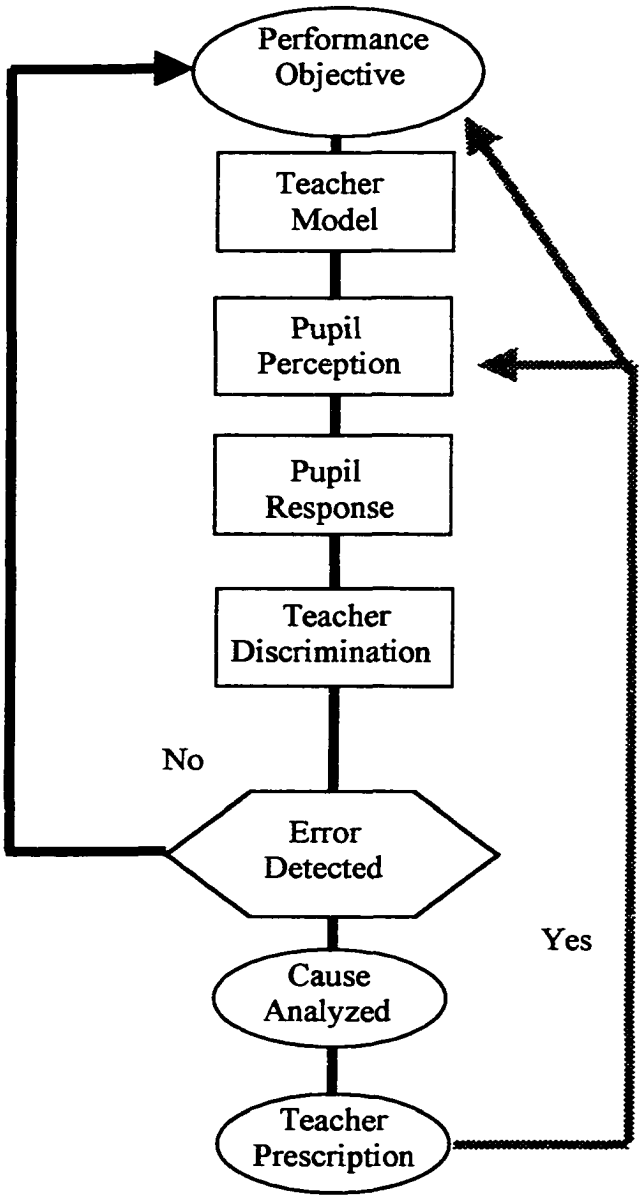
Figure 5. Path analysis for instructional effectiveness



The design included two groups of instrumental music education methods students. The first group comprised seven subjects. There were nine subjects in the replication group. Seven testing components were administered to both groups. These seven components were parts of 4 batteries -- Test of Instrumental Performance Skills (TIPS) (Froseth, 1982), MLR Test of Aural Discrimination and Aural Activity (Froseth, 1982), MLR Visual Diagnostic Skills Test (Woods & Froseth, 1980) and the Visual-Aural Discrimination Skills Test (Grunow & Froseth, 1979). One class taught by each subject was videotaped and evaluated by judges using a videotape analysis form developed by the researcher using categories from the Interactive Instructional Effectiveness Cycle. This model is presented in Figure 6. The results of the video analysis yielded a single teaching effectiveness score for each subject. These scores, and the scores from the seven skill test components, were then tabulated for analysis and six path models were evaluated for each group.

It should be noted that sample size was an initial concern when this researcher read Sang's results. However, two overriding elements are important to consider prior to viewing these results as totally suspect. First, path analysis is not a statistical procedure and is not necessarily limited by sample size. Second, what was of greatest interest to this researcher was not only the strength of each path, but the model of instructional effectiveness developed by Sang as the framework for his study.

Figure 6. The interactive instructional effectiveness cycle



Findings indicate that modeling skills are the greatest contributor to instructional effectiveness. Discrimination skills are also a significant contributor to instructional effectiveness with path coefficient scores only slightly lower than those for modeling skills. Diagnostic skills have little direct contribution to instructional effectiveness in this model. Most importantly for the present study was the finding that the direct path

from discrimination to effectiveness was negative, meaning that it is an indirect contributor to instructional effectiveness. Sang (1983) states:

> The results of this study suggest that discrimination skills are not directly linked to effectiveness. Discrimination skills, however, do contribute to the variance in effectiveness. The lineage is an indirect path through the diagnostic skills. That is, effectiveness is dependent not only on a teacher's ability to hear or see performance discrepancies, but upon the subsequent ability to prescribe corrective solutions. (p. 205)

Thus, one may note that while discrimination skills are necessary for instructional effectiveness, they are not sufficient. Diagnostic skills become the means by which discrimination skills are put into action. Therefore, based upon the model of the Interactive Instructional Teaching Effectiveness Cycle (Figure 6), one's ability to diagnose and prescribe a solution affects student feedback and the ability to set new performance objectives. The path this process follows (the gray line in Figure 6) bears close resemblance to Schön's (1983) model of reflection-in-action, suggesting that reflection may be a key to instructional effectiveness. It is this relationship between reflection and instructional effectiveness that the current study seeks to investigate.

Instructional cycles.

The use of instructional cycles has been a focus of research aimed at assessing instructional effectiveness (Yarbrough & Price, 1981, 1989; Price, 1983, 1992). A complete instructional cycle consists of three sequential parts (a) teacher presentation of a task, (b) student response, and (c) teacher reinforcement. Yarbrough and Price (1981) first studied the contribution of performance time, non-performance time, frequency of

social and academic approvals and disapprovals, stops, complete and incomplete instructional cycles, errors, and teacher eye contact to off-task behavior in high school ensembles. In their study of six high school teachers with various ensembles they found that eye contact was the highest contributor to on-task behavior. Complete instructional cycles were, however, a very close second in their contribution to effective instruction.

Price (1983) sought to study the effects of the two ends of the instructional cycle on the attitudes and achievement of members of a university symphonic band. The band had five rehearsals under three treatment conditions. The first treatment allowed the conductor to give directions and have the ensemble perform. The instructions were limited to where and when to start. The second treatment required that the conductor present an academic task followed by directions and then ensemble performance. Finally, the instructor was to present the academic task, followed by directions, hear the ensemble perform and add reinforcement. While all three of the treatments showed gains, the second showed the smallest with the third boasting the largest. Not only was the Instructional Cycle shown to be a strong contributor to teaching effectiveness, but also the use of feedback was cited as being a strong contributor in student learning. Price states, "The results also indicate a clear superiority of feedback over no feedback as measured by attentiveness, attitude, and performance" (p. 356)

Price and Yarbrough (1989) collaborated once again on a study aimed at discovering the extent to which complete instructional cycles were being applied to music teaching. Subjects for this study consisted of freshman music majors (n = 30), sophomore music majors (n = 19) and experienced music teachers (n = 15). Findings show that in all but the freshmen, the majority of

time was spent in either incorrect or incomplete cycles. Price and Yarbrough found the most common errors to be: (a) that feedback did not match the directive or (b) the directive was followed by a long list of information prior to eliciting the student response. A cycle that contained only directions and no musical task instruction, directions that interfere with the flow of the cycle, and reinforcement that is not related to the task are also listed as possible errors. In general, more time was spent in the presentation of tasks and student responses than in any kind of reinforcement. These findings are particularly disturbing in light of earlier findings showing the strong relationship between appropriate feedback and its effect on student learning. Why do some teachers fail to provide effective feedback? The fact that providing feedback requires one to make use of diagnostic skills provides one possible explanation. As stated earlier, these skills may have some foundation in reflective ability. As a result, the less reflective teacher may provide less feedback. Thus, a teacher's use of feedback may provide important information to the current study concerning the relationship between reflection and effective teaching behaviors.

Measures of Music Teaching Effectiveness

Working under the assumption that teacher behavior was the most appropriate determinant of music teaching effectiveness, Taebel (1990) investigated the classroom performance of music teachers in comparison with teachers from other subject areas. Using data collected for the Alabama Career Incentive Program, he compared the scores of 130 music teachers with the population mean score of 50. The Classroom Observation Record (COR) was the instrument used. A working committee of teachers,

school administrators, and community leaders, under instructions from the Alabama state legislature to construct a list of criteria for teacher evaluation, compiled a list of ten competencies that served as the basis for the design of the COR. These ten competencies are the focus of Taebel's study

1. Presents organized instruction
2. Uses materials and equipment
3. Provides for practice and application
4. Monitors student achievement
5. Uses monitoring data
6. Manages classroom time
7. Maintains student behavior
8. Knows subject matter
9. Maintains a positive atmosphere
10. Communicates clearly and effectively. (p.7)

Findings show that music teachers' competency scores fell below the mean for all teachers on seven of the ten competencies. Their scores on the COR, however, show virtually no difference from those of other teachers on 94 of the 117 behaviors included. Music teachers scored higher in use of materials and eliciting student performance than the overall population of teachers, but scored much lower in their ability to use questions and questioning skills. Troubled by these discrepancies, Taebel (1990) objects to the use of the COR for evaluation of music teachers. He contends, "An evaluation system that relies excessively on verbal exchanges and cognitive learning may be inappropriate for music teachers" (p. 20). He offers that

> One may conclude that adequate evaluation of music teaching should be sensitive to both direct and indirect models of teaching, capture nonverbal behaviors by the teacher and students (including affect), account for sequencing, and measure teacher musicianship as well as the typical verbal behaviors of presenting, questioning and responding. (p. 8)

Taebel's study laid the foundation for the development of two instruments aimed at measuring music teacher effectiveness via teacher behavior.

In response to the growing prevalence of performance-based teacher assessment and the need for an instrument specific to music instruction, Bergee (1992) designed a scale to measure music teaching effectiveness. Bergee listed thirty effective teaching behaviors grouped under three broad headings: conducting technique, teacher-student rapport, and instructional skills. The original scale included fifty-four items that were derived from extant rating scales, textbooks, and research investigations. Six hundred and fifteen copies of this item pool were mailed to secondary music educators, music education professors, and graduate students in music education asking them to rate each item on a five-point Likert-type scale from strongly agree to strongly disagree. Respondents returned 215 of the forms. Through factor analysis, twenty-four of the items were eliminated, leaving thirty items on the final Student Teaching Rehearsal Effectiveness Scale. A panel of five evaluators used this scale to evaluate videotaped teaching episodes in an effort to determine inter-judge reliability. Results from this panel produced a total score coefficient of .91 finding the scale reliable.

While the scale does contain evaluations aimed at context specific behaviors for music teachers, it is also constructed to address behaviors common to all effective

teachers regardless of subject. Bergee (1992) states, "Scale items strongly reflect two areas of music teacher training demonstrated to influence student achievement: classroom organization and intensity. Other items focus on verbal skills, another variable generally agreed to influence teacher effectiveness" (p. 11). In an apparent disregard for Taebel's (1990) research stating that some behaviors may have more bearing on music teacher effectiveness than others, Bergee's scale weighs all of teacher behaviors on an equal numerical basis in calculating a teacher's effectiveness score.

Developed from research findings on teacher effectiveness, Hamann and Baker (1995) devised The Survey of Teaching Effectiveness (STE) which is comprised of two weighted categories. The "lesson delivery skills" category includes the following items: (a) posture, (b) eye contact, (c) use of gesture, (d) facial expression, and (e) vocal inflection. This category is weighted as forty percent of the total score. Weighted as the remaining sixty percent is the category labeled "planning and presentation of lesson." This category includes the following items: (a) evidence of lesson planning, (b) subject matter competence, (c) pacing, (d) sequential pattern rehearsal cycle and (e) teaching skills. Item evaluations under the two categories are accomplished using a five-point Likert-type scale of 1 (poor) to 5 (excellent). Using the weighted scores from the two categories, a total score is calculated and can range from ten to fifty. The STE was pilot-tested by twenty evaluators and revised based on those results.

Hamann, Lineburgh and Paul (1998) determined empirical validity for the STE. They asked adjudicators to rank videotaped teaching episodes of students from "best" to "least best." Approximately three weeks later, these adjudicators were asked to

complete the same task. Scores from each ranking were then compared. This resulted in a rank order correlation of $r_s = .89$, finding the STE to be a valid instrument.

Reliability of the STE was established in a test-retest procedure and was found to be $r = .83$. (Hamann, et al., 1998) In addition, Hamann & Baker (1995) computed inter-correlations between subjects' ($N = 159$) categorical and total scores of the STE. Inter-correlations between the categories on the STE were found to range from $r = .61$ to $r = .95$ (p. 11). Due to its proven validity and reliability, the STE will be the instrument used in the current study to measure music teacher effectiveness.

Summary of Music Teaching Effectiveness

Research in music teaching effectiveness can be grouped under three large headings – presage research, product research, and process research. Presage research addresses all the qualities of the teacher, student and environment that exist either prior to or outside of the person's involvement in an educational activity. Researchers (Gilliland, 1991; Medley, 1982; Teachout, 1997; Wozniak, 1990) have investigated the relationship of these variables to effective music teaching. Much of this research produced lists of teacher/student traits that are perceived to be either more or less effective in the classroom. Teachout (1997) investigated the relationship of certain personality profiles and their impact on instructional effectiveness, and found that while there does appear to be a common personality profile for music educators, personality traits are not effective predictors of music teacher effectiveness.

Product research is aimed at measuring teacher effectiveness by assessing student outcomes. Most researchers agree that two factors tend to confound findings in this research. First, the method of measurement and its appropriateness for measuring

what a student has learned in a particular setting is of concern. Second, student motivation, attitude and aptitude for learning must also be considered. Polachic (1986) measured music teacher effectiveness via scores from a series of music achievement tests and attitude surveys given to students. His findings are filled with a number of confounding factors that limit their strength in supporting any conclusions. Research in this area of music teaching effectiveness has not proven to be very useful to the current study.

Process research considers instructional effectiveness in terms of teacher behavior. The bulk of extant research in music teaching effectiveness appears to be classified under this heading. Much of this research is aimed at either producing lists of effective teacher behaviors or considering a single teaching behavior's effect on teaching and learning in the classroom. Three behaviors or collections of behaviors appear to have been the focus of a significant amount of research in music teacher effectiveness -- teacher intensity, the Instructional Effectiveness Cycle, and teaching cycles.

Teacher intensity has been found to improve student perception of teacher effectiveness. Yarbrough (1975) found that even though the amount of factual material delivered in a lesson did not change between high intensity and low intensity teachers, students perceived instructors who teach with a higher intensity level as more effective. Madsen, Standley, and Cassidy (1989) found that preservice teachers can be taught to vary levels of instructional intensity and that varying levels of intensity can be identified by untrained subjects. Additionally, student response is found to be more positive for teachers who demonstrate high intensity instruction during some point of a lesson. Cassidy (1990) claims that expert teachers know when to vary their level of intensity on

an instinctual basis. The author contends that teachers develop this instinct through reflection and that more reflective teachers may demonstrate more effective teacher behaviors as a result. It is this relationship that the current study seeks to investigate.

Sang (1983) investigated the use of a three-stage model of instructional effectiveness that includes teachers' use of modeling, discrimination, and diagnosis skills in the music classroom. His findings revealed that modeling skills and diagnosis skills both have a direct effect on instructional effectiveness. Discrimination skills, however, do not directly affect instructional effectiveness. To have any impact, they must be combined with diagnosis skills.

Finally, Price and Yarbrough (1989) investigated the use of a three-part teaching cycle that includes (a) task presentation, (b) student response, and (c) reinforcement/ feedback and its effect on instructional effectiveness. They found that the use of specific feedback was essential to an effective instructional sequence. They defined specific feedback as that which addressed the student's behavioral response to the task presentation. Under experimental conditions, ensembles that were instructed using varying degrees of complete teaching cycles all improved with time. Those whose instructors made use of the complete cycles did, however, improve faster.

While research under all three headings does appear to have some merit in defining and assessing music teacher effectiveness, findings in process research appear to hold the most promise for the current study. Therefore, an instrument designed to measure effective teacher behavior may prove most useful for the current study.

Reflective Practice and Teaching Effectiveness

The widespread use of the phrase *reflective practice* has manifested itself in the growing number of teacher education programs that have explicitly committed themselves to developing reflective teachers. The practice is so prevalent that Norlander-Case, et al. (1999) claim

> Although not all teacher preparation programs have an articulated commitment to reflective practice, it would nonetheless be unusual to find a teacher preparation program anywhere in the United States that was on record as rejecting the goal of reflective practice for classroom teachers-to-be. (p. 25)

If one assumes the goal of teacher education is the instruction and training of effective in-service practitioners, then one must also assume from the prevalence of the practice that reflective ability is essential to achieve such a goal. This section examines the literature attempting to correlate reflective ability with teaching effectiveness. Some researchers have investigated the structure of reflection and its effect on teachers' instruction (Dieker, 1994; Freiberg & Waxman, 1990; Kruse, 1997). Others have examined the effect of external factors on teacher reflection and teacher effectiveness (Bourget, 1999; Calliouet, 1998; Norlander-Case, et al., 1999). Two studies are of particular interest for this investigation as they have previously examined the correlation between engagement in reflective practice and teaching effectiveness (Kirby, 1987;Rogers, 1996). These studies will be reviewed in detail.

The Effects of Reflective Structure on Teaching Effectiveness

Freiberg and Waxman (1990) studied the effect of the Reflective Inquiry Teacher Education (RITE) program on teaching effectiveness of student teachers at the

University of Houston. The mission of this program is to blend the elements of technical skills with broader conceptual issues in the development of effective professionals. The program makes use of systematic classroom observation of others, self-assessment of student teaching, journal writing, and simulated teaching as the instructional means by which the mission is operationalized. Freiberg and Waxman contend that it is impossible to become reflective if students are unaware of their effectiveness. They assert the key to effective self-assessment lies in providing students with an accurate database for measuring their own teaching. Journal writing is used to help student teachers progress through cognitive-developmental stages and become more reflective. Simulated teaching allows for something other than a culminating experience. Freiberg and Waxman maintain that there needs to be an opportunity for formative feedback from peers, instructors and self in the context of teaching. "The combination of experience and reflection equals growth" (Freiberg & Waxman, 1990, p. 124)

The RITE program views instruction in reflective teaching as a three-step process. First, technical skills and professional judgment necessary to adapt instruction in response to student need and curriculum goals is the focus of instruction. No skills are taught out of context or without formative feedback. Second, students are involved in microteaching episodes within early field placements. Both pre-lesson and post-lesson analyses are required from each student. The goal of this step is to blend both technical skill and reflective inquiry. Freiberg and Waxman (1990) note that many programs focus on both of these elements but ignore the interplay between the two. It is this interplay that is the primary focus of the microteaching episodes. The third step is

the production of reflective student teachers. These preservice practitioners are required to conduct an audiotaped self-analysis of their teaching using the Low-Inference Self-Assessment Measure (LISAM) and receive feedback from systematic classroom observation.

Freiberg and Waxman (1990) collected data for a comparative study via classroom observations of student teachers. Five five-minute snapshots were taken during a single teaching period for each teacher. The data show that student teachers who receive systematic reflective instruction make more use of interactive instructions, academic statements and make fewer organizing statements during their teaching. Additionally, students in their classes are off-task least often. Additionally, Freiberg and Waxman claim that RITE student teachers made more progress in areas of teaching effectiveness than non-RITE student teachers. Non-RITE student teachers were engaged in classroom management activities during 10.3% of their teaching time while RITE student teachers were engaged in classroom management only 5.3% of the time. RITE student teachers also made higher levels of academic statements (77.5%) than non-Rite student teachers (75.9%).

While the findings from this study can appear to be somewhat self-serving as both researchers teach in the RITE program, there appears to be some indication that reflection can enhance teacher effectiveness. This researcher agrees with Freiberg and Waxman when they state, "The gains made by the RITE student teachers indicate that a reflective program can have a positive impact on teaching effectiveness during student teaching" (Freiberg & Waxman, 1990, p. 135).

Kruse (1997) investigated the effect of a structured reflective cycle on in-service teachers' ability to reflect, and its effect on teacher effectiveness. His subjects were six middle-school teachers, two from each of three sites. He collected data via interviews, classroom and meeting observations, and through school documents. Through a comparative analysis of the case studies created, he found that teachers who provide examples of focused reflection reported a greater sense of efficacy and greater ownership in their classrooms. Conversely, teachers less focused in reflective practice concentrate on the ongoing problems of classroom practice. Their focus is on student conduct, time management, and school politics. These teachers engage in reflection that is cyclical in nature; never resolving the issues that torment them. They tend to be continually searching for new ideas as they struggle to maintain professional self-esteem.

Kruse's (1997) data suggest three important aspects of the reflective process are necessary for effective teaching: (a) viewing one's self as a resource, (b) viewing one's relationship to other teachers as a resource, and (c) an understanding of the kinds of knowledge available from which to seek further assistance. Having confidence in one's skills and abilities is essential for viewing oneself as a resource. Kruse contends, "As teachers develop a strong understanding of their skills and abilities, these convictions can act as filters through which new ideas are refined" (p. 57). To view others in this role, one must hold them in high regard and be given the opportunity to engage in reflection with them. In addition, Kruse claims that the nature of practice can change when one seeks the assistance of others. He found that teacher thinking, when working in tandem with others, is not linear but fluid, identifying knowledge that would prove

useful to the resolution of problematic circumstances they encounter in their own practice. In this regard, "these teachers became more practiced in their search for a good fit between new ideas, past practice, and changes they wanted to implement" (p.57). The ability to identify multiple sources of knowledge is essential for teachers to build a knowledge base from which they can reflect. Kruse asserts, "When teachers lack a strong cognitive and skill base on which to rest their search efforts, they begin their reflective work at a disadvantage" (p. 58).

Teachers in this study did not view reflection as a clearly defined process. It began with a question they sought to resolve through a variety of actions. These actions were founded in the fundamental values of correct practice. Teachers sought further knowledge and deliberated its usefulness in terms of the underlying assumptions of accepted practice and its agreement or divergence from their foundational values. This guided them to act with new conviction, improving their teaching skills and thereby aiding them in becoming more effective practitioners. Kruse (1997) maintains that data from this study do not support the need for a more structured reflective cycle to improve teacher effectiveness. Rather, there is a need for a deeper understanding of the assumptions behind correct practice and access to extensive cognitive and skills databases. With this in place "reflection upon practice can create a center by which teachers can begin the process of defining and redefining their educational mission and goals" (Kruse, 1997, p. 59).

Deiker (1994) contends that the opposite is true. Her hybrid qualitative/quantitative study of seven teachers over an eleven-week period revealed, "Merely providing preservice teachers with skills in effective instruction does not

necessarily give them the skills they need to solve problems they encounter in instruction" (p. 99). This finding was the result of her investigation to define the components of reflective practice and the impact of training and use of reflective frameworks on the reflective patterns of classroom teachers. Data were collected through reflective teaching journals kept by each of the subjects. These journals were collected every afternoon, photocopied and returned to the teachers immediately. Dieker (1994) made use of a multiple baseline design in an attempt to evaluate the effectiveness of the reflective framework training. Content analysis of the journal entries was used to examine each for the components of effective teaching -- behavior, planning, learning environment, and instruction -- and how training and use of reflective frameworks impacted the subjects' use of each of these categories. Dieker defined reflective frameworks as a series of questions used to systematically reflect on a specific subject. Two reflective frameworks were used during this study. One focused on effective teaching and the other on problem solving.

Results indicate that training and reflective frameworks impacted the degree to which preservice teachers effectively solved problems encountered during instruction, but the frameworks had little impact on journal content in effective teaching categories. Dieker (1994) contends, "The frameworks and training in effective instruction assisted teachers in solving problems within areas where they were not exhibiting effective instructional behaviors" (p. 99). Thus, while training in effective instructional skills is necessary, training in problem-solving strategies is also critical to teacher effectiveness. "If teachers can identify, focus and evaluate the quality of their reflective thoughts, then they can also begin to determine ways to alter their thinking patterns and perhaps

improve their teaching" (p. 103). In addition to her findings, Deiker also calls for future research to attempt to determine the connection between reflective training and teaching effectiveness.

Effects of External Factors on Reflective Ability and Teaching Effectiveness

Norlander-Case, Reagan, and Case (1999) assert that one of the greatest detriments to teacher reflection is teacher evaluation. They state:

> Although it is compatible with many views and models of teaching, and especially useful and appropriate for models that presuppose that good teaching is constituted by adherence to specific teaching competencies, such a description of the role and purpose of teacher evaluation stands in contradiction to a view of teaching that emphasizes reflective practice. (p. 46)

> Teacher evaluations are viewed by most as a summative activity rather than a formative one. There appears to be little encouragement for teachers to improve or become more reflective as most evaluations are based on immediate product rather than developmental process. As previously documented, much of reflective practice requires teachers to be risk takers and experiment with problem-solving ideas for each new situation. This practice may prove too risky for some when they consider the possible outcomes of their performance evaluations. Until such time that teacher evaluations are separated from job status and salary, the school environment may not support, much less reward, teachers who are engaging in reflective problem-solving. Norlander-Case, et al. contend that evaluators must begin to understand that practitioners do not simply

> apply cognitive information to a neutral situation that is more-or-less predictable. They state Evaluation of teachers must reject the overly simplistic view of the role of the teacher as an educational technician and adopt instead a view of the teacher as a professional functioning in a highly complex, individualistic and often unpredictable working context. (p. 49)

For this paradigm shift to take place, reflective activities must gain the same level of respect for evaluators as effective teaching behaviors already enjoy. Until such time that reflective ability can be proven to be an essential element of effective teaching, it may be difficult to actuate the changes necessary to bring this about.

What should teachers do with information received from formative, rather than summative, feedback? In response to such a question, Bourget (1999) studied the use of feedback by more reflective and less reflective teachers. He selected ten in-service teachers who were chosen according to both self-reports and external reports of characteristics that classified them according to their reflective ability. He questioned these teachers concerning their beliefs about and use of feedback. Transcripts were created for each of these interviews and the data were subjected to seven stages of reduction and analysis. This resulted in the data being classified in two broad categories, each containing sub-areas. Background information was separated into five sub-areas: teaching experience, building a philosophy, frustration and satisfaction, orientation to change, and skill in teaching. Feedback information was separated into four sub-areas: source of feedback, type of feedback, situation surrounding feedback, and recipient of feedback. Examining data in each of these sub-areas revealed that more reflective teachers prefer feedback that focuses on teacher behavior and lesson

effectiveness. They seek collaboration and are most interested in feedback aimed at the process of teaching that includes specific descriptions of behavior. Most importantly, they tend to seek out research findings as the basis for their decisions. Less reflective teachers are most concerned with supportive observations or directives aimed at fixing a specific teaching problem within a specific teaching context. Based on his findings, Bourget (1999) contends, "A way to enhance teachers' knowledge is to involve them in their own learning by having them reflect on their practice" (p. 128). It appears, however, that some predisposition toward reflection may affect how teachers view and/or use the information they glean from such an experience. For this reason, the current study seeks to measure teachers' reflective aptitude and correlate those findings with a measure of teaching effectiveness.

Calliouet (1998) conducted an ethnographic multi-case study of three student teachers and two first-year teachers examining how external factors and levels of reflection pave varied paths toward teacher effectiveness. Preliminary analysis of the data revealed five themes concerning external effects: attitudes, acculturation and socialization, rituals and routines, procedures, and professionalization. Based on these five themes, a constant comparative data analysis generated four major assumptions concerning reflective ability and teaching effectiveness.

The first assertion is "reflection, a professional practice of self-assessment, requires initiation at the preservice level to insure integration into the classroom" (p. 210). Without such grounding in reflective practice, external evaluations are valued over self-assessment. It is difficult in the school environment to solicit teacher self-assessment and encourage teachers to trust their observations. Hence, self-evaluation is

difficult and teacher self-esteem tends to be low; both of which are traits of less effective teachers.

The second assertion states, "Effectiveness is defined by approved practices of respected supervisors implemented through the individual personality preferences of inexperienced teachers" (p. 213). Most often preservice teachers feel obligated to support the learning environment of the cooperating in-service teacher. Such behavior may be most responsible for the continuation of less reflective teaching habits. It is, therefore, important to aid young teachers in reviewing teaching methodology in terms of instructional effectiveness. For young teachers to be reflective, they must have the opportunity and personal incentive to view practice as problematic and question the effectiveness of teacher actions.

"Reflection-in-practice is a difficult concept to internalize and requires the experience and confidence of purposeful, continued practice" (p. 214). The third assertion considers the role experience plays in teachers' ability to reflect in the act of teaching. Calliouet (1998) found that student teachers' focus on pacing and behavior most often preempts concerns of effectiveness. Of greatest help to these young teachers was the development of technical teaching skill. Those who could put these skills to use were more likely to create an effective environment for learning, which leads to teacher confidence in the classroom. Calliouet views this as an essential step for young teachers' development. She contends, "New teachers must gather confidence in their own abilities to counter, rather than reinforce or simply ignore, ineffective methods of instruction" (p. 214).

Finally, the fourth assertion is that "professionalization is dependent on school placement and is influenced by the culture of that school" (p. 215). Relationships with administrators, colleagues, and parents have an impact on the image of effectiveness held by new teachers. This image carries powerful implications for young professionals as it regulates self-esteem and confidence. With low self-esteem and no confidence in practice, the likelihood that a teacher would engage in reflective practice is slight. Calliouet appears to agree with others that a safe environment is essential to the early stages of reflective practice for novice teachers.

An interesting concern arises from Calliouet's assertions. If a teacher's self-esteem and confidence are prerequisites of his or her engagement in reflective practice, is it fair to state that reflective practice leads to effective teaching? Would it not be more appropriate to claim that effective teaching leads to reflection? Following this line of questioning further, one must ask if engagement in reflective practice is largely dependent upon experience. The current study will address these questions by stratifying the data according to experience levels and examining the relationship between experience, engagement in reflective practice, and teaching effectiveness.

Ability to Reflect and Teaching Effectiveness

Kirby (1987) operationalized the concept of reflective practice in teaching and then empirically tested the relationship between reflective practice and teacher effectiveness. Adopting Schön's conceptual framework for reflection, Kirby conceived reflective practice as containing three necessary elements: an ability to diagnose problematic situations, a willingness to test alternative solutions, and a belief in personal causation.

Kirby (1987) stratified her sample of nine elementary schools and six junior high schools according to the school's composite scores on the language and math batteries of a comprehensive test of basic skills. Three elementary schools were classified as more effective, three were classified as typical and three were classified as less effective. The junior high schools were separated into the same three categories with two schools in each classification. Eligible subjects were all English, reading, and math teachers at these schools. Six teachers at each elementary and nine within each junior high were selected at random to participate in the study ($N = 108$).

Five separate instruments were used in the study for measurement of reflection and teacher effectiveness. The Virgilio Teacher Behavior Inventory (Virgilio, 1987) and the Classroom Snapshot from the Stallings Observation System (Stallings & Kaskowitz, 1974) were utilized as teaching observation instruments. Subjects also completed Budner's Tolerance/Intolerance of Ambiguity Scale (1962) and the Teacher Efficacy Scale (Gibson & Dembo, 1984). In addition, a new instrument was designed specifically for this study. The Reflective Teaching Instrument (RTI) (Kirby, 1987) was designed to measure the three domains that constitute reflective practice in the conceptual framework.

Development of this instrument consisted of four phases:

1. Item generation based on indicators derived from a review of the literature,
2. Assessment of face validity and item revision by an expert panel,
3. Pilot testing to determine content and construct validity, and
4. A field study of the revised scales to assess reliability and construct validity.

Items were generated to reflect the three domains of reflective practice. An expert panel of four judges sorted the initial pool of eighty items according to the domain they believed the item addressed. All the items that had 75% agreement or better were retained for the pilot test. Sixty-seven items were retained and the pilot test was administered to forty volunteer teachers. After analysis for reliability and validity the RTI was reduced to twenty-six items for the field study. Construct and face validity was confirmed as the Alpha Reliability coefficient was .78 on the revised instrument. This instrument was administered to the total sample ($N = 108$).

Kirby (1987) chose a multiple regression design for the study to assess the adequacy of self-reported use of reflective teaching in predicting teacher effectiveness. The three sub-scales of the RTI were used as predictor variables. The dependent variables included the individual's teacher effectiveness scores on the Teacher Behavior Inventory and the Classroom Snapshot through direct observation. School effects were correlated through a one-way, three-level multivariate analysis of variance. Scores on the three sub-scales of the RTI constituted the dependent variables while the school's effectiveness classification was the discrete independent variable.

Results of the field study revealed that the reliability of the RTI was not as high as in the pilot study. Thus, the RTI was revised to a fifteen-item scale whose reliability coefficient alpha was .70. Correlation of scores from the fifteen-item scale and teaching effectiveness scores were positive but not statistically significant. Only the personal causation sub-scale was significantly correlated with teacher effectiveness scores. Data did reveal that those teachers who received reflective training in teacher education had higher RTI scores than those who did not. Additionally, those who had supervisor

support for reflection in the schools also scored higher on the RTI. Scores on the RTI were not significantly different across school effectiveness levels.

Kirby (1987) speculated on possible causes for the low correlation between reflective practice and teaching effectiveness and listed three possible reasons:

1. Reflective practice was poorly operationalized,

2. Sample error, as subjects, settings or tests of effective teaching may not be valid, or

3. The theory of reflective practice is not heuristic; that is, it cannot be tested in applied research due to the ambiguity of the theoretical constructs.

Discussing these issues, Kirby states "it may be that reflective practice is only a tool of the expert. Novices and less effective teachers, even those who claim to be reflective, may not possess the knowledge and experience necessary in problem setting and testing" (p. 139). Additionally, Kirby notes that if the setting offers little uncertainty or variability in the environment, there will be limited reports of reflective practice.

Kirby did conclude from the data, however, the one sub-scale -- personal causation -- did correlate with teaching effectiveness. Personal causation is defined as the teacher's desire for autonomy and belief in his/her ability to affect student motivation and success. Kirby also noted that the relationship between reflective practice and teaching effectiveness is stronger in elementary schools, and that higher levels of support for reflection resided in the more effective schools.

While the results of this study are not extremely promising, it does lay the foundation for an empirical measurement of reflective practice. In her call for additional research, Kirby lists four alterations to her study that may result in more conclusive findings. They are:

1. Include other measures of reflective practice in addition to the RTI.

2. Include other measures of teaching effectiveness.

3. Stratify the data according to teaching expertise and/or experience.

4. Examine different subject and grade levels; particularly in classrooms posing unique educational problems.

All four of these alterations have been implemented in the current study.

Using a similar approach, Rogers (1996) investigated whether a positive relationship existed between clinical nurses' self-perceived engagement in reflective practice and their self-appraisal of teaching effectiveness. Using a random sample of seventy-five schools, clinical nurse teachers were asked to complete two booklets. One was a demographic data survey that included one question concerning teaching effectiveness and the other was a modified version of the RTI. To be eligible for the study the subject must have been teaching in the classroom. The sample included all teachers at the selected institutions that met these criteria ($N = 529$).

The demographic data tool was developed by the researcher and included questions concerning geographical location, gender, age, current position, faculty status, teaching status, educational level, years of experience, employment status, teaching areas, satisfaction, inclusion of nursing education course work, and inclusion of a mentor in their training/education. Item number twenty-one on this tool was a self-assessment of teaching effectiveness. It includes a nine-point Likert-type scale and reads as follows: "On a scale of 1 to 9 with 1 being least effective and 9 being most effective, how effective do you perceive yourself to be as a clinical nurse teacher?" (p. 85). Rogers cites research that claims a nine-point scale is more reliable than either

seven- or ten-point scales. She notes also that the respondents were asked to base their rating on the following definition: "An effective clinical nurse teacher is one who is competent in nursing, competent in teaching, and has consideration for students" (p. 86). She concedes that it may be difficult to measure teaching effectiveness on one scale, but states in her defense that "it is the individual's interpretation of the variable that is actually being measured" (p. 87). The assumption is made that the rating reflected a fair and honest appraisal of teaching effectiveness as all the responses were anonymous and there was no reason to be dishonest.

Data revealed a low self-perception of reflection with a median score of 66. This was much lower than Kirby's earlier findings on the RTI. Rogers (1996) found a very low (r =.18, p. <.001) positive correlation between clinical nurse teachers' self-perceived engagement in reflective practice and their self-evaluation of teaching effectiveness. Thus, no relationship between these two constructs could be established. The only demographic variable to account for variance was job satisfaction. It is interesting to note that neither experience nor educational level accounted for significant variance. The relationship with job satisfaction is weak and cannot be considered predictive of reflective ability. Considering the three sub-scales of the RTI, diagnosis and personal causation did not account for significant variance. The testing sub-scale was the highest, but the relationship was so slight that it cannot be considered as predictive. Additionally, support for the reliability and validity of the RTI was not established in this study. Rogers contends that the RTI may not generalize to college and university teachers whose students are often self-directed, motivated, adult learners.

In considering the results of this study, two concerns come to the forefront. First, Rogers did not heed Kirby's suggestions to include other instruments for the measurement of reflection and teaching effectiveness. Kirby clearly states that there are serious concerns surrounding the RTI's ability to operationalize the concept of reflection. Rogers made no attempt to compensate for this concern. Secondly, it is difficult to consider any single question as an accurate measure of the complex construct of teaching effectiveness. Rogers' assumption that self-evaluations are accurate is not supported by the literature cited in earlier sections of this chapter. Since neither construct, reflective practice nor teaching effectiveness, was adequately operationalized, findings from this study may be suspect.

Summary of Findings Related to the Design of the Study

1. The definition of reflection is dependent upon the context in which reflection takes place.
2. Changes in reflective context occur not only within the teaching environment, but also as a result of the developmental stage of the practitioner.
3. The benefits of reflection work together in a cyclic fashion; teacher reflection leads to improved student reflection and enhanced learning, which leads to improved educational practice.
4. Engagement in reflective practice can be taught and learned.
5. As with any learned skill, there exists an aptitude for reflection within each person that determines his or her predisposition for engagement in reflective practice.

6. Critical analysis is the goal of reflective practice within teacher education. Professional experience may have impact on one's ability to analyze practice critically.
7. Presage variables of effective music instruction may have only minimal impact on instructional effectiveness.
8. Research focused on student outcomes as determinants of music teaching effectiveness must contend with confounding factors that limit its ability to draw definitive conclusions.
9. Process research aimed at assessing instructional effectiveness through teacher behavior has produced the most convincing data concerning the correlation between instructional effectiveness and student learning.
10. Standard instruments used to assess teaching effectiveness via teacher behavior are not appropriate or sufficient for the measurement of music teaching effectiveness.
11. An instrument that addresses the importance of teacher behavior that is specific to the music classroom, while also acknowledging the behaviors that are common to all effective teachers, is most appropriate for the measurement of music teaching effectiveness.
11. Findings indicate that reflective practice can have a positive effect on teaching effectiveness during student teaching.
12. Instructional effectiveness is dependent upon teachers' assumptions concerning correct practice. These assumptions may develop as a result of experience and reflection.

13. Summative teacher evaluations are detrimental to the development of reflective practitioners.
14. Engagement in reflective practice may be reliant on teachers' self-esteem and confidence within the classroom setting, both of which are the products of professional experience.
15. Empirical evidence of the relationship between reflective practice and music teaching effectiveness does not exist.
16. To measure music teachers' engagement in reflective practice effectively, both a measure of reflective aptitude and a measure of reflective achievement must be used.

CHAPTER III

Methodology

Restatement of Purpose

The purpose of this study is to determine the extent to which selected instrumental music teachers' aptitude for reflection and/or self-reported engagement in reflective practice can predict their instructional effectiveness. That is, does the ability to conceive and express one's thoughts in reflective patterns have any bearing on instrumental music teacher effectiveness?

Sample

Subjects ($N = 50$) were instrumental music teachers in the states of Oklahoma, Texas, Missouri and Colorado who were actively teaching any level of instrumental music from sixth grade to collegiate ensembles. Sixteen members of the sample were female and thirty-four members of the sample were male. The sample was stratified according to years of teaching experience. Berliner (1988) states that psychological theories of performance acquisition usually specify three levels of development for teaching. These levels are: (a) a novice level, where errors are

common; (b) an intermediate level, where some learning is consolidated and some teaching schemata are formed; and (c) a final stage where high levels of performance occur. The sample in the current study was divided into three levels -- novice (n = 16, 6 female and 10 male), established (n = 14, 4 female and 10 male), and career instrumental music teachers (n = 20, 6 female and 14 male).

Novice teachers were defined as those with one-half to three years experience. These were either preservice or in-service teachers. In support of this three-year limit, Katz (1992) found that three to five years' experience was required for a novice teacher to evolve into an established teacher. The three-year limit was imposed in the present study to ensure that this portion of the sample was operating at a novice teaching level.

Established teachers were defined as certified instrumental music teachers who exhibit the ability to act on professional intuition. Berliner (1988) claims that around the fourth or fifth year some teachers begin to exhibit signs of proficiency as exemplified through their holistic way of viewing the situations they encounter. The current investigation sought to study practitioners at this level who were afforded every opportunity to operate as fully proficient teachers. Smith and Tiberius (1994) claim the nature of teaching expertise is best represented in a hierarchical model calling on teacher's knowledge, intuition and progressive problem solving. They state, "After a great deal of experience, the way [teachers] solve problems appears to change" (1999, p. 2). It may take ten years for teachers to fully develop these behaviors. Hence, the experienced level contains teachers with four to fourteen years of experience.

Given the time needs for teachers to develop at the experienced level, career teachers are defined as certified instrumental music teachers with fifteen or more year's

experience. Smith and Tiberius state that teachers at this level must be "highly experienced" (1994, p.2). They are quick to caution, however, that not all teachers at this experience level can be viewed as experts. Berliner (1988) states that one must consider the fluidity of a teacher's performance in determining his/her level of expertise. In the current study, the only criteria for this category were years of experience. It is for this reason, the researcher classified subjects in this group as career teachers and not always as expert teachers.

Subjects were asked to identify the school at which they taught and the number and type of degrees they held. The sample included preservice teachers (n = 5) without a defined teaching site or level. In-service teachers in the sample included middle school/jr. high school teachers (n = 19), high school teachers (n = 23) and university professors (n = 3). The majority of the sample (n = 28) completed no degrees beyond the undergraduate level. Of the remaining portion, most (n = 18) held master's degrees while a few (n = 4) completed doctoral degrees.

Measurement Instruments

LaBoskey Survey of Unassisted Reflectivity

In the current study, the LaBoskey Survey of Unassisted Reflectivity (LSUR) measured subjects' aptitude for reflection. LaBoskey states, "spontaneous reflection occurs when an individual displays reflective thinking in response to an indirect question or circumstance" (1994, p. 27). Measurements of spontaneous reflection help to determine not only an individual's tendency for reflection, but can also determine the

ability of an individual to reflect. Spontaneous reflection or unassisted reflective ability is equated with reflective aptitude in the current study.

From her review of the literature, LaBoskey isolated both the most significant indicators of initial reflective orientations and initial unreflective orientations. Figure 7 lists these indicators and labels them as either unreflective or reflective.

Figure 7. Indicators for initial level of reflectivity

Unreflective	Reflective
Self-orientation (attention on oneself and/or subject matter)	Student orientation (attention on the needs of the children)
Short-term view	Long-term view
Reliance on personal experience in learning to teach (learning by doing, trial and error)	Differentiation of teacher and Learner roles
Metaphor of teacher as transmitter	Metaphor of teacher as facilitator
Lack of awareness of need to learn; feeling of already knowing much from having been in classrooms as a student	Openness to learning; growth oriented
Overly certain conclusions	Acknowledgment of need for conclusions to be tentative; need for feedback and triangulation
Broad generalizations	Means-ends thinking: awareness of teaching as a moral activity
Existing structures taken as given	Strategic thinking
	Imaginative thinking
	Reasoning, grounded in knowledge of self, children and subject matter

LaBoskey began by assigning a number to each of the original respondents (N = 50) so that they would remain anonymous as she scored their responses. Reading responses from this group, she tried several iterations of the scoring system and made refinements on the basis of employability, definition compatibility, and consistency. The use of outside raters was employed to confirm the validity of her iterations. It was eventually determined that seven questions were to be used in scoring. These were selected based upon the "richness of the responses, the appropriateness to the measurement of reflectivity, and the comparability of answers across the questionnaires" (LaBoskey, 1994, p. 29).

Scoring criteria were determined for each of the questions. Based upon whether a response met the defined criteria, a score of -5 (unreflective), +5 (reflective), or 0 (indeterminate) was assigned to each question in the survey. The possible range of scores was from -35 (unreflective) to +35 (reflective). A summary of the scoring criteria appears in Figure 8.

Figure 8. Summary of survey scoring criteria

Score	Sample Criteria
-5	• Responses simplistic and certain • Focus upon practical issues only • Emphasis on firsthand experience as the source of learning • Teacher as transmitter of knowledge • More concern for themselves and/or the subject matter than the students; self-orientation • Short-term view
+5	• Indication of a real struggle with the issues; raises questions; evidence of uncertainty. • Propensity to consider alternatives and reconsider preconceptions • Long-term view • Concerns over the needs of students • Evidence of being open to learning about both practical and theoretical ideas; growth-oriented • Teacher as facilitator of learning • Recognition of the complexity of the educational enterprise • Awareness of need for tentative conclusions and multiple sources of feedback.
0	Cannot be rated as +5 or -5 because they did not answer the question or because it is just too difficult to assign another score. e.g. the answer has strong features of both reflective and unreflective responses.

LaBoskey's final scoring process was as follows: (a) After several initial readings, each question was read and scored for each individual before proceeding to the next question, then (b) a total score was calculated by adding the scores of all seven questions. Reliability of scoring was checked by asking another researcher familiar with

the focus of the study to code the survey. After being trained in the use of the scoring instrument, the outside researcher coded 12 randomly selected surveys. The inter-rater reliability for the total scores was 75%. Although this percentage is not very high, it was considered acceptable for an experimental instrument. For the purposes of this study, the LSUR was determined to be a reliable instrument.

Content validity was established through the use of outside raters who evaluated the questionnaire. LaBoskey made scoring refinements on the basis of employability, definition compatibility, and consistency. The outside raters applied these iterations and concluded that questions 2, 5, 8, 9, 10 and 12 met the scoring criteria. These were selected "on the basis of the richness of responses, the appropriateness to the measurement of reflectivity and the comparability of answers across questionnaires" (1994, p. 29). The reduced questionnaire was judged to be a valid instrument for the purposes of this study.

Reflective Teaching Instrument

According to Kirby and Teddlie (1989), the relationship between reflective ability and teaching effectiveness has not been positively correlated due, at least in part, to the fact that no objective instrument exists to measure reflective ability. In an attempt to remedy this situation, Kirby and Teddlie (1989) developed an objective instrument that "assesses a teacher's perceived engagement in reflective practice" (p. 46). This instrument, titled the Reflective Teaching Instrument (RTI), allows the theory of reflective practice to be empirically tested. It is for this reason the RTI was selected for use in the current study.

Kirby and Teddlie (1989) state, "The theoretical framework and indicators of reflective practice used in development of a Reflective Teaching Instrument (RTI) were derived from Argyris and Schön's (1974) earlier model of reflective practice" (p. 46). Argyris and Schön's research revealed three dimensions of reflective practice: diagnosis, testing, and personal causation. These three dimensions provide the basis around which the RTI was developed.

The RTI was developed in a four-phase process. Phase one included the generation of items derived from a review of the literature. This resulted in a sixty-item pool with twenty items representing each of the three dimensions. Phase two required an expert panel to assess the face validity of each item. Three of the four panel members had to agree on an item for it to remain in the pool. As a result, the original sixty items were reduced to forty-eight items. Phase three attempted to assess the reliability and construct validity of the pilot instrument. This survey consisted of forty-eight six-point Likert-format items. Four professors of education were solicited to administer the pilot exam to practicing elementary and secondary school teachers ($N = 40$) enrolled in their graduate classes during the spring of 1987. Again, the item pool was reduced. Using biseral correlations, 23 items "with significant positive correlation to total score ($r >. 30$, $p <. 05$) were retained" (Kirby & Teddlie, 1989, p. 47). Three additional items with standard deviations greater than 1.0 were also retained. Kirby and Teddlie (1989) cite, "Alpha reliability for the pilot sample ($N = 40$) on the 26 items of the revised scale was estimated at .78" (p. 47). Phase four consisted of a field study of 108 public school elementary ($N = 54$) and junior high teachers ($N = 54$) of reading, math and English. An alpha reliability coefficient for the subjects in the field study was .65. Factor

analytic techniques were employed to determine the construct validity of the instrument. For an item to be retained, it had to meet two criteria: "It must have factor loadings of at least .35 on the factors they were believed to represent, and no item could have a higher loading on a different factor" (Kirby & Teddlie, 1989, p. 48). As a result of this analysis fifteen items remained in the instrument. Alpha reliability of the fifteen-item instrument was .70. The current study employs the use of the fifteen-item RTI.

This researcher agrees with Deutsch (1996) when she states, "The indicators of reflective practice are so complex that it seems hard to accept the self-reported answers to 15 questions as a sufficient indicator of reflective practice" (p. 35). However, used in conjunction with another instrument like the LaBoskey Survey of Unassisted Reflectivity, which requires the respondent to give more in-depth responses, this instrument should provide the researcher with meaningful data concerning teachers' self-reported engagement in reflective practice in the context of teaching. The RTI has been found to be a reliable and valid instrument in initial studies and was, therefore, considered a valid and reliable instrument for the purposes of this study.

The Survey of Teaching Effectiveness

The Survey of Teaching Effectiveness (STE) was developed to measure teaching effectiveness in preservice music teachers (Hamann & Baker, 1995). Designed in accordance with research literature findings on teacher effectiveness, the STE is comprised of two weighted categories. The "lesson delivery skills" category includes the following items: (a) posture, (b) eye contact, (c) use of gesture, (d) facial expression, and (e) vocal inflection. This category is weighted as forty percent of the total score. The remaining sixty percent is found in the category labeled "planning and presentation

of lesson." This category includes the following items: (a) evidence of lesson planning, (b) subject matter competence, (c) pacing, (d) sequential pattern rehearsal cycle, and (e) teaching skills. Item evaluations under the two categories are accomplished using a five-point Likert-type scale of 1 (poor) to 5 (excellent). Using the weighted scores from the two categories, a total score is calculated and can range from 10 to 50. The STE was pilot-tested and revised based on results from 20 evaluators.

Hamann, Lineburgh and Paul (1998) determined empirical validity for the STE. They asked adjudicators to rank videotaped teaching episodes of students from "best" to "least best." Approximately three weeks later, the same adjudicators were asked to perform the task again. Scores from each ranking were then compared. This resulted in a rank order correlation of $r_s = .89$.

Fant (1996) used both the STE and the Rehearsal Effectiveness Scale (RES) by Bergee (1992) in his study. Fant reported the correlation of $r = .89$ between the scores from both instruments. For the present study, this not only speaks to the reliability of the STE, but also aids in establishing the STE as a valid instrument for use with in-service teachers. Speaking of the RES, Bergee (1992) states, "Items chosen for this scale described distinctive aspects of rehearsal effectiveness. No item was unique to the student teaching experience, however. This scale might serve as a general measure of rehearsal effectiveness" (p. 12). As scores from the two instruments correlate significantly, one can assume that the STE will also serve well as a general measure of teaching effectiveness for both preservice and in-service teachers.

Reliability of the STE was established in a test-retest procedure and was found to be .83 (Hamann, et al., 1998). In addition, Hamann (1995) computed inter-correlations

between subjects' (N = 159) categorical and total scores of the STE. Inter-correlation between the categories on the STE were found to range from r = .61 to r = .95 (p. 11).

Paul, Teachout, Sullivan, Kelly, Bauer, and Raiber (2000) used the STE to determine music teaching effectiveness among selected student teachers. Three raters employed the use of the STE during videotape analysis of thirty-one instrumental music student teachers from four major universities. A series of Pearson's Product-Moment Correlations were used to calculate inter-correlation of the raters' STE scores. Reliability coefficients were reported to be r = .91. For the purposes of the present study, the STE was judged to be a valid and reliable instrument.

Data Collection Procedures

Data were gathered during spring and summer 2000 at public schools and universities in Oklahoma and Missouri where the subjects are either employed or fulfilling their student-teaching practicum requirements. Subjects (N = 62) were given a packet including an unlabeled copy of the LSUR, RTI, and a blank VHS videotape. In addition to completing LSUR and RTI, they were asked to videotape a ten-minute portion of a rehearsal in which they were teaching. Subjects were then requested to return all the materials to the researcher via an enclosed self-addressed/stamped envelope. Subjects from the summer were given the option to have their rehearsal videotaped by the researcher or research assistant. Additionally, they were encouraged to return their responses on the LSUR and RTI directly to the researcher while he was in attendance at the summer teaching session.

Of the sixty-two subjects selected to participate in the study, fifty returned all materials necessary for inclusion in the study. To be selected for the study and included

in the analysis, teachers must have completed and returned a copy of the LSUR and RTI and have a ten-minute videotaped rehearsal on file with the researcher. Hence, fifty ($N = 50$) subjects were included in the data analysis.

The LaBoskey Survey of Unassisted Reflectivity (LSUR) was used to measure each subject's aptitude for reflection by calculating his/her level of spontaneous reflectivity. The LSUR was scored by the researcher replicating LaBoskey's original procedure. In an effort to limit rater bias, all questionnaires were assigned numbers at random and identified only by that number until the LSUR scoring was complete. After several readings of all responses to a single question, each was then scored according to LaBoskey's rubric. Each question was scored for the entire sample prior to reading the next. Scores of –5, 0, or +5 were entered into a database that identified respondents by number only. Once all the questions were scored, each respondent's total score was calculated by adding scores to all seven questions. Scores can range from –35 to +35.

Four responses were selected at random from each of the three experience categories (novice teachers, established teachers and career teachers) and were scored by an outside reader. This person was familiar with the research and used the same scoring procedure as the primary researcher. These scores were compared to those assigned by the researcher to determine scoring reliability. The inter-rater reliability for the total scores was .86.

The Reflective Teaching Instrument (RTI) was used to measure subject's self-reported engagement in reflective practice. The RTI is a self-scoring instrument that requires no interpretation by the scorer. With no threat of scorer bias subject anonymity was not necessary. Scores from each of the fifteen six-point Likert-format questions

were summed and a total score was assigned. Total scores were entered into a database that already contained the previously recorded LSUR scores. The possible scoring range was from 15 (less reflective) to 90 (more reflective).

Additionally, scores for each of the three sub-scales within the RTI -- diagnosis, testing, and personal causation -- were determined by summing the responses to the appropriate questions for each sub-scale. The diagnosis sub-scale score was calculated by summing the responses to questions one through four. Scores for this sub-scale could range from 4 to 24. The testing sub-scale score included the summed total of the responses to questions five through nine. Scores on this sub-scale could range from 5 to 30. The sum of the responses to questions ten through fifteen constituted the personal causation sub-scale score. The possible range for these scores was from 6 to 36. All three of the sub-scale scores for each subject were totaled and recorded by the researcher in a database that already contained the scores from the LSUR and the total RTI.

The Survey of Teaching Effectiveness (STE) was used to determine subject's teaching effectiveness scores. The STE measures teaching effectiveness by determining the amplitude of teaching behavior exhibited during the course of an observation. Observations took place via videotape. Subjects were asked to videotape a ten-minute teaching session and return the tape to the researcher. Subjects were instructed that the tape should include an excerpt from a working rehearsal and not to include a performance of the musical work. The individual tapes were collected and the researcher compiled a master tape. No editing was done to the original tapes except to cut each to exactly the same length. A one-minute pause was inserted between each teaching session on the master tape.

An expert panel of three instrumental music educators was assembled to view and score the tapes. This panel included two practicing public school instrumental music educators with over ten years teaching experience each and a university educator with over fifteen years experience. The panel assembled with the researcher and underwent training concerning the scoring procedure for the STE. Panel members discussed each category on the STE with the researcher to gain a common understanding of the terminology in use. After this discussion, two sample videotapes were viewed. During the first tape, the panel discussed impressions and possible scoring while the episode was playing on tape. After a follow-up discussion, the second tape was viewed without discussion and the panel recorded their ratings on a sample STE. After ratings for the second tape were recorded, the panel discussed their conclusions. It was agreed that the panel shared a common understanding of the instrument and scoring criteria. The master tape was then viewed and scored in three two-hour sessions with breaks of approximately twenty minutes between each session. Raters were allowed only one viewing of each episode. It must be noted, however, that the master tape was paused after each episode so panel members could complete their entries on the STE at their own pace. Once all panel members completed each score, the next episode was viewed. Scores from each panel member were collected and totaled by the researcher using a self-calculating spreadsheet designed for the STE. Scoring reliability was calculated via a Cronbach alpha coefficient for the three scores.

To counter rater fatigue, panel members were dismissed from the common site after six hours of viewing. Each panelist was asked to take a copy of the master tape containing episodes from ten remaining subjects to view at a later date. Panel members

were asked to view all the remaining subjects in one session without a break, and to return their scores on the forms in a stamped, self-addressed envelope provided for them. Since the Cronbach alpha coefficient for the panel never fell below .88 while they were viewing and scoring together, the researcher considered the panel members well trained and capable of rating the remaining subjects without any additional instruction. All panel members returned their scores to the researcher within fourteen days of the first scoring session. Once all data were received, the final reliability statistics were checked and a high level ($r=.92$) of scorer reliability was found.

An overall teaching effectiveness score for each subject was determined by calculating the panel members' mean score for each subject. Teaching effectiveness scores could range from ten to fifty, with a score of fifty representing the highest level of teaching effectiveness.

Data Analysis Procedures

All data relevant to Hypothesis HO_1 were analyzed using Pearson Product Moment correlation procedure to determine if significant correlation exists between the subjects' scores on the LaBoskey Survey of Unassisted Reflectivity (LSUR) and the Reflective Teaching Instrument (RTI). This procedure was also used to determine the level of multicollineairty between these two measures.

A multiple linear-regression model that included scores from the LSUR, total RTI, STE, and years of experience was used to verify Hypothesis HO_2, Primary Hypothesis HO_3, Primary Hypothesis HO_4, and Secondary Hypotheses $HO_{4.1}$ and $HO_{4.2}$. A multiple linear-regression procedure was used to determine the ability of several independent variables to predict the strength of a dependent variable. The independent

variables were considered both as main effects and in interaction with each other. In the context of each of these hypotheses, subjects' scores on the LSUR, total RTI, years of teaching experience, and all possible interactions between these data, were treated as the independent or predictor variables, while their scores on the STE were treated as the dependent or criterion variable.

A second multiple linear-regression model was used to verify Secondary Hypotheses $HO_{3.1}$, $HO_{3.2}$, $HO_{3.3}$, $HO_{4.3}$, $HO_{4.4}$ and $HO_{4.5}$ concerning the sub-scales of the RTI. In the context of these hypotheses, subjects' three sub-scale scores on the RTI, years of teaching experience, and all interactions between these data, were treated as the independent or predictor variables, and their scores on the STE were treated as the dependent or criterion variable.

CHAPTER IV

Results

Seven research questions were formulated for this study:

1. Is there a relationship between a teacher's aptitude for reflection affect and his or her self-reported use of reflective teaching?

2. Can a music teacher's aptitude for reflection, as assessed by the LaBoskey Survey of Unassisted Reflectivity, be used to predict music teacher effectiveness?

3. Can the extent to which a music teacher reports engaging in reflective practice be used to predict music teaching effectiveness?

4. Which, if any, of the three identified dimensions of reflective practice (diagnosis, testing, and personal causation) are significant contributors to effective teaching behaviors of music teachers?

5. Is professional teaching experience a significant contributor in the prediction of music teaching effectiveness via music teachers' aptitude for reflection?

6. Is professional teaching experience a significant contributor in the prediction of music teaching effectiveness via music teachers' self-reported use of reflective teaching?

7. Is professional teaching experience a significant contributor in the prediction of music teaching effectiveness via any of the three identified dimensions of reflective practice (diagnosis, testing, and personal causation)?

STE Inter-scorer Reliability

Inter-scorer reliability for the Survey of Teacher Effectiveness (STE) was determined by calculating a Chronbach alpha score for responses from the three judges. A high level of Inter-scorer reliability indicated that the judges maintained a high level of consistency throughout the process (see Table 1).

Table 1

Inter-scorer Reliability for the Survey of Teaching Effectiveness

	Judges 1 x 2	Judges 1 x 3	Judges 2 x 3	Average Inter-Item Correlation	Standardized Alpha
Alpha	.85	.90	.90		.92
Inter-Item Correlation	.88	.83	.88	.85	

Correlation of LSUR and RTI

Scores from the LaBoskey Survey of Unassisted Reflectivity (LSUR) and the Reflective Teaching Instrument (RTI) were correlated via a Pearson Product Moment procedure. It was determined that significant correlation did not exist among the scores on the two measures. A probability level of $p \leq .05$ was used to determine significance for all statistical tests in the study. Therefore, Primary HO1, *there will be no significant correlation between music teachers' reflective aptitude and self-reports of engagement*

in reflective teaching failed to be rejected. This indicates that these teachers' reflective aptitude did not correlate with their self-reported engagement in reflective practice.

Regression Analysis of LSUR and Total RTI

Multiple regression procedures were used to determine if reflective aptitude, as measured by the LaBoskey Survey of Unassisted Reflectivity (LSUR), self-reported use of reflective teaching, as measured by the Reflective Teaching Instrument (RTI), and teaching experience (TE) were effective predictors of music teaching effectiveness. The dependent variable was teachers' scores on the Student Teaching Effectiveness Scale. Independent variables were teachers' scores from the LSUR, RTI and TE. Additionally, interactions between the main effects (LSUR, RTI and TE) were considered as independent variables in the model.

Since one objective of multiple regression is to measure the separate effects of the independent variables on the dependent variable, it was necessary to determine the level of multicollineairty between the independent variables. The scores from the LaBoskey Survey of Unassisted Reflectivity (LSUR) and the Reflective Teaching Instrument (RTI) were correlated via a Pearson Product Moment procedure. Scores were found to be only weakly correlated ($r = .09$). It was determined that multicollinearity did not exist and further multiple regression analysis of the data was warranted.

Initial calculations for the entire model – all main effects and interactions – were not significant (see Table 2). Due to the limited sample size ($N = 50$), residuals were examined for outliers that could have effect on the full model. Data were considered to be outliers if they did not fall within two standard deviations of the estimated value from

a simple least-squares linear regression. It was determined that two outliers did exist (see Table 3). These were excluded from the model and a multiple linear regression was calculated on the forty-eight remaining teachers. This calculation revealed a significant result (see Table 4). All remaining calculations excluded the outliers ($N = 48$).

Table 2

Multiple Linear Regression -- Full Model, All Subjects

Multiple R =	.4065	F =1.41	df = 6,43	p = .22
R-square =	.1652			
Adjusted R-square =	.0487			

Table 3

Standard Residual Outliers

Subject Number	Observed Value	Predicted Value	Residual
20	17.1	35.06	-17.96
38	22.3	39.83	-17.44

Table 4

Multiple Linear Regression -- Full Model, Minus Outliers

Multiple R =	.6435	F =4.83	df = 6,41	p = .0008
R-square =	.4141			
Adjusted R-square =	.3283			

A hierarchical nested model comparison was used to determine the optimal reduced model for the multiple linear regression analysis. All interactions that were not significant contributors to the total model were removed. It was determined that a reduced model that did not include the interaction between the LSUR and RTI was the optimal reduced model (see Tables 5 and 6). Regression weights can be found in Table 7. Mean scores and standard deviations for the LSUR, RTI, and TE can be found in Table 8.

Table 5

Optimal Reduced Model

Multiple R =	.6435	F =5.93	df = 5,42	p = .0003
R-square =	.4141			
Adjusted R-square = .3443				

Table 6

Analysis of Variance for Optimal Reduced Model Multiple Regression

Effect	Sums of Squares	df	Mean Square	F	p-level
Regression	990.89	5	198.17	5.93	.0003
Residual	1401.86	42	33.37		
Total	2392.76				

Table 7

Regression Weights for Optimal Reduced Model Multiple Regression

Variable	BETA	St. Err. of BETA	B	St. Err. of B	t(42)	p-level
LSUR	.34	.20	.16	.09	1.66	.10
RTI	-.004	.15	-.002	.09	-.02	.97
EXP	-.92	.98	-.73	.78	-.94	.35
LSURXEXP	-.55	.20	-.01	.005	-2.72	.009
RTIXEXP	1.44	1.01	.01	.01	1.43	.15

Table 8

Means and Standard Deviations for LSUR, RTI and TE

Variable	Mean Score	Standard Deviation	Subjects
LSUR	-4.28	14.96	48
RTI	66.66	11.29	48
TE	11.48	8.97	48

Examination of the standardized Beta weights (BETA) and their probability levels in Table 7 revealed that Primary HO_2 Hypothesis, *aptitude for reflection, as measured by the LSUR, is not a significant contributor to the overall variance in predicting effective teaching behaviors of music teachers*, failed to be rejected. It was

further determined that HO_3, *self-reported use of reflective teaching, as measured by the RTI, is not a significant contributor to the overall variance in predicting effective teaching behaviors of music teachers*, failed to be rejected. Primary HO_4 Hypothesis, that professional teaching experience is not a significant contributor to the overall variance in the interaction between music teaching effectiveness and reflective practice, additionally failed to be rejected. These findings indicate that none of the main effects in isolation were significant predictors of music teacher effectiveness.

Examination of the results for the interactions revealed that the combination of teaching experience and scores from the RTI were not significant predictors of music teaching effectiveness. Thus Secondary $HO_{4.2}$, *professional teaching experience is not a significant contributor to the overall variance in the interaction between music teaching effectiveness and teachers' self-reported engagement in reflective practice*, failed to be rejected. The interaction between teaching experience and scores from the LSUR were, however, found to be significant (see Table 7). Thus, secondary $HO_{4.1}$ Hypothesis, *professional teaching experience is not a significant contributor to the overall variance in the interaction between music teaching effectiveness and teachers' reflective aptitude*, was rejected. Further examination of the BETA weights revealed a negative relationship for this interaction within the optimal reduced model, indicating that lower levels of reflective aptitude may be more predictive of music teaching effectiveness. It was determined that more detailed examination of this phenomenon was warranted.

Data were stratified for further analysis. Beta weights for the simple slopes of the LSUR were calculated for each category – Novice, Experienced, and Career teachers. Two methods of calculation were employed to verify the validity of the

categorical limits. Data were first stratified according to the theoretical categories cited in Chapter 3. The average TE was calculated for subjects within each category and used to determine the significance of the beta weight via simple slopes calculations (See Table 9). Analysis revealed that while the predictability of the LSUR is significant across all three levels, the relationship becomes more negative as teaching experience increased. This suggests that more effective novice teachers demonstrated higher levels of reflective aptitude, while more effective career teachers demonstrated lower levels of reflective aptitude.

Data were also stratified using Cohen's mean approach. Categorical limits were set at one standard deviation above and one standard deviation below the average TE for each category in the previous model. Average TE was recalculated for teachers within these categorical limits and used to determine the significance of the beta weight via simple slopes calculations (See Table 10). Once again, analysis revealed that while the predictability of the LSUR is significant across all three levels; the direction of the relationship became progressively more negative as teaching experience increased. The similarity of the findings between these two methods of stratification indicated that the theoretical category limits were valid, and that data concerning the predictability of the LSUR in music teacher effectiveness are not confounded by such separation.

Table 9

Beta Weights for Simple Slopes – Theory Categorization Averages

Average TE	b	t (43)
1.5	.14*	17.17
7.6	.008*	9.61
19.4	-.14*	32.97

* Indicates significance

Table 10

Beta Weights for Simple Slopes – Choen's Mean Approach

Average TE	b	t (43)
2.42	.14*	.17
11.4	.01*	5.18
20.38	-.16*	-33.11

* Indicates significance

Multiple Regression Analysis of the RTI Sub-scales

Multiple regression procedures were used to determine whether any of the three sub-scales of the RTI (Diagnostic, Testing, or Personal Causation) were significant contributors to the overall variance in predicting effective teaching behaviors of music teachers. Multicollinearity was checked via Pearson Product Moment procedures.

Table 11 shows the correlation matrix for the sub-scales. It was determined that multicollinearity did not exist among the sub-scales and a multiple regression analysis procedure was warranted.

The independent variables were the teachers' scores on the sub-scales of the RTI. The dependent variable was the teachers' teaching effectiveness scores as measured by the Student Teaching Effectiveness Scale (STE). The Diagnostic (D) and Personal Causation (PC) sub-scales were found to be significant while the Testing (T) sub-scale was not significant (See Tables 12, 13 and 14). Sub-scales and teaching effectiveness mean scores and standard deviation can be found in Table 15. Secondary $HO_{3.1}$ Hypothesis, *the Diagnostic sub-scale of the RTI is not a significant contributor to the overall variance in predicting effective teaching behaviors of music teachers*, was rejected. Secondary $HO_{3.2}$ Hypothesis, *the Testing sub-scale of the RTI is not a significant contributor to the overall variance in predicting effective teaching behaviors of music teachers*, failed to be rejected. Secondary $HO_{3.3}$ Hypothesis, *the Personal Causation sub-scale of the RTI is not a significant contributor to the overall variance in predicting effective teaching behaviors of music teachers*, was rejected.

Table 11

Sub-scales Correlation Matrix

Variable	Diagnostic	Testing	Personal Causation
Diagnostic	1.0		
Testing	.54	1.0	
Personal Causation	.57	.69	1.0

Table 12

Sub-scales Multiple Regression Results

Multiple R =	.53	$F = 5.87$	$df = 3, 44$	$p = .001$
R-square =	.28			
Adjusted R-square =	.23			

Table 13

Analysis of Variance for Sub-scales Multiple Regression

Effect	Sums of Squares	df	Mean square	F	p-level
Regression	684.34	3	228.11	5.87	.001
Residual	1708.42	44	38.82		
Total	2392.76				

Table 14

Regression Weights for Sub-scales Multiple Regression

Variable	BETA	St. Err. of BETA	B	St. Err. of B	t(44)	p-level
Diagnostic	-.33	.16	-.71	.34	-2.07	.04
Testing	-.08	.18	-.12	.26	-.46	.64
Personal Causation	.69	.18	1.03	.27	3.7	.0005

Table 15

Sub-scales and Teaching Effectiveness Mean Scores and Standard Deviations

Variable	Mean Score	Standard Deviation	Subjects
Diagnostic	16.62	3.33	48
Testing	24.58	4.93	48
Personal Causation	25.45	4.79	48
Teaching Effectiveness	32.33	7.13	48

To examine relationships between teaching experience and sub-scale scores and their predictability of music teaching effectiveness, a multiple regression procedure was used. The independent variables were the sub-scale scores and years of teaching experience. The dependent variable was the teacher's teaching effectiveness score as

measured by the STE. Analysis revealed significant Beta weights for both the Personal Causation and Teaching Experience sub-scales. The Beta weights for the Diagnostic and Testing sub-scales were not significant (see Tables 16, 17 and 18). Sub-scales, teaching experience and teaching effectiveness mean scores and standard deviation can be found in Table 19. Secondary $HO_{4.3}$ Hypothesis, *professional teaching experience is not a significant contributor to the overall variance in the interaction between music teaching effectiveness and the diagnostic sub-scale of the RTI*, failed to be rejected. Similarly, Secondary $HO_{4.4}$ Hypothesis, *professional teaching experience is not a significant contributor to the overall variance in the interaction between music teaching effectiveness and testing sub-scale of the RTI*, also failed to be rejected. However, Secondary $HO_{4.5}$ Hypothesis, *professional teaching experience is not a significant contributor to the overall variance in the interaction between music teaching effectiveness and personal causation sub-scale of the RTI*, was rejected. These findings indicate that the combination of years of teaching experience and teachers' beliefs in their effect on student learning are predictive of music teaching effectiveness.

Table 16

Sub-scales with Teaching Experience Multiple Regression Results

Multiple R =	.62	$F = 6.77$	$df = 4, 43$	$p = .0002$
R-square =	.38			
Adjusted R-square =	.32			

Table 17

Analysis of Variance for Sub-scales Multiple Regression

Effect	Sums of Squares	df	Mean square	F	p-level
Regression	924.68	4	231.17	6.77	.0002
Residual	1468.07	43	34.14		
Total	2392.76				

Table 18

Regression Weights for Sub-scales Multiple Regression

Variable	BETA	St. Err. of BETA	B	St. Err. of B	t(43)	p-level
Diagnostic	-.21	.15	-.45	.33	-1.3	.18
Testing	-.16	.17	-.23	.25	-.93	.35
Personal Causation	.56	.18	.84	.27	3.1	.003
Teaching Experience	.35	.13	.27	.10	2.6	.01

Table 19

Sub-scales, Teaching Experience and Teaching Effectiveness Mean Scores and Standard Deviations

Variable	Mean Score	Standard Deviation	Subjects
Diagnostic	32.33	7.1	48
Testing	24.45	3.3	48
Personal Causation	25.45	4.7	48
Teaching Experience	11.4	8.9	48
Teaching Effectiveness	32.33	7.1	48

To better understand the relationship between teaching experience and Personal Causation scores, data were stratified according to the Theory Categorization model cited earlier. The average TE was calculated for teachers within each category and used to determine the significance of the beta weight via simple slopes calculations (See Tables 20, 21 and 22). Analysis revealed that belief in personal causation was significant in the prediction of teaching effectiveness at the Novice level, but is not significant at the Experienced or Career teaching experience levels. These findings suggest that as teaching experience increases, teachers' beliefs in their direct effect on student learning become less predictive of their music teaching effectiveness.

Table 20

Beta Weights for Simple Slopes – Personal Causation – Novice Level

Average TE	b	t(14)	p-level
1.5	.31	2.6	.02

Table 21

Beta Weights for Simple Slopes – Personal Causation – Experienced Level

Average TE	b	t(12)	p-level
7.6	.22	.80	.09

Table 22

Beta Weights for Simple Slopes – Personal Causation – Career Level

Average TE	b	t(16)	p-level
19.4	.50	1.9	.07

Power Analysis for Tests of the Null Hypothesis

Power computations for the two multiple regression procedures were performed. Calculations were figured via a Non-central F procedure. This test is based on a Model

2 error, which means that variables entered into the regression subsequent to the set of interest will serve to reduce the error term in the significance test, and therefore are included in the power analysis.

The power analysis focuses on the increment for the set of interest over and above any prior variables. This model includes five variables yielding an increment of .26. This is the standard increment for a large effect size as defined by Cohen (1985). Thus, with the given sample size of 48 and alpha set at .05, the optimal reduced model (See Table 5) has the power of .86. When data are stratified, however, power is reduced. Power for the Novice set (n = 16) is .24, for the Experienced set (n = 14) is .20, and for the Career set (n = 18) is .32.

Power analysis of the multiple regression concerning the sub-scales of the RTI and teaching effectiveness (See Table 16) revealed that for a sample size of 48 with alpha set at .05 and large effect size (r^2 = .26) the procedure has a power of .89. Once again, stratification of data reduced power. Power for the Novice set (n = 16) is .30, for the Experienced set (n = 14) is .24, and for the Career set (n = 18) is .35.

Both these analyses indicate that findings in the stratified data may be suspect due to the small sample size.

Summary

Seven questions were investigated in this study. The first question dealt with the relationship between a music teacher's aptitude for reflection and his or her self-reported use of reflection. No significant correlation was found to exist.

The second and third questions asked whether a music teacher's aptitude for reflection, as assessed by the LaBoskey Survey of Unassisted Reflectivity, or self-

reported use of reflective practice, as measured by the Reflective Teaching Instrument, could be used to predict music teaching effectiveness. Neither instrument was found to contribute significantly to the overall variance of teaching (see Tables 6, 7 and 8).

The fourth question dealt with whether any of the three dimensions of reflective practice, as measured by the Reflective Teaching Instrument were significant contributors to effective teaching behaviors of music teachers. Two of the dimensions – Diagnosis and Personal Causation – were found to be significant, while Testing was not (see Table 14).

Questions five and six dealt with the significant interaction of teaching experience with reflective aptitude and self-reported use of reflective practice in the context of predicting effective music teaching. The interaction between reflective aptitude and teaching experience was found to be significant. However, the interaction between the self-reported use of reflective practice and teaching experience was not found to be significant (see Table 7). Further analysis determined that the reflective aptitude and teaching experience interaction changed as teaching experience increased, beginning with a significant positive predictive relationship for novice teachers and progressing to a significant negative predictive relationship for career teachers (see Tables 9 and 10). This suggests that as years of teaching experience increase, decreasing levels of reflective aptitude are more predictive of music teaching effectiveness.

Question seven concerned the significant interaction of teaching experience with the three dimensions of reflective practice – diagnosis, testing and personal causation – in the context of predicting effective music teaching. Personal causation and teaching

experience showed a significant predictive relationship (see Tables 16, 17 and 18). Diagnosis and testing were not found to be significant. Belief in personal causation and its significant predictability of effective music teaching were also found to decrease as teaching experience increases (see Tables 20, 21 and 22).

Power analyses of the multiple regression procedures were performed. The optimal reduced model (See Table 5) was found to have a power of .86, while the RTI sub-scales with Teaching Effectiveness model (See Table 16) were found to have a power of .89 for the entire sample ($N = 48$). In both models, stratification of data reduced the power of the procedure dependent upon the sample size within the stratified set.

Chapter 5

Conclusions

Summary of the Study

A primary instructional goal of music teacher educators is to facilitate the development and preparation of highly effective music instructors. Establishing or increasing a music teacher's ability to engage in reflective practice is thought to enhance music teacher effectiveness (e.g. Kirby, 1987; LaBoskey, 1994; Schön, 1983, 1987; Yost, Sentener & Florenza-Bailey, 2000). Research has established the common prevalence of methods that promote reflection among music teacher education programs within the United States. Researchers have investigated the various benefits of reflection to teachers and have established that reflection aids teachers in extracting meaning from experience, improving teaching skills, and improving teacher attitude. These studies have not, however, addressed teachers' aptitude for reflection and its effect on instruction. Further, they have not investigated the direct relationship between teachers' actual engagement in reflective practice and their teaching effectiveness. The specific relationship between reflective practice and music teacher effectiveness has not been investigated prior to the current study.

Theoretical foundations for the constructs in the current study were established from previous research. LaBoskey (1994) postulated in her theory of spontaneous reflectivity that every teacher has a baseline for unassisted reflectivity. This theory established the framework for defining reflective aptitude in the current study. Her Survey of Unassisted Reflectivity provided a reliable means to measure this construct. Argyris and Schön (1974) theorized that reflective practice operates in three dimensions they termed diagnosis, testing, and personal causation. These established the framework for Kirby and Teddlie's (1989) development of the Reflective Teaching Instrument. This instrument and the research surrounding its development established the means to define and measure teachers' engagement in reflective practice. Finally, Hamman and Baker's (1995) research in music teacher effectiveness lead to the development of the Survey of Teaching Effectiveness. This instrument provided the means to define and measure music teacher effectiveness more reliably. The combination of these three constructs and their measures provides a fresh framework for an investigation into the relationship between reflective practice and music teaching effectiveness.

Subjects were fifty (50) instrumental music teachers with one-half to twenty-eight years of teaching experience. Instructional experiences within the sample ranged from beginning instrumental instruction at the sixth-grade level to conducting collegiate ensembles. To measure their reflective aptitude and self-reported engagement in reflective practice, all subjects completed the LaBoskey Survey of Unassisted Reflectivity (LSUR) and the Reflective Teaching Instrument (RTI). Additionally, each subject was videotaped during a ten-minute segment of a typical rehearsal. Using the Survey of Teaching Effectiveness (STE), these tapes were evaluated by a team of three

adjudicators and a single music teaching effectiveness score was assigned to each subject.

A Pearson Product Moment correlation procedure was used to determine if scores on the LSUR and RTI were significantly related. A multiple regression procedure was used to determine if reflective aptitude, engagement in reflective practice, and/or years of teaching experience were significant predictors to music teaching effectiveness as measured by STE scores. An additional multiple regression procedure was used to determine if any of the sub-scales (Diagnosis, Testing, and Personal Causation) of the RTI were significant predictors of music teaching effectiveness. Within each of the multiple regression procedures, data were analyzed in total and stratified across three experience levels; novice (.5-4 years), experienced (5-14 years), and career teachers (15 years and beyond).

Results of the analyses revealed that scores on the LSUR and RTI were not significantly correlated with one another. Reflective aptitude and years of teaching experience were found to be significant predictors of music teaching effectiveness. Multiple regression analysis failed to find teachers' self-reported engagement in reflective practice a significant predictor of music teaching effectiveness. Further analysis of the three dimensions of reflective practice did reveal, however, that a teacher's belief in personal causation is a significant predictor of music teaching effectiveness.

Analysis of the stratified data revealed that reflective aptitude was a significant predictor of music teaching effectiveness across all three teaching experience levels. Analysis of the Simple Slopes for reflective aptitude at each of the levels revealed,

however, that the direction of the relationship changes. At the novice level reflective aptitude is found to be a significant positive predictor of music teacher effectiveness, while at the career level reflective aptitude is a significant negative predictor of music teacher effectiveness. Teachers' belief in personal causation was found to be a significant positive predictor of music teaching effectiveness at the novice level.

The Relationship of Reflective Aptitude to Engagement in Reflective Practice

The investigation sought to answer a research question that asks about the relationship, if any, between a teacher's aptitude for reflection and his or her self-reported use of reflective teaching. A Pearson Product Moment correlation procedure was used to determine if any significant relationship did exist between scores from the LaBoskey Survey of Unassisted Reflectivity (LSUR), used to measure reflective aptitude, and the Reflective Teaching Instrument (RTI), used to measure self-reported engagement in reflective practice. Analysis revealed that the correlation was not significant.

The concept of reflective aptitude is not widely recognized in the literature. There is support, however, for the notion that routine action and reflective action are in opposition of each other (Goodman, 1984; Kelly, 1993; Kirby & Teddlie, 1989; Schön, 1983, 1987; Van Manen, 1977; Zeichner & Liston, 1987; Zimper & Howey, 1987), and that it is desirable for professionals to move away from routine action toward reflective action. Defining what such action entails is difficult. There are differing definitions of reflection ranging from the mediation of action (Digiaimo, 1993; Kelly, 1993; Van Manen, 1977), to reconstruction of experience (Brookfield, 1987; Copeland, Birmingham, Curz & Lewin, 1993; Schön, 1983, 1987; Sebren, 1994) and to

deliberation of competing views of professional behavior. (Sykes, 1986; Zeichner & Liston, 1987) Additionally, there are those who define reflection in terms of a hierarchical process of development (Goodman, 1984; Van Manen, 1977; Zimper & Howey, 1987). Within this wide range of thoughts about reflection, there appears to be the common belief that all professionals have the same aptitude for reflection. It seems that most assume that reflective ability or at least engagement in reflective activity will occur in a similar manner for all professionals.

LaBoskey (1994) noted, however, that achievement of any goals within reflective teacher education is first dependent upon what the prospective teacher brings to the experience. She contends that different levels of unassisted reflectivity exist within any population and that these levels can be measured. Her concept of unassisted reflectivity is founded on the idea that there exists a baseline for reflective ability within each person. This baseline differs from person to person and is normally distributed. By assessing teachers' spontaneous responses to certain questions, one can measure their reflective aptitude. Findings from her study indicated that regardless of the levels of engagement in reflective practice, teachers with low aptitude for reflection did not achieve the same classroom results as those with a high aptitude for reflection. Further, she noted that those with low aptitude for reflection did not appear to improve with "generic strategies for encouraging reflective activity" (1994, pp. 88-89).

Implications for music teacher education point to the need to assess students' aptitude for reflection. Additionally, there may be a need to offer an assortment of reflective activities within the music teacher education curriculum to meet the differing needs of students. Most importantly, music teacher educators should not assume that

engagement in reflective practice is an indicator of reflective ability. As the current study indicates, such a relationship cannot be substantiated.

Predictors of Music Teacher Effectiveness

The study employed the use of a single statistical procedure to analyze data concerning four research questions aimed at the predictive nature of reflective aptitude, self-reported engagement in reflective practice, and teaching experience. The specific questions ask:

2. Can a music teacher's aptitude for reflection, as assessed by the LaBoskey Survey of Unassisted Reflectivity, be used to predict music teacher effectiveness?

3. Can the extent to which a music teacher reports engaging in reflective practice be used to predict music teacher effectiveness?

5. Is professional teaching experience a significant contributor in the prediction of music teaching effectiveness via music teachers' aptitude for reflection?

6. Is professional teaching experience a significant contributor in the prediction of music teaching effectiveness via music teachers' self-reported use of reflective teaching?

A single multiple linear regression procedure was used to analyze if reflective aptitude, self-reported use of reflective teaching, and/or teaching experience were significant predictors of music teaching effectiveness. Results indicate that neither reflective aptitude nor self-reported engagement in reflective teaching can significantly predict music teacher effectiveness. Further, years of teaching experience, considered in isolation from other variables, are also not predictive of music teaching effectiveness.

When one considers the interaction between years of experience with reflective aptitude and self reported use of reflective teaching, findings become more meaningful.

Teaching experience does enhance the predictability of engagement in reflective practice toward music teaching effectiveness, but not to a significant level. It is, however, a significant predictor of music teaching effectiveness when it is considered in combination with reflective aptitude.

These findings support those of previous research. Neither Kirby (1987) nor Rogers (1996) could establish a significant relationship between scores on the RTI and teaching effectiveness. Additionally, while LaBoskey's (1994) study did substantiate the presence of unassisted reflective ability and provide an instrument for the measurement of this phenomenon, it failed to prove that a significant relationship between scores on the LSUR and teaching effectiveness exists.

Freiberg and Waxman claim, "The combination of experience and reflection equals growth" (1990, p. 124). Findings from the current study appear to support such a statement, at least in part. That there was no significant relationship between self-reported engagement in reflective practice and music teaching effectiveness across experience levels does not come without precedent. Kirby (1987) also found there was no statistically significant difference in scores on the RTI when data were stratified across experience levels. Kirby offers that this may be more a product of teachers' lack of ability to recognize reflective engagements, even when such engagements are present, than the fact that they do not exist. Beck (1997) also supports this position claiming that young teachers may be unaware of modifications they make due to the active nature of the classroom. Kruse (1997) claims that efforts for reflective engagements must be based upon a strong cognitive base. Without such a foundation, he claims that teachers "...begin their reflective work at a disadvantage" (p. 58).

These results appear to indicate that preservice music teacher education programs need to move beyond simply providing instruction within a reflective practice model, and help students make meaningful connections between engagements in reflection and their relationship to music teaching effectiveness. This indication is supported by Freiberg and Waxman's (1990) claim that it is impossible for teachers to become reflective if they are not aware of their effectiveness. Thus, the current study supports their statement that the key to effective self-reporting of reflective practice lies in providing teachers with an accurate reflective model for measuring their own teaching. This should be a primary goal of music teacher education and a driving force within curricular planning.

The significant predictability found in the interaction of reflective aptitude and teaching experience toward music teaching effectiveness supports Bourget's (1999) claim that some predisposition toward reflection may affect how teachers view and/or use the information they gather from experience. Of particular interest to the current study was how this interaction changed over years of teaching experience.

Closer examination of how reflective aptitude interacts across experience levels revealed that while this interaction remained significant, the direction of the relationship changed as experience increased. It appears that more effective novice teachers possess a greater aptitude for reflection. As experience is gained, lower levels of reflective aptitude are more predictive of music teacher effectiveness. At the level of career teachers, lack of reflective aptitude is as equally strong a predictor of music teaching effectiveness as high aptitude is for novice teachers.

There are several possible explanations for this statistical relationship. One must first consider that the majority of teacher education programs in the country claim to view the production of reflective practitioners as a goal (Norlander-Case, et al., 1999). Hence, a large part of current preservice teacher education is focused in a reflective practice paradigm. Previous research indicates that this trend also exists in music teacher education, as many music schools in the United States include a number of instructional designs that are reflective in nature (Raiber, 2000). Hence, young music teachers exit their educational institutions with substantial exposure to reflective practice. Application of reflective practice to direct classroom instruction is strongly reinforced during student teaching as university supervisors advocate such endeavors. Support for this practice is advanced by claims that student teachers trained in a reflective paradigm make more progress in areas of teaching effectiveness than those not trained in such a model (Freiberg & Waxman, 1990). Considering this climate, it may come as little surprise that novice teachers' reflective aptitude has a positive relationship to their music teaching effectiveness.

Of greater concern is the tendency of the sample toward a more negative relationship between reflective aptitude and music teaching effectiveness as years of experience increase. It is particularly important to note that the relationship remains statistically significant across all experience levels, but the direction of the relationship is reversed from novice to career teachers.

One possible explanation for such a relationship may be found in the culture of the schools. For a number of reasons, the common school climate is not conducive to reflective practice. As noted earlier, engagement in reflective practice requires one to be

capable of self-assessment and trust those evaluations. Previous research contends that such evaluation is difficult, due to the lack of time afforded most practicing classroom teachers (Calliouet, 1998). Laboskey (1989) states, "it is hard to find encouragement for teachers to pay the price of reflective practice, especially because reflection may temporarily inhibit action" (p. 31). Lack of action may be viewed as weakness in the teacher's ability to meet the immediate needs of the students. Hence, there is little support from administration or colleagues for reflective action in the practicing classroom. Reflection as a professional behavior is dependent upon administrators' influence, colleagues' influence, and even by parents' influence on the teacher (Calliouet, 1998). In place of reflective practice, teachers tend to feel obligated to support the learning environment and practice in use without question. Questioning of practice may be seen by some as a challenge to their professional abilities. Such behavior is undoubtedly responsible for the continuation of less reflective teaching habits as teachers progress through their years of experience.

Norlander-Case, Reagan, and Case (1999) claim that the entire process of formal teacher evaluation is a primary contributor to the lack of reflection at the higher levels of teaching experience. As the majority of teacher evaluations performed in the classroom is summative in nature and based on immediate product rather than developmental process, there appears to be little encouragement for teachers to change practice or become more reflective. Bourget's (1999) findings confirm that more reflective teachers prefer feedback that focuses on teacher behavior and lesson effectiveness. Reflection requires teachers to be risk takers and to experiment with different instruction in the classroom. Such behavior is not rewarded by most classroom evaluation systems. Since

these evaluations are most often connected to employment, teachers tend to work toward the goals of these evaluations rather than the goals of reflective practice.

Another explanation may be found in the lack of change that occurs in many teaching settings over years of practice. As teachers add to their experience, they develop ways to perform certain tasks, termed schemata, which are repeated over time (Berliner, 1986; Brand, 1986; Cassidy, 1990; Erbes, 1983). Berliner (1986) states that the development of schema is what sets the expert teacher apart from the others. Schemata allow the teacher to make quick decisions based upon past experience. Additionally, they provide a comfort level for teachers as they engage in instructional activities that are familiar. Thus, the expert teacher is viewed as one who acts with great dispatch; whose actions are not the products of a thought process unique to the situation. It appears that the less one engages in reflective activity, the more likely he or she is to be viewed as an expert. Findings in the current study support this conjecture.

Schön (1987) takes an opposite view and argues that to be professional one must be reflective. He contends that reflection-in-action is the highest level of reflection that can be achieved by a professional and requires three steps to be enacted. Step one is the acquisition of the technical skills in teaching. Step two is the development of professional thinking, and the final step is the development of new knowledge by the practitioner. Such development requires the teacher to embrace uncertainty and variability in the teaching environment. As discussed earlier, this is not viewed by some as expert behavior. Kirby (1987) claims this is the reason so few experienced teachers embrace reflective practice. Findings from the current study reinforce that those teachers with more experience tend to become less reflective over time, but in so doing,

they are viewed as more expert practitioners. Hence, there is little reinforcement of reflection within the total school environment and particularly within the faculty themselves.

Further discussion of the data analysis requires that attention move away from the varied definitions of reflective practice and focus on the definitions of music teaching effectiveness. Most models of effective music instruction are based upon an efficiency archetype that assumes that more efficient instruction is more effective instruction. Madsen, Standley, and Cassidy (1989) listed fourteen behaviors of effective music teachers that include a) no hesitation in voice, b) pacing, c) short simple instructions, and d) little talking. According to this model, effective teachers move quickly and talk little. Similarly, Taebel (1990) listed ten teacher competencies as the focus of his study. These include a) instructional organization, b) use of material and equipment, c) provisions for practice, d) monitoring of student achievement, e) use of monitoring data, f) management of classroom time, g) maintaining student behavior, h) knowledge of subject matter, i) maintenance of a positive atmosphere, and j) effective communication. Evaluations of teaching based upon these competencies may make valid assessments of delivery skills and management issues, but in light of the current findings, one must question if these are the only elements worthy of consideration in music teaching effectiveness.

Likewise, analysis of the current data brings into question the two primary scales used to measure music teaching effectiveness. Bergee's (1992) music teaching effectiveness scale considered effective teaching behaviors in three areas a) conducting technique, b) teacher-student rapport, and c) instructional skill. Bergee claims that the

scale is constructed to reflect two areas demonstrated to influence student achievement – organization and intensity. These traits are expressed and evaluated through the energy level of the teacher and his or her ability to immediately respond in the classroom. Given these perimeters, it appears that moments of introspective reflection would be perceived in a negative manner.

The Survey of Teaching Effectiveness (STE) (Hamann & Baker, 1995) was selected for use in the current study based upon the assumption that teacher behavior was the most appropriate determinant of music teaching effectiveness. While an analysis of the STE does not reveal any direct instructions that equate efficiency with effectiveness, there are no sub-headings that would reward behaviors aimed at experimentation. In fact, of the two sub categories – lesson delivery skills or planning and presentation of lesson – only planning suggests reflective activity. Based upon the findings of the current study, it may be necessary to consider reflective activity as part of music teacher effectiveness. It is important to note that this researcher does not advocate the elimination or replacement of delivery or presentational skills with more reflective counterparts. Rather, reflective alternatives, such as recognition of the ability to reframe problems and experiment with possible solutions, should be included alongside the current criteria.

Analysis of the present findings must consider the current definitions of music teaching effectiveness when inferring conclusions. The negative slope discovered for the relationship of reflective aptitude to music teaching effectiveness at the career teacher level may be a product of evaluating teaching entirely in terms of the efficient use of presentational/delivery skills. Reflective teaching and learning are rarely

efficient. They are time consuming and require applicants to discover or create new knowledge based upon past experience. The journey through discovery is often not the most direct route to a given destination. For the career teacher, the experience is richer and carries more meaning. This may explain why reflective career teachers set problems differently and why the process of reflection takes time. Hence, those career teachers that act quickly and deliberate only minimally concerning teaching decisions may be less reflective, but may be scored as more effective teachers due to the efficiency of their instruction. Teachers who create unique learning environments and experiment with new learning may not score as high in an evaluation solely focused on measurements of teaching efficiency. Should this be the case, it is most likely that the less reflective teacher would score higher on a measure of music teaching effectiveness. Given the design of the STE, this may be the case for the current study.

RTI Sub-scales and Music Teaching Effectiveness

The study employed the use of a multiple regression analysis procedure to analyze data concerning the following research questions:

4. Which, if any, of the three identified dimensions of reflective practice (diagnosis, testing, and personal causation) are significant contributors to effective teaching behaviors of music teachers?

7. Is professional teaching experience a significant contributor in the prediction of music teaching effectiveness via any of the three identified dimensions of reflective practice (diagnosis, testing, and personal causation)?

Analysis revealed that both the diagnosis and personal causation sub-scales were significant predictors of music teaching effectiveness when teaching experience is not

considered as part of the model. With the addition of teaching, the personal causation sub-scale was the only to remain significant. Analysis across experience levels revealed that this relationship was significant at the novice level, but failed to be significant at either of the other two levels.

There is substantial support for the existence of a relationship between teaching experience and reflective ability (Berliner, 1986; Carter, et al., 1988; Colton & Sparks-Langer, 1993; Garrison, 1991; Katz, 1992; McIntyre, 1993; Rabinowitz, 1993; Ross, 1989; Wildman, et al., 1987; Winitisky & Aremnds, 1991; Yang, 1997). Thus, the consideration of data that do not include the effect of teaching experience may have little meaning. For this reason, the significant negative relationship found to exist between the diagnosis sub-scale and music teaching effectiveness may not be meaningful in context of the current study. That this relationship was not present when data concerning teaching experience were included in the multiple regression may also support this position. Detailed discussion of the relationship between teachers' abilities to diagnose problems and their music teaching effectiveness is, therefore, not warranted by the current results.

Findings from the teaching experience model support those by Kirby (1987) who concluded that the personal causation sub-scale did correlate with teaching effectiveness. She defined personal causation as the teacher's desire for autonomy and belief in his or her ability to affect student motivation and success. Literature concerning this relationship also supports these findings.

Palmer, Burns, and Bulman (1994) stress that for practitioners to engage meaningfully in reflective practice, they must have the courage to change and challenge

the status quo. While there are environmental factors that contribute to one's ability to engage in change, much of this behavior may be motivated through personal belief. Should teachers believe their unique and personal actions have an effect on student learning, they may be less likely to accept ungrounded action as motivation for professional behavior. Further, they will be more likely to question current practice such that they will suggest and implement changes. Hence, belief in personal causation may have significant impact on instruction and may be directly linked to teachers' abilities to engage in reflective practice.

Acknowledging the necessity of personal belief in motivating teacher reflection, Kirby and Teddlie (1989) state that teachers' belief in self-efficacy reshape their views of themselves as teachers and changes their perspectives for reflection. LaBoskey's (1994) finding that her more reflective subjects viewed themselves more as teachers appears to substantiate this position. Additionally, Kruse (1997) found that teachers who provide examples of focused reflection reported a greater sense of efficacy and greater ownership of their classrooms. Calliouet (1998) contends that it is essential for young teachers to gain confidence in the classroom to be able to counter ineffective methods of instruction. Such confidence may be the product of the teacher's belief in personal causation. Thus, it appears that finding teachers' belief in personal causation as predictive of music teaching effectiveness may come as little surprise.

The implications of this result are clear for music teacher education. Activities that enhance young educators' views of themselves as teachers are essential to the development of reflective practitioners who are more effective music teachers. These activities need to be such that teacher confidence is built and ownership of the classroom

is reinforced. Young educators engaged in these activities must have the opportunity to question ungrounded techniques or procedures, and discover ways in which their unique personal actions can enhance learning. These activities should aid the development of teacher autonomy and further teachers' ability to affect learning and motivational behavior through personal decision-making that is based upon experience. Hence, young educators will make meaningful strides toward effective teaching and professional behavior.

Considering the previous implications, analysis of the stratified data is somewhat alarming. That the personal causation sub-scale was found to be a significant predictor only at the novice level is distressing. This finding is similar, however, to Beck's (1997) concession that less experienced teachers produced some of the more successful reflections in her study of a teacher collaboration work group. She speculates that reflective ability may be more a result of individual characteristics than teaching experience.

Support for this speculation may be found within the current study, considering that the personal causation sub-scale was found to be a significant predictor in both multiple regression models examining these data. Further examination reveals that significance of this sub-scale is somewhat weaker when considered in combination with teaching experience. Thus, professional maturity may not guarantee enhancement of teachers' beliefs in personal causation. In this context, current data may support the need for activities aimed at enhancing the personal traits necessary to simulate teachers' belief in personal causation at the preservice level.

Consideration must also be given to the statistical power analysis of the stratified data. As noted, the findings at the experienced and career levels were not significant according to the defined research perimeters. These data do show, however, a tendency toward some kind of relationship. Analysis revealed a very low power of .24 at the experienced teaching level and .35 at the career teaching level. These results indicate that with an increased sample size, reports may be different. It is the current researcher's conjecture that, based upon previous findings and theoretical understanding of the literature, an augmentation in sample size would increase the predictive significance of the personal causation sub-scale across all experience levels.

Limitations and Implications for Future Research

The present study investigated the ability to predict music teacher effectiveness via a teacher's reflective aptitude and self-reported engagement in reflective teaching. A number of limitations were evident in the study. Sample size ($N = 50$) was limited and had a detrimental effect on the statistical power when data were stratified. A larger sample that was equally stratified across all experience levels would strengthen the statistical power of the entire study.

The Survey of Teacher Effectiveness (STE) was originally viewed as a valid instrument to measure music teaching effectiveness. After examining the results of the current data analysis there may be evidence that this judgment was in error. While the STE has been proven to be a valid instrument when measuring delivery/presentation skills tied to music teacher effectiveness, it may not be valid when measuring the reflective elements of effective music teaching. Evidence from the current study suggests that reflective aptitude is predictive of music teacher effectiveness in the

present sample. Many reflective behaviors, however, are in direct opposition to behaviors that have been traditionally viewed as indicating effective music teaching. This dialectic behavioral relationship was not accounted for in the current study.

It would be beneficial to design a music teaching effectiveness instrument that could account for a teacher's delivery skills, subject matter knowledge, and reflective ability. Based on the current findings, reflective ability would need to account for a teacher's reflective aptitude and engagement in reflective activities in the classroom. Additional study also needs to investigate the reflective activity of students in relation to the reflective aptitude and demonstrated reflective ability of the teacher. A collateral measure of student outcomes could be useful in determining instructional effectiveness if used in combination with an instructor-centered instrument aimed at measuring all three groups of teacher traits previously mentioned. Combined with data concerning student's reflective activity, the relationship between reflective activity and student learning may be investigated.

While videotape analysis of teaching has been a common practice, it may limit evaluators' abilities to appraise teaching ability. Differences in recording equipment and differences in the availability of such equipment between subjects may also account for some of the differences in music teaching effectiveness scores. Some subjects may be able to choose their teaching example from a collection of high quality recordings while others may only have one chance to record a session with limited equipment. These differences were explained to the adjudication team when they viewed the videos, but may still have an effect on the scoring. Future studies should include multiple teaching videos for each subject. Tapes made on multiple random visits to the classroom where

subjects do not have previous knowledge of which sessions will be taped may prove useful as well. Semi-structured interviews during a video review of one session with each teacher in the study could provide information concerning teacher thought and intention. These data may provide connections between reflection-in-action and effective teaching behavior.

The current findings concerning a teacher's belief in personal causation and effective teaching behaviors should be investigated further. It is this researcher's opinion that a relationship between belief in personal causation and occupational role development exists. A study investigating the correlation between role development stages of preservice teachers and their belief in personal causation could further the findings of the current research, and provide useful information for teacher educators.

Some may view broadening definitions of music teaching effectiveness to acknowledge reflective elements as a bold step. The current research appears, however, to endorse such an endeavor and may further support some substantial changes in music teacher education. While additional investigation is needed, it is apparent that reflective aptitude, engagement in reflective practice, and teachers' beliefs in their personal affect on student learning should be afforded a central role in the development of effective music educators.

APPENDIX A

LABOSKEY SURVEY OF UNASSISTED REFLECTIVITY

Questionnaire

We have all had extensive experiences in classrooms as students, and, for some, as tutors or teachers. Research has shown that these experiences have a powerful influence on how we approach the task of learning to teach. Over the course of time, as a result of your formal education course work and/or your actual field experience, many of your conceptions may change. I am interested in studying the nature of those changes. The questions on this survey are designed to give me a "base rate" understanding of your conception of what it means to teach and learn. Please use the "Blue Book" provided to answer the following questions. **DO NOT** put your name on the book, but number each answer in accordance to the question you are addressing. Take as much time as you need.

1) What do you want your students to call you (e.g. Miss Wilson, Mr. LaBoskey, Ms. Miller, Harry, etc.)? Why?

2) What is/was the most effective part of your teacher education? Why?

3) What kinds of things should teachers know about? That is, if you were to design a test for teachers, what types of information should that exam test for?

4) Define teaching.

5) Define learning.

6) What do you think is the relationship between learning and teaching?

7) Describe the most effective music educator you know. Why are they effective?

Once you have completed this questionnaire, please place your "Blue Book," RTI and videotape of your 10- to 15-minute teaching episode in the envelope provided and drop it in the mail. No additional postage is necessary.

Thank you for your time and expertise.

APPENDIX B

REFLECTIVE TEACHING INSTRUMENT

RTI

Please respond completely and truthfully to each of the following questions. No answers will be accessible to any administrative or supervisory personnel of this school system. This instrument is intended solely for research purposes and complete confidentiality is guaranteed. Your responses are highly valued and appreciated.

Name_____ School_____

Number of years teaching experience_____

Degree(s) Held:

( ) Bachelor's Type _____ Year received_____ School_____

( ) Master's Type_____ Year received_____ School_____

( ) Doctorate Type_____ Year received_____ School_____

Please indicate the extent to which you agree with each of the following items by circling from 1 (strongly disagree) to 6 (strongly agree)

ID#_____

1)	Great progress has recently been made in identifying teacher and school characteristics that contribute to student achievement.	1 2 3 4 5 6
2)	I find many of my own early school experiences useful in managing my students.	1 2 3 4 5 6
3)	I feel that it is important for me to integrate theory and research into my classroom practices.	1 2 3 4 5 6
4)	It is incumbent upon me as a good practitioner to be familiar with current education research.	1 2 3 4 5 6
5)	I often revise my teaching methods after trying them in a class.	1 2 3 4 5 6
6)	I want my students to question my way of looking at things.	1 2 3 4 5 6
7)	I often think about the "hidden curriculum"; i.e., does my teaching help my students adopt the values and attitudes I want them to acquire?	1 2 3 4 5 6
8)	I sometimes find myself changing instructional strategies in the middle of a class session.	1 2 3 4 5 6
9)	If I can't get through to a particular student, I experiment with different approaches.	1 2 3 4 5 6

10)	If students are having trouble in school, it's up to the teacher to find the solution.	1	2	3	4	5	6
11)	I have a great degree of influence on the personality and attitudes of my students.	1	2	3	4	5	6
12)	I can make the least motivated student like school.	1	2	3	4	5	6
13)	If my students do poorly on a test, I blame myself.	1	2	3	4	5	6
14)	I'm responsible for the behavior of the students in my class.	1	2	3	4	5	6
15)	In my classroom I should have the final decision in determining what is to be taught and how.	1	2	3	4	5	6

APPENDIX C

SURVEY OF TEACHING EFFECTIVENESS

Survey of Teaching Effectiveness

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I. LESSON DELIVERY SKILLS (Weighted 40%)

POSTURE

A. Head & Body: Poor 1 2 3 4 5 (Excellent)

Excellent = Head lifted and centered; body lifted, relaxed, and poised
Poor = Head forward or to one side; body rigid or slouched

B. Arms & Hands: Poor 1 2 3 4 5 (Excellent)

Excellent = Normally relaxed with flowing gestures
Poor = Hand(s) in Pocket(s); fidgeting/wringing or clenched; arms crossed front or back

C. Legs: Poor 1 2 3 4 5 (Excellent)

Excellent = Balanced; weight equally distributed
Poor = Crossed; locked knees; swaying; leaning on one leg

EYE CONTACT

Poor 1 2 3 4 5 (Excellent)

Excellent = Movement about room with individual eye contact
Poor = Locked; staring; looking over heads or at floor

GESTURES

A. Hands & Arms: Poor 1 2 3 4 5 (Excellent)

Excellent = Natural, flowing; appropriate for spoken content
Poor = Absence of gestures; mechanical; inappropriate and/or contrived

B. Upper & Lower: Poor 1 2 3 4 5 (Excellent)

Excellent = Change of stance; varying proximity to group/individuals; upper body directional change
Poor = Absence of movement; nervous pacing

FACIAL EXPRESSION

Poor 1 2 3 4 5 (Excellent)

Excellent = Naturally varying; unconfined changes of eyes, mouth and facial muscles
Poor = Absence of variation; exaggerated and/or contrived

VOCAL INFLECTION

A. Dynamics: Poor 1 2 3 4 5 (Excellent)

Excellent = Comfortably and easily understood; naturally varying with appropriate accents and emphasis
Poor = Too soft to hear; uncomfortably loud; forced from the throat; static

B. Tempo & Phrasing: Poor 1 2 3 4 5 (Excellent)

Excellent = Comprehensible pace with moderate variations and appropriate pauses for emphasis
Poor = Too fast for comprehension; too slow for interest; fixed tempo with lack of pauses

C. Pitch: Poor 1 2 3 4 5 (Excellent)

Excellent = Natural variations for emphasis; voice is pitched for teacher/student listening comfort and ease; predominantly in lower mid of range
Poor = No variation; contrived; speaking predominantly in upper two thirds of range

D. Diction: Poor 1 2 3 4 5 (Excellent)

Excellent = Clearly articulated vowels and consonants; corrected and resonating; easy to understand
Poor = Placed in back of throat; swallowing words; lack of resonance; lazy tongue and lips

II. PLANNING & PRESENTATION OF LESSON (Weighted 60%)

EVIDENCE OF LESSON PLANNING

A. Content:

1a. Materials-Appropriate music: Poor 1 2 3 4 5 (Excellent)

"Excellent" = Music appropriate for the age of the ability and age of the student
"Poor" = Music not appropriate for students

1b. Materials-Music & Concept: Poor 1 2 3 4 5 (Excellent)

"Excellent" = Music exemplary of the concept being developed
"Poor" = Music unrelated to concept; poor example

1c. Materials-Supportive: Poor 1 2 3 4 5 (Excellent)

"Excellent" = Used appropriate supportive materials i.e., charts, recordings, video-based presentations, computers, pictures
"Poor" = Materials unrelated to concept; poor materials

2. Objectives: Poor 1 2 3 4 5 (Excellent)

"Excellent" = Determined appropriate objectives; students were made aware of objectives
"Poor" = Objectives were not appropriate; students were unaware of lesson objective focus

B. Organization:

1a. Activities-Type: Poor 1 2 3 4 5 (Excellent)

"Excellent" = Type of activities were appropriate for students' age and skill and/or for number of students in the setting
"Poor" = Inappropriate activities for students' abilities, age, or for the number of students in the setting

1b. Activities-Number: Poor 1 2 3 4 5 (Excellent)

"Excellent" = Number of activities were appropriate for students' age, skill, and for the length of the class; each activity was of appropriate length
"Poor" = Inappropriate number of activities for students, situation, and setting; inappropriate length of activities

1c. Activities-Sequencing: Poor 1 2 3 4 5 (Excellent)

"Excellent" = Activities were sequenced logically
"Poor" = Lack of order and/or flow of activities; activities missing in learning sequence

SUBJECT MATTER COMPETENCE

A. Information & Demonstrations: Poor 1 2 3 4 5 Exc

"Excellent" = Presented correct information; accurate demonstrations
"Poor" = Presented incorrect, contradictory, or misleading information; did not or could not accurately demonstrate i.e. clapped or sang incorrect rhythms; did not demonstrate or provide information

B. Musical Model: Poor 1 2 3 4 5 Exc

"Excellent" = Expressive and accurate i.e. attention to phrasing
"Poor" = Nonexpressive, incorrect or unappropriated modeling; no modeling evidenced

C. Conducting: Poor 1 2 3 4 5 Exc

"Excellent" = Accurate gestures for the group and situation
"Poor" = Inappropriate gestures or not evidenced

Pacing

A. Logistics: Poor 1 2 3 4 5 Exce

"Excellent" = Organized, orderly; evidence of students learned logistics i.e. students get instruments or books quickly, efficiently, quietly and return to their seats and continue to prepare and ready themselves for the rehearsal/class
"Poor" = Chaos; student have no planned routine(s) that enable them to prepare for rehearsal/class

B. "On-Task": Poor 1 2 3 4 5 Exce

"Excellent" = Class began and ended promptly; wasted time minimal; time effectively utilized; definite closure to lesson
"Poor" = Class began late; students hurriedly put away instruments/equipment; materials; time not utilized effectively; class ended without closure

C. Flow: Poor 1 2 3 4 5 Exce

"Excellent" = Appropriate balance between teacher directives/explanations and student participation; one activity led to another without interruptions or breaks
"Poor" = Teacher talked too much; too much time spent going from one activity to another; long, disruptive breaks between and within activities

D. Responsiveness to Group: Poor 1 2 3 4 5 Exce

"Excellent" = Teacher responded appropriately to group and individual musical, technical needs and problems
"Poor" = Teacher was unaware of, did not respond, or responded inappropriately to group or individual musical/technical needs and problems

SEQUENCING PATTERN/REHEARSAL CYCLE

A. Directive: Poor 1 2 3 4 5 Exce

"Excellent" = Specific directive identifying task to be accomplished
"Poor" = Non-specific directive with no specific task to be accomplished

A. Feedback: Poor 1 2 3 4 5 Exce

"Excellent" = Specific positive or negative feedback provided; utilized student ideas and comments whenever applicable
"Poor" = No feedback or non-specific feedback provided

TEACHING STYLE

A. Charisma, Energy, Confidence, Enthusiasm: Poor 1 2 3 4 5 Exce

"Excellent" = Secure, animated; captured student attention and interest
"Poor" = Sluggish, lethargic, insecure; students were bored or disinterested

B. Interest Shown in Student/Topic: Poor 1 2 3 4 5 Exce

"Excellent" = Sincere; interest evident in student welfare and in topic presented
"Poor" = Lacked sincerity; interest in student or topic not evident; "only went through the motions"

C. Supports and Encourages Students' Efforts: Poor 1 2 3 4 5 Exce

"Excellent" = Sincere praise provided; emphasized positive aspects of student efforts; constructive suggestions and comments provided
"Poor" = Sarcastic; belittled students and students' efforts; emphasized negative aspects of student efforts; contrived praise

Evaluation Tools

Part I

Posture	_____	×3 =	_____
Eye Contact	_____	×1 =	_____
Gestures	_____	×2 =	_____
Facial Expressions	_____	×1 =	_____
Vocal Inflection	_____	×4 =	_____

Total of Part I _____ x 2 x .40 = _____

Part II

Evidence of Lesson Planning	_____	×7 =	_____
Subject Matter Competence	_____	×3 =	_____
Pacing	_____	×4 =	_____
Sequencing Pattern	_____	×2 =	_____
Teaching Style	_____	× 3 =	_____

Total of Part II _____ x 2 x .60 = _____

Total Score = Total of Part I _____ + Total of Part II _____ = _____

Total Score Range: 10 Ineffective - 50 Extremely Effective

APPENDIX D

INFORMED CONSENT FORM

UNIVERSITY OF OKLAHOMA
INDIVIDUAL CONSENT TO VOLUNTARY PARTICIPATION

INTRODUCTION

I _____ voluntarily agree to participate in this study entitled *An Investigation of the Relationship Between Reflective Practice and Teaching Effectiveness Among Instrumental Music Educators*. I understand that this study involves research that will be carried out under the supervision of Dr. Jill M. Sullivan, Dr. William Wakefield and Mr. Michael A. Raiber.

It is important for me to understand: 1) that participation in this study is completely voluntary; 2) that I may not personally benefit from this study, but that the knowledge gained may benefit others; 3) that I am free to refuse to participate and to withdraw from the experiment at any time without prejudice to me. The study is described as follows:

PURPOSE

The purpose of this study is to determine the extent to which selected instrumental music teachers' aptitude for reflection and/or self-reported engagement in reflective practice could predict their instructional effectiveness. The level of unassisted reflectivity will be defined as scores on the LaBoskey Survey of Unassisted Reflectivity (LSUR). Self-reported engagement in reflective practice will be defined by scores from the Reflective Teaching Instrument (RTI). Music teacher effectiveness will be defined as scores on the Survey of Teaching Effectiveness (STE) via analysis of videotaped teaching episodes.

DESCRIPTION

Your participation in this study will take a minimal amount of time. You will be asked to do two things: 1) videotape one 10- to 15-minute teaching episode and 2) fill out two questionnaires. You have the right to refuse to allow such taping without penalty or prejudice.

SUBJECT ASSURANCES

By signing this consent form, I acknowledge that I am at least 18 years of age and that my participation in this study is voluntary. I acknowledge that I have not waived my legal rights or released this institute from liability or negligence. I understand that I may withdraw from this study without prejudice to me.

CONFIDENTIALLY

I understand that records from this study will be kept confidential, and that I will not be identified by name in any reports or publications of this study.

SUBJECT BENEFIT/RISK

I understand that there is no known risk involved in this study. Participants may not personally benefit from this study, although the educational community may benefit. Subjects may obtain research results by contacting Mr. Michael A. Raiber.

INFORMATION

You can get more information or answers to your questions about this study from Mr. Michael A. Raiber at (405) 624-0773. If concerns arise regarding your rights as a research participant contact the Office of Research Administration at 325-4757.

SIGNATURES

I have read this informed consent document; I understand its contents, and I freely consent to participate in this study under the conditions described in this document. I understand that I may receive a copy of this signed consent form.

_____(research participant) _____ (date)
Signature

APPENDIX E

SUBJECT INSTRUCTIONS

January 15, 2000
To: All participants
From: Michael A. Raiber, Primary Investigator
RE: Procedures for the study

Thank you for agreeing to help with this important research. Your participation is extremely valuable as without your help there would be no data. It is my hope that you and I will have the opportunity to learn more about teaching instrumental music from the results of this research. At your request, I will be happy to provide you a copy of the findings once the analysis is complete.

The following is a list of what should be in your packet. If you are missing any item please contact me as soon as possible and I will forward the missing item to you.

University of Oklahoma, Individual consent to voluntary participation forms (sign one copy and return it. Keep the other for your files)
One copy of the questionnaire and a "Blue Book"
One copy of the "RTI"
VHS tape with label
Addressed/Stamped return envelope for your "Blue Book" and Tape

I have first-hand knowledge of how busy you are at this time of the year. I have designed the data collection for this study around your busy schedule. It should take a minimal amount of time for you to complete and you can accomplish these tasks on your own schedule. The following is an outline of the procedures you need to follow:

Read the directions and complete the questionnaire.
- Please, write your responses in the "Blue Book" provided.
- Please **DO NOT** put your name on the "Blue Book"
- Make sure that you number each of your answers and that they correspond with the question you are addressing.

Read the directions and complete the "RTI"
- You must circle your response on the "RTI" form.
- Please, **DO** put your name on this form. (It will be coded after receipt)

Videotape a teaching/conducting episode of approximately 10-15 minutes in length.
- Tape from behind the ensemble so your face and upper body can be seen clearly on the video.
- Make sure your comments to the ensemble can be heard on the tape.
- The episode you tape should be a teaching/rehearsal setting, not a concert type "run-through" of the work.
- Any grade level is appropriate as long as you are teaching **and** conducting.
- Please, do not edit the tape other than to cut the tape at the 10-15 minute mark.

Put the signed consent form, tape, "Blue Book," and RTI in the supplied envelope and mail. If you anticipate a problem , please contact me as soon as possible.

If you have any questions please contact me at (405)744-6135 office or (405)624-0773 home or via e-mail either at raiber@okstate.edu or raimole@aol.com. Again, thank you in advance for your help with this study.

Sincerely,

Michael A. Raiber

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